Durulite® Door Hardware Manual

Chase Doors

World's Leading Manufacturer Of Traffic Doors

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Www.chasedoors.com

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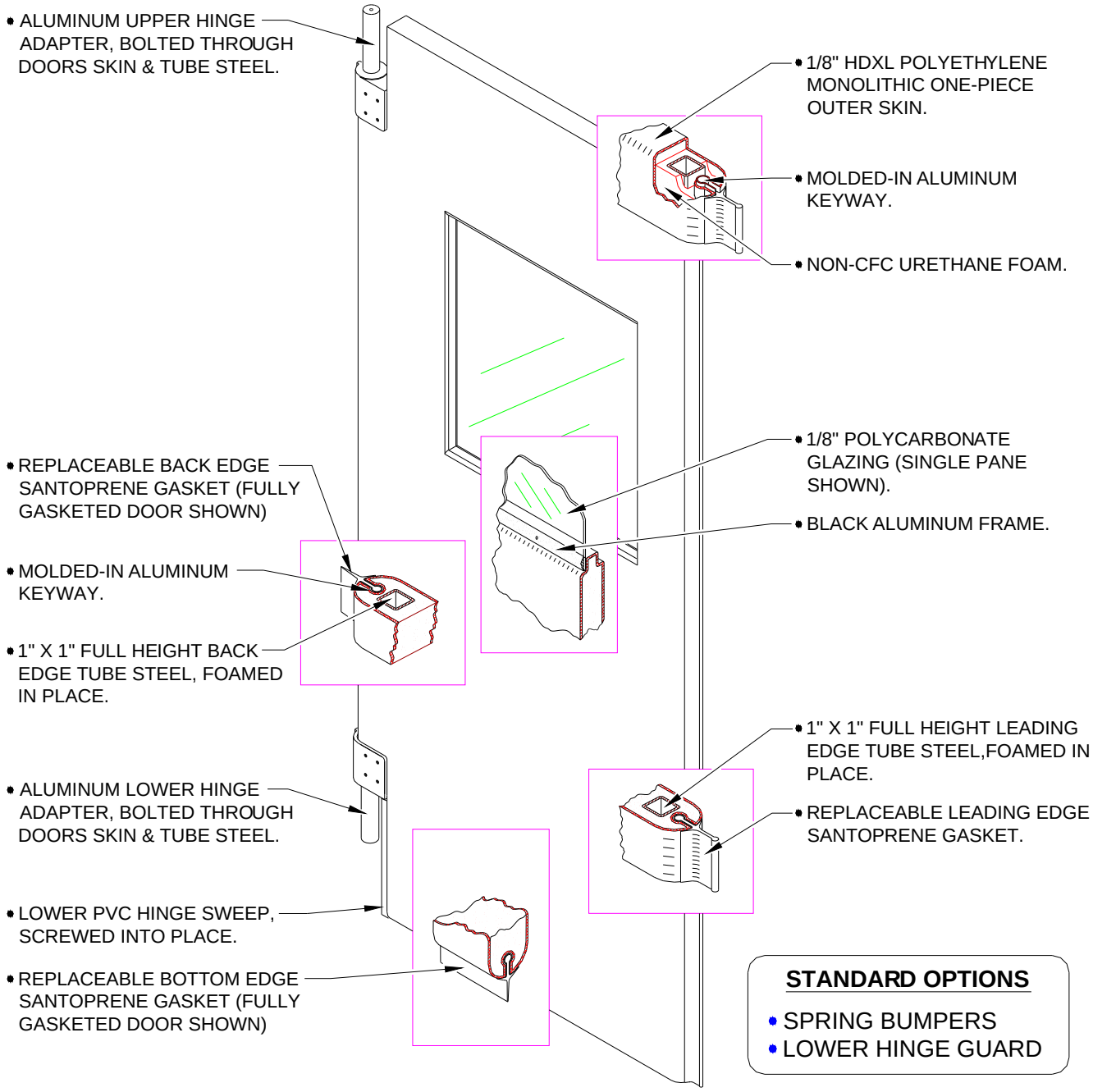

STANDARD OPTIONS

- SPRING BUMPERS
- LOWER HINGE GUARD

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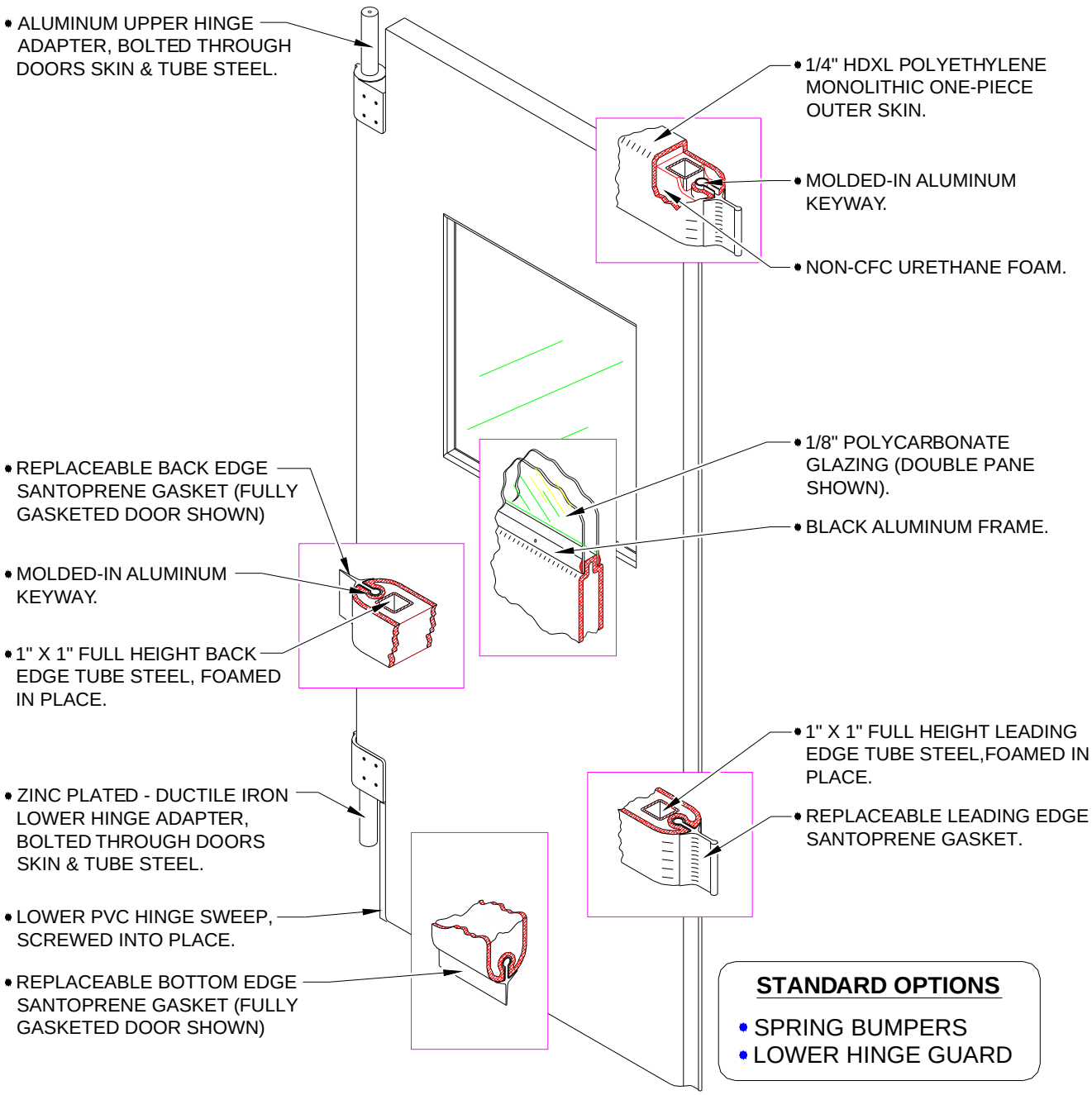
EXCLUSIVE FEATURES
(ONE YEAR WARRANTY)



STANDARD OPTIONS

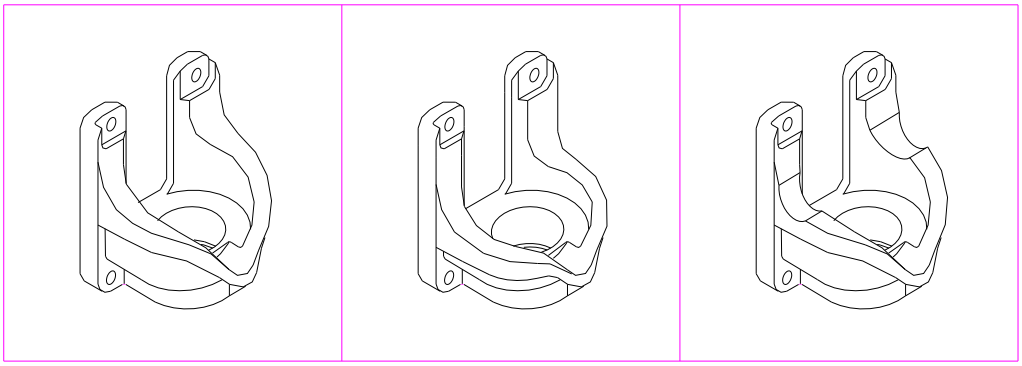
- SPRING BUMPERS
- LOWER HINGE GUARD

DURULITE DOOR HARDWARE FACTS SHEET

V-CAM

The V-Cam is the upper jamb hardware for the Durulite Door. It provides the upward track which the roller bearing follows as the door opens. It also seats the roller bearing in the doors closed position. V-Cams are available with a 90° swing in two directions, or a 90° swing one direction and a 180° swing the opposite direction. The 90° and 180° V-Cams are available in Ductile Iron material. The 90° V-Cam is available with a 1-3/8" or 3/4" rise. The 180° V-Cam is available only with a 1-3/8" rise. All V-Cams come equipped with a replaceable bushing, which holds the Hinge Adapter Shaft in place. An absorber pad lines the back of the V-Cam, cushioning the shock of door movement. ***Welding of the V-Cam to the frame voids the warranty.*** Weldplates are available through the factory.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Standard V-Cam	5561-1	Ductile Iron	90° swing in two directions. 1-3/8" rise.
Low-Rise V-Cam	5587-1	Ductile Iron	90° swing in two directions. 3/4" rise. For use in corrosive evironments. Specify when ease of opening door is required, or reduced height openings (requires 1-1/2" Top Seal gap).
V-Cam with Hold-Open	5561-1-H	Ductile Iron	90° swing in two directions. 1-3/8" rise. V-Cam with hold open device. Use when doors must be maintained in open position.
180° V-Cam	5573-1 (left) 5572-1 (right)	Ductile Iron	180° swing in direction. 90° swing opposite direction. 1-3/8" rise. For use in corrosive evironments. V-Cam mounts on corner of jamb. Specify when traffic turns immediately after exiting doors.
180° V-Cam With Hold-Open	5573-1-H (left) 5572-1-H (right)	Ductile Iron	180° swing in direction. 90° swing opposite direction. 1-3/8" rise. Use when doors must be maintained in open position. Hold-Open device occurs on 90° side.



90° V-CAM

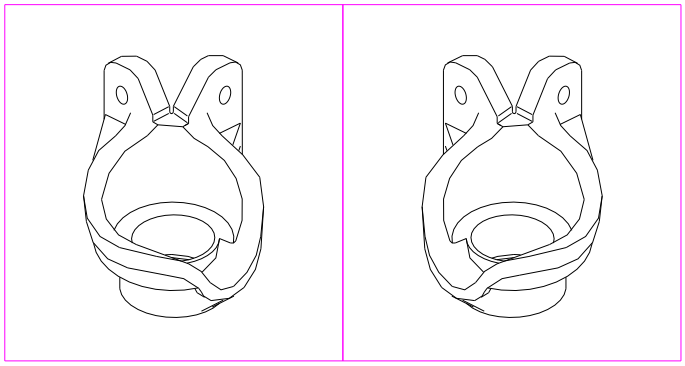
P/N 5561-1 • 1-3/8" RISE
MATERIAL: DUCTILE IRON

90° V-CAM

P/N 5587-1 • 3/4" RISE
MATERIAL: DUCTILE IRON

90° V-CAM

P/N 5561-1-H
1-3/8" RISE W/ HOLD OPEN
MATERIAL: DUCTILE IRON

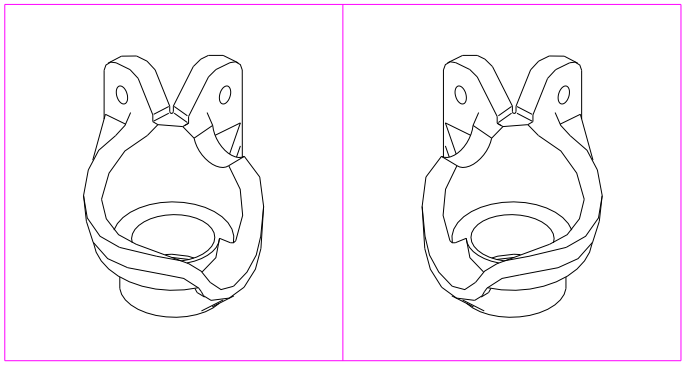


180° V-CAM

P/N 5573-1
1-3/8" RISE • LEFT HAND
MATERIAL: DUCTILE IRON

180° V-CAM

P/N 5572-1
1-3/8" RISE • RIGHT HAND
MATERIAL: DUCTILE IRON



180° V-CAM

P/N 5573-1-H • LEFT HAND
1-3/8" RISE W/ HOLD OPEN
MATERIAL: DUCTILE IRON

180° V-CAM

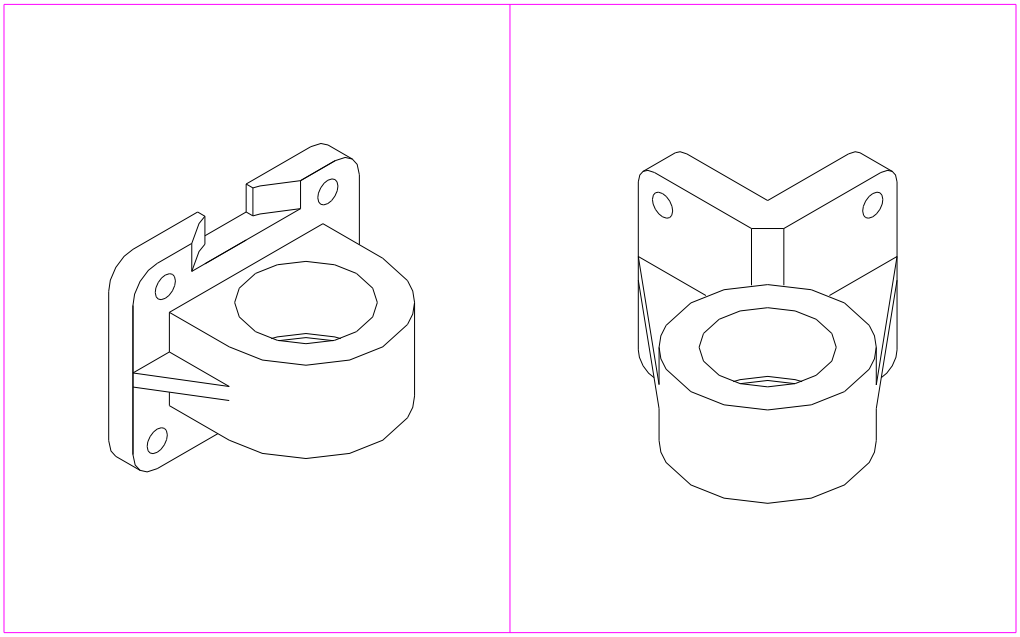
P/N 5572-1-H • RIGHT HAND
1-3/8" RISE W/ HOLD OPEN
MATERIAL: DUCTILE IRON

DURULITE DOOR HARDWARE FACTS SHEET

PILLOW BLOCK

The Pillow Block is the lower jamb hardware for the Durulite Door. The Pillow Block holds the lower Hinge Adapter Shaft in position, preventing horizontal movement of the door. Pillow Blocks are available for 90° or 180° hardware. The 90° and 180° Pillow Blocks are available in Ductile Iron and Stainless Steel materials. Pillow Blocks come equipped with a replaceable bushing, which holds the Hinge Adapter in place. An absorber pad lines the back of the Pillow Block, cushioning the shock of door movement. ***Welding of Pillow Blocks to frame voids the warranty.*** Weldplates are available through the factory.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Standard Pillow Block	5555-1	Ductile Iron *or* Stainless Steel	90° Pillow Block.
180° Pillow Block	5579-1 (left) 5579-1 (right)	Ductile Iron *or* Stainless Steel	180° Pillow Block, for use with 180° V-Cam.



90° PILLOW BLOCK
P/N 5555-1

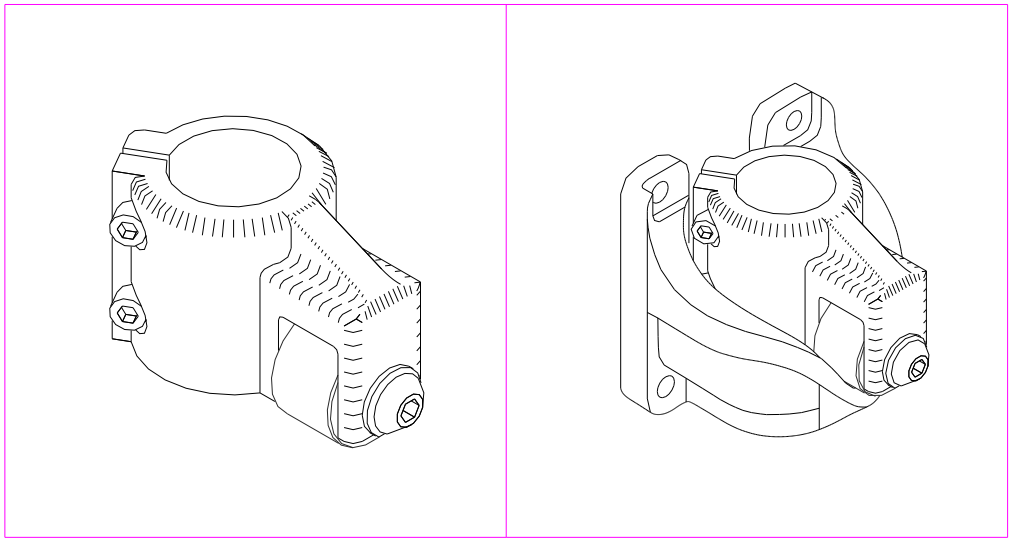
180° PILLOW BLOCK
P/N 5579-1

DURULITE DOOR HARDWARE FACTS SHEET

ROLLER ASSEMBLY

The Roller Assembly is positioned over the upper Hinge Adapter Shaft, and follows the V-Cam path as the door opens. The Roller Bearing supports the weight of the door and secures the door at the correct height limiting vertical movement. The V-Cam and Roller Assembly maintain the door in the closed position and provide rise as the door opens. The Roller Assembly, on industrial doors and doors with spring assist, is pinned through the upper Hinge Adapter Shaft. The housing material is cast aluminum alloy. The Roller is made of Bearing Steel with a black oxide coating and is also available in Stainless Steel. The Roller Assembly is standard hardware on the Durulite Door.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Roller Assembly	5508-1	Cast Aluminum Housing With Bearing Steel or Stainless Steel Roller Bearing	Roller Assembly Composed of Cast Aluminum Alloy Housing With A Roller Bearing Made Of Bearing Steel or Stainless Steel.



ROLLER ASSEMBLY
P/N 5508-1

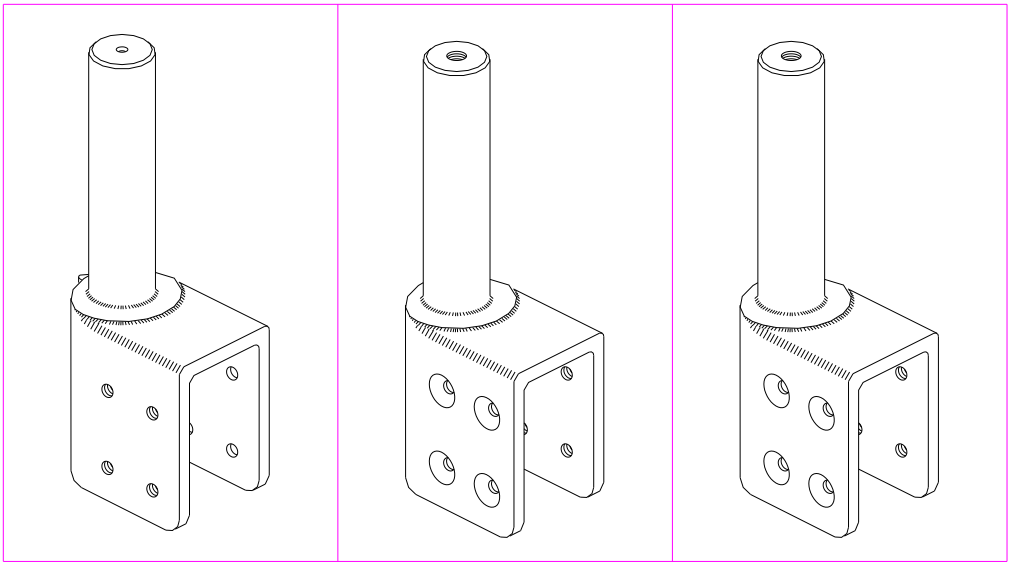
ROLLER ASSEMBLY IN 90° V-CAM

DURULITE DOOR HARDWARE FACTS SHEET

HINGE ADAPTER

Hinge Adapters attach to the upper and lower portions of the door panel. The Upper Hinge Adapter Shaft is inserted into the V-Cam. The Lower Hinge Adapter Shaft is inserted into the Pillow Block. The Hinge Adapter provides a pivot point for the door. Lower Hinge Adapters are threaded to receive the Spring Assist.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Upper Hinge Adapter	5510-1	Cast Aluminum Alloy	Upper Hinge Adapter. Standard Hardware.
Standard Lower Hinge Adapter	5510-3	Cast Aluminum Alloy	Lower Hinge Adapter. Used on all standard Durulite Doors. Threaded to receive the Spring Assist.
Industrial Lower Hinge Adapter	5550-1	Ductile Iron	Lower Hinge Adapter. Used on all industrial Durulite Doors. Threaded to receive the Spring Assist.



UPPER HINGE ADAPTER

P/N 5510-1
MATERIAL: ALUM. ALLOY

LOWER HINGE ADAPTER

P/N 5510-3
MATERIAL: ALUM. ALLOY

INDUSTRIAL LOWER HINGE ADAPTER

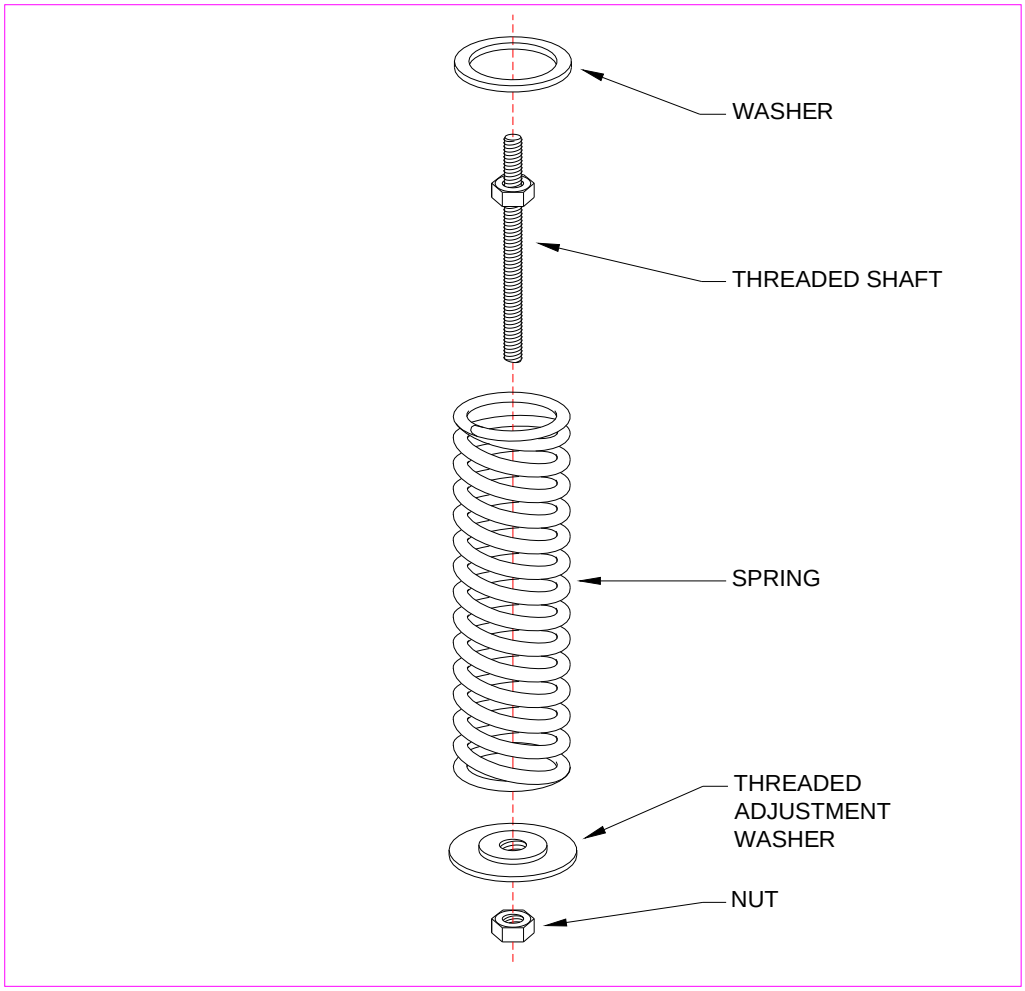
P/N 5550-1
MATERIAL: DUCTILE IRON

DURULITE DOOR HARDWARE FACTS SHEET

SPRING ASSIST

The Spring Assist consists of five replaceable parts. The Spring Assist threads into the Lower Hinge Adapter Shaft. The Spring Assist should be specified when doors are required to maintain the closed position, when there is a negative air pressure condition, or when a wind condition exists. The Spring Assist cannot be used with the Low-Rise or No-Rise hardware.

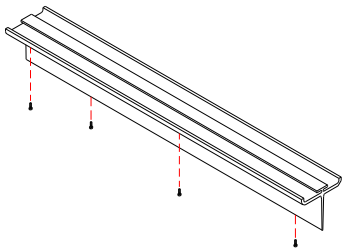
DESCRIPTION	PART NO.	MATERIAL	FEATURES
Spring Assist	5543	Steel Parts	Five-Part Spring Assist assembly composed of a Spring, Threaded Shaft, Washer, Threaded Adjustment Washer, and Nut. Assembly also includes Roll Pin for pinning the Roller to the Upper Hinge Adapter Shaft.



DURULITE DOOR HARDWARE FACTS SHEET

TOP SEAL

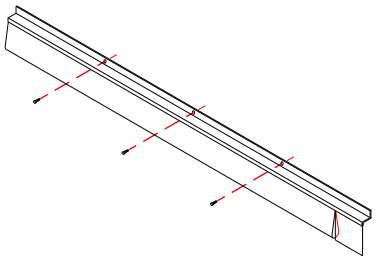
The Top Seal serves to seal the gap between the top of the door and the frame header. The Standard Rise V-Cam requires a minimum 2" gap between the top of the door panel and the frame header to operate. The Low Rise V-Cam requires a 1-1/2" gap. Top Seals are standard equipment on fully gasketed doors and are available on partially gasketed doors as an option.



90° STANDARD TOP SEAL

THE 90 X 90° STANDARD TOP SEAL consists of a 2-1/4" wide extruded PVC Top Seal Gasket. The Standard Top Seal mounts on the header and is used for gaps from 2" to 6".

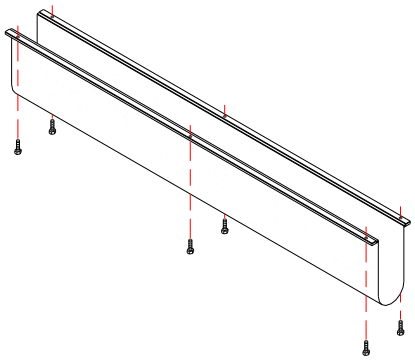
FASTENERS: #12 X 1-1/2" TEK SCREWS
DRILL SIZE: 5/32"



180° TOP SEAL

THE 180 X 90° STANDARD TOP SEAL is made of flexible reinforced nylon with an aluminum mounting strip. The 180° Top Seal mounts to the face of the jamb above the header.

FASTENERS: #12 X 1-1/2" TEK SCREWS
DRILL SIZE: 5/32"



90° EXTENDED TOP SEAL

THE 90 X 90° EXTENDED TOP SEAL consists of flexible reinforced nylon inserted into two aluminum mounting strips. It mounts on the header and is used for gaps larger than 6". It is also used for foam filled seals when extra insulation is required.

FASTENERS: #12 X 1-1/2" TEK SCREWS
DRILL SIZE: 5/32"

DURULITE DOOR HARDWARE FACTS SHEET

HINGE SEALS

Upper and Lower Hinge Seals wrap around the V-Cam and Pillow Block on Durulite Doors. Hinge Seals provide an improved seal and a finished appearance at the hinge areas. Upper and Lower Hinge Seals are standard items on fully gasketed doors.

On doors with 90° hardware and Lower Hinge Guards the Lower Hinge Seal is replaced by the Lower Hinge Guard.

180° hardware uses both a Lower Hinge Seal and a Lower Hinge Guard.
Hinge Seals are available on partially gasketed doors as an option.

90 X 90° LOWER HINGE SEALS are made of black, flexible reinforced nylon, with black aluminum mounting strips. Foam tape is applied to the aluminum mounting strips for temporary positioning prior to fastening. They are equipped with a foam strip along the inside center to provide greater rigidity.

Lower Hinge Seals are attached with 1/4" - 14 x 1" ST. ST. Tek Screws.

180 X 90° LOWER HINGE SEALS are made of flexible black PVC. Foam tape is applied to the inside face for temporary positioning prior to fastening.

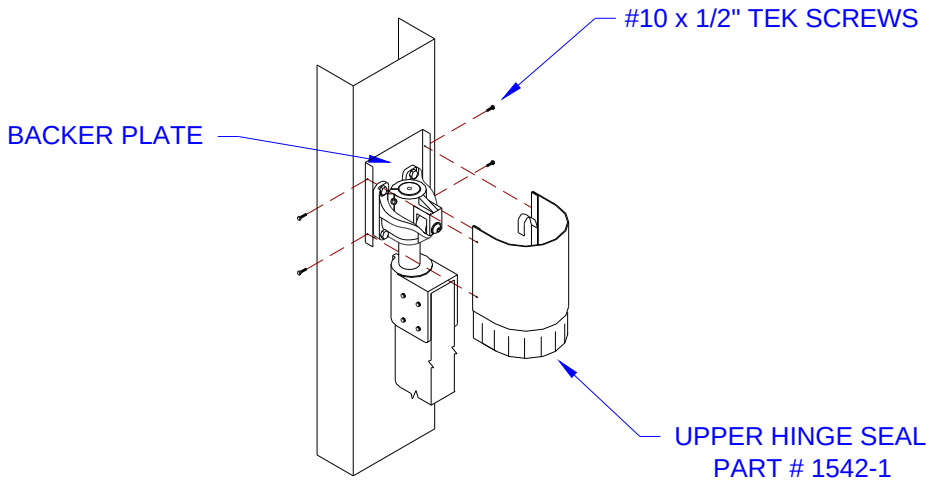
Lower Hinge Seals are attached with 1/4" - 14 x 1" ST. ST. Tek Screws.

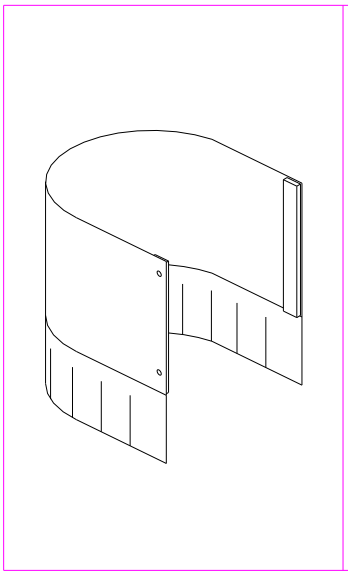
180 X 90° UPPER HINGE SEALS are made of black, flexible reinforced nylon, with black aluminum mounting strips. Foam tape is applied for temporary positioning prior to fastening.

Upper Hinge Seals are attached with 1/4" - 14 x 1" ST. ST. Tek Screws.

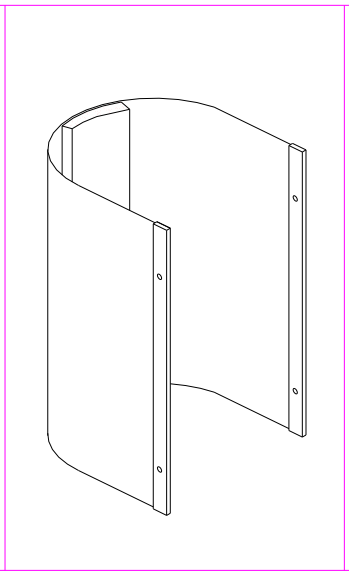
90 X 90° UPPER HINGE SEALS are made of flexible black PVC. Foam tape is applied for temporary positioning prior to fastening. The 90° Upper Hinge Seal is attached to a steel Backer Plate that mounts behind the V-Cam.

Upper Hinge Seals are attached to a Backer Plate with #10 x 1/2" Tek Screws.

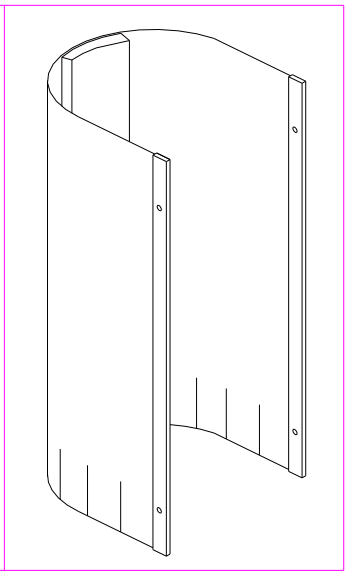




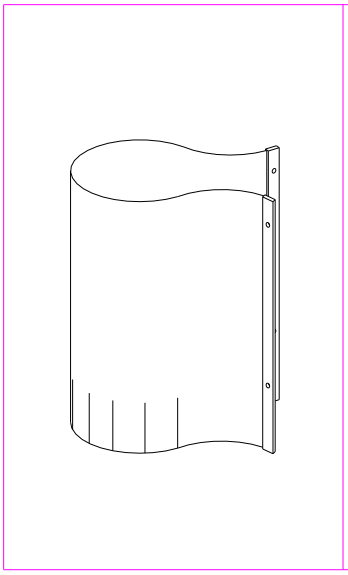
90° UPPER HINGE SEAL
P/N 1542-1



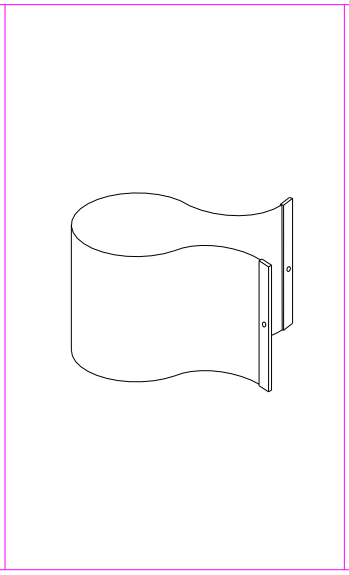
90° LOWER HINGE SEAL
P/N 1536-1



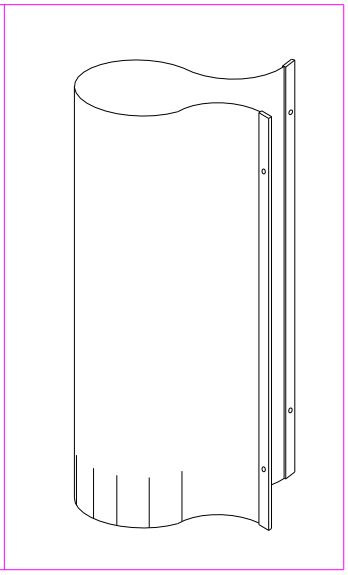
90° DUTCH DOOR HINGE SEAL
P/N 1540-1



180° UPPER HINGE SEAL
P/N 1554-1



180° LOWER HINGE SEAL
P/N 1531-1



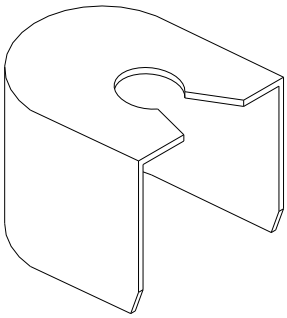
180° DUTCH DOOR HINGE SEAL
P/N 1553-1

DURULITE DOOR HARDWARE FACTS SHEET

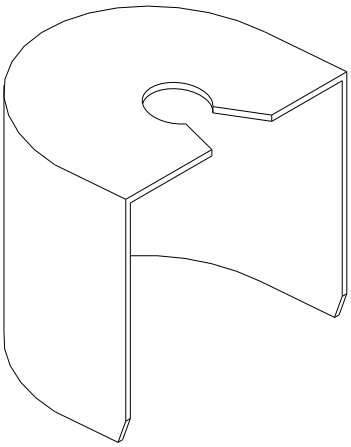
SOLID RISER

The Solid Riser is an accessory of the Hinge Seal system which provides a rigid surface for the more flexible types of Hinge Seals to wrap around. Solid Risers are made of black polyethylene. The Solid Riser snaps onto the Hinge Adapter Shaft between the Hinge Adapter and the V-Cam on the upper hardware and between the Hinge Adapter and the Pillow Block on the lower hardware.

On doors with 90° X 90° hardware a Solid Riser is provided if the door receives a Standard Lower Hinge Guard or a Lower Hinge Seal. On doors with 180° X 90° hardware a Solid Riser is provided for the Upper Hinge Seal.



90° X 90° SOLID RISER
P/N 1548

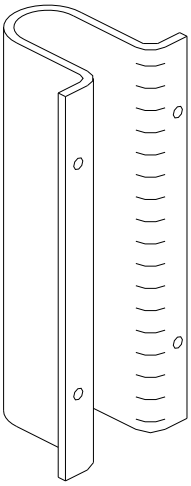


180° X 90° SOLID RISER
P/N 1547

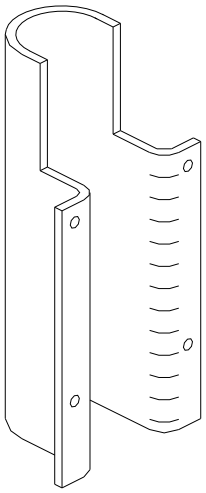
DURULITE DOOR HARDWARE FACTS SHEET

LOWER HINGE GUARD

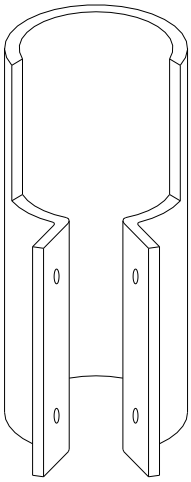
STANDARD LOWER HINGE GUARD	Designed for use with 90° hardware. Provides protection of hardware from pedestrian traffic. Normally ordered with standard Durulite Doors. Requires 3-1/2" minimum jamb width for installation. Available in Polyethylene or Aluminum. Designed to cover Lower Hinge Adapter shaft. Standard Lower Hinge Guard is installed below Pillow Block, and fastens to inside face of jamb.
INDUSTRIAL LOWER HINGE GUARD	Designed for use with 90° hardware. Provides protection of hardware from vehicular and cart traffic. Normally ordered with industrial Durulite Doors, or with doors receiving Spring Assist. Requires a 5-1/2" minimum jamb width for installation. Available in Polyethylene or Aluminum. Designed to cover Pillow Block and Lower Hinge Adapter Shaft. Fastens to inside face of jamb.
180° LOWER HINGE GUARD	Designed for use with 180° hardware. Provides protection of hardware from vehicular and cart traffic. Available in Polyethylene. Designed to cover Pillow Block and Lower Hinge Adapter Shaft. Fastens to corner of jamb.
WRAPAROUND LOWER HINGE GUARD	Designed for doors with jamb widths of 4" - 4-1/2". Available in 10 gauge galvanized steel only. For use with Spring Assist. Fastens to outside face of jamb.



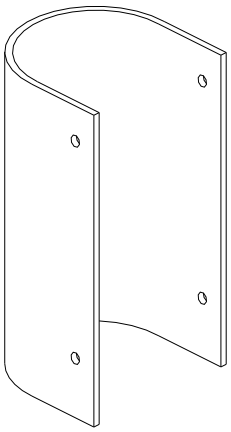
STANDARD LOWER HINGE GUARD
MATERIAL: POLYETHYLENE or EXTRUDED ALUMINUM



INDUSTRIAL LOWER HINGE GUARD
MATERIALS: POLYETHYLENE or EXTRUDED ALUMINUM



180° LOWER HINGE GUARD
MATERIAL: POLYETHYLENE



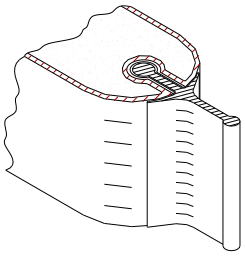
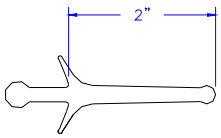
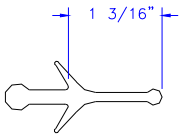
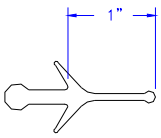
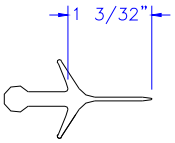
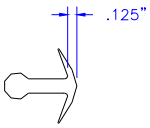
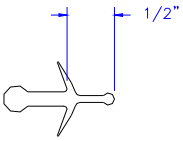
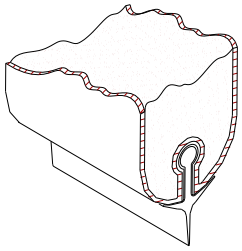
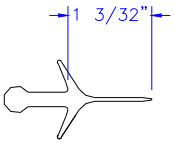
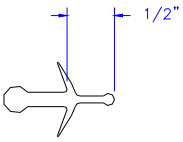
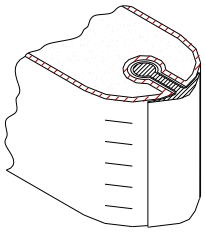
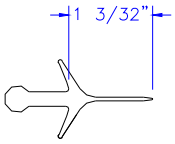
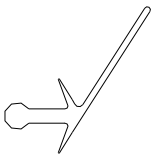
WRAPAROUND LOWER HINGE GUARD
MATERIAL: GALVANIZED STEEL

DURULITE DOOR HARDWARE FACTS SHEET

GASKETING

The Durulite Door comes equipped with replaceable gasketing along the leading, back and bottom edges. This gasketing is retained in the door by a molded-in aluminum keyway. Gaskets are secured in the door without the use of fasteners of any kind. Gaskets are made of 55-80 Durometer extruded black santoprene. All gaskets are made with winged sides which seal the rounded edges of the door.

By varying the leading edge gasket, nominal double door openings may be increased by up to two inches, or reduced by one inch. Nominal single doors can be increased by up to one inch, or reduced by 1/2". Fully gasketed doors come equipped with a blade type gasket on the leading edge. Back and bottom edges are normally sealed with the 1560 blade gasket. Back and bottom edges may also be equipped with a 1559 bullnose gasket (for use in partially gasketed applications), which does not seal the door along these edges.

			
	1535 GASKET	1558 GASKET	1545 GASKET
			
LEADING EDGE GASKET	1560 GASKET	1559 GASKET	1546 GASKET
			
BOTTOM GASKET	1560 GASKET	1559 GASKET	1546 GASKET
			
BACK GASKET	1560 GASKET	1559 GASKET	1561 GASKET

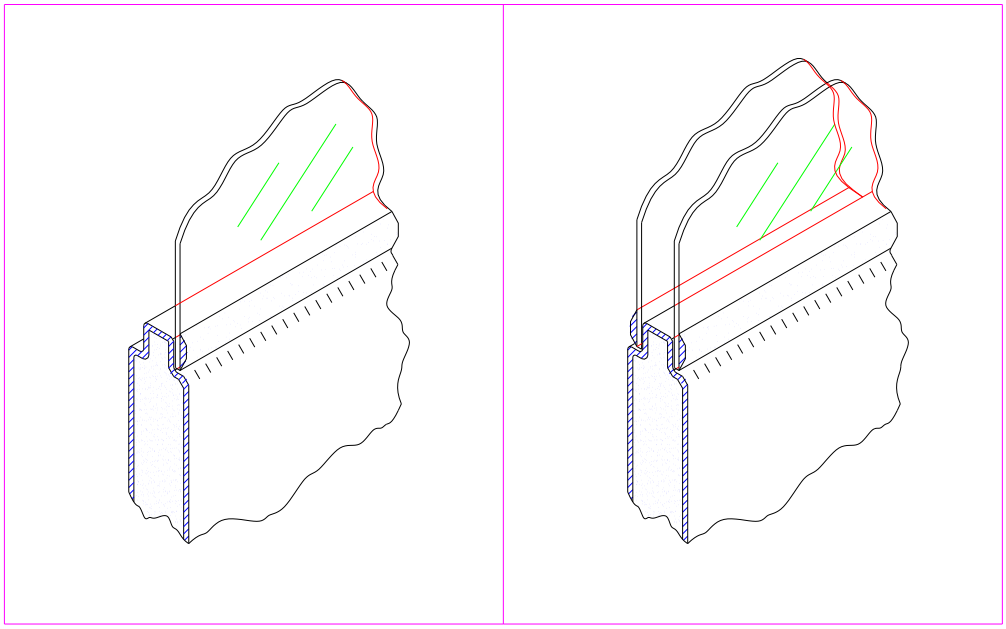
DURULITE DOOR HARDWARE FACTS SHEET

WINDOWS

Durulite Doors are equipped with molded-in window openings with a recessed area to accomodate the glazing and frame. Glazing in the door is 1/8" polycarbonate. Durulite Doors are available with single or double glazing. Black aluminum frames are available for either single or double glazing.

The window bottom is typically located 45" above the bottom of the door. Window widths vary with panel widths.

PANEL SIZE	**WINDOW SIZE** (Width and Height)
24" & 27"	10-1/2" X 22-1/2"
30"	14-1/2" X 22-1/2"
32"	16-1/2" X 22-1/2"
34"	18-1/2" X 22-1/2"
36", 39-1/2", 42" & 48"	20-1/2" X 22-1/2"
54" & 60"	22-1/2" X 22-1/2"



SINGLE PANE WINDOW **DOUBLE PANE WINDOW**

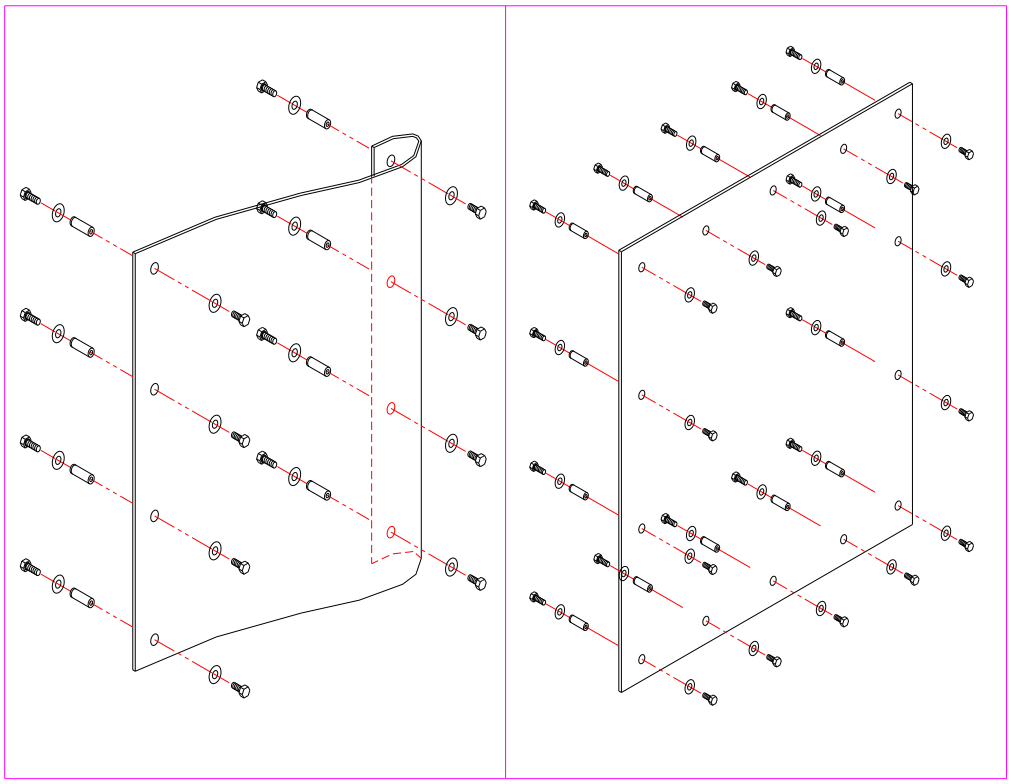
DURULITE DOOR HARDWARE FACTS SHEET

BUMPERS

Durulite Doors are available with 1/4" thickness crosslink polyethylene teardrop Bumpers. Standard and industrial versions are available. Standard Bumpers provide a 3" projection at the curl, and are available on panel sizes ranging from 24" to 39-1/2". Industrial Bumpers provide a 4" projection at the curl, and are available on all panel sizes. Bumpers are available in nominal heights of 6", 12", 18", 24", 36", 38, and 42", and should be ordered to accomodate the application. Bumper widths vary with panel width. Bumpers are recommended for any application with cart or vehicular traffic. Bumpers are bolted to the door into threaded inserts. Bumpers are available in the same color choices as the door.

KICKPLATES

Durulite Doors are available with 1/4" thickness polyethylene or 18 GA. stainless steel Kickplates. Polyethylene Kickplates are available in nominal heights of 6", 12", 18", 24", 30", 36", and 42". Stainless steel Kickplates are available in nominal heights of 6", 12", 18", 24", 36" and 42". Kickplate widths vary with panel width. Kickplates are primarily designed to protect the surface of the door from wear do to pedestrian traffic. Kickplates are bolted to the door into threaded inserts. Polyethylene Kickplates are available in the same color choices as the door.



BUMPER ASSEMBLY
MATERIAL: POLYETHYLENE

KICKPLATE ASSEMBLY
MATERIAL: POLYETHYLENE/
STAINLESS STEEL

DURULITE DOOR BUMPER SIZES

STANDARD BUMPERS

(Dimensions shown have a tolerance of ± 1/4". Dimensions in width are from outside of curl to opposite edge.)

NOMINAL SIZE *HT. X DOOR WIDTH*	**ACTUAL SIZE** *HT. X BUMPER WIDTH*
6 X 24	7-3/4" X 18-1/4"
6 X 27	7-3/4" X 21-1/4"
6 X 30	7-3/4" X 24-1/4"
6 X 32	7-3/4" X 26-1/4"
6 X 34	7-3/4" X 27-1/4"
6 X 36	7-3/4" X 30-1/2"
12 X 24	13" X 18-1/4"
12 X 27	13" X 21-1/4"
12 X 30	13" X 24-1/4"
12 X 32	13" X 26-1/4"
12 X 34	13" X 27-1/4"
12 X 36	13" X 30-1/2"
18 X 24	18-5/8" X 18-1/4"
18 X 27	18-5/8" X 21-1/4"
18 X 30	18-5/8" X 24-1/4"
18 X 32	18-5/8" X 26-1/4"
18 X 34	18-5/8" X 27-1/4"
18 X 36	18-5/8" X 30-1/2"
24 X 24	24-3/8" X 18-1/4"
24 X 27	24-3/8" X 21-1/4"
24 X 30	24-3/8" X 24-1/4"
24 X 32	24-3/8" X 26-1/4"
24 X 34	24-3/8" X 27-1/4"
24 X 36	24-3/8" X 30-1/2"
36 X 24	36" X 18-1/4"
36 X 27	36" X 21-1/4"
36 X 30	36" X 24-1/4"
36 X 32	36" X 26-1/4"
36 X 34	36" X 27-1/4"
36 X 36	36" X 30-1/2"
42 X 24	42" X 18-1/4"
42 X 27	42" X 21-1/4"
42 X 30	42" X 24-1/4"
42 X 32	42" X 26-1/4"
42 X 34	42" X 27-1/4"
42 X 36	42" X 30-1/2"
48 X 24	48" X 18-1/4"
48 X 27	48" X 21-1/4"
48 X 30	48" X 24-1/4"
48 X 32	48" X 26-1/4"
48 X 34	48" X 27-1/4"
48 X 36	48" X 30-1/2"

INDUSTRIAL BUMPERS

(Dimensions shown have a tolerance of ± 1/4". Dimensions in width are from outside of curl to opposite edge.)

NOMINAL SIZE *HT. X DOOR WIDTH*	**ACTUAL SIZE** *HT. X BUMPER WIDTH*
6 X 36	7-3/4" X 31"
6 X 39.5*/42	7-3/4" X 35"
6 X 48/54/60	7-3/4" X 41"
12 X 36	13" X 31"
12 X 39.5*/42	13" X 35"
12 X 48/54/60	13" X 41"
18 X 36	18-5/8" X 31"
18 X 39.5*/42	18-5/8" X 35"
18 X 48/54/60	18-5/8" X 41"
24 X 36	24-3/8" X 31"
24 X 39.5*/42	24-3/8" X 35"
24 X 48/54/60	24-3/8" X 41"
36 X 36	36" X 31"
36 X 39.5*/42	36" X 35"
36 X 48/54/60	36" X 41"
38 X 36	38" X 31"
38 X 39.5*/42	38" X 35"
38 X 48	38" X 41"
42 X 36	42" X 31"
42 X 39.5*/42	42" X 35"
42 X 48/54/60	42" X 41"
48 X 36	48" X 31"
48 X 39.5*/42	48" X 35"
48 X 48/54/60	48" X 41"

* *39.5" DOORS MATCHED WITH 36" DOORS RECEIVE 36" DOOR SIZE BUMPERS.*

DURULITE DOOR KICKPLATE SIZES

POLYETHYLENE KICKPLATES

(Dimensions shown have a tolerance of ± 1/4".)

NOMINAL SIZE *HT. X DOOR WIDTH*	ACTUAL SIZE *HT. X KICKPLATE WIDTH*
6 X 24	8-3/4" X 16-3/4"
6 X 27	8-3/4" X 18-3/4"
6 X 30	8-3/4" X 23-1/4"
6 X 32/34	8-3/4" X 25-1/4"
6 X 36	8-3/4" X 29-3/4"
6 X 42	8-3/4" X 31-3/4"
6 X 48/54/60	8-3/4" X 38-3/8"
12 X 24	15-1/2" X 16-3/4"
12 X 27	15-1/2" X 18-3/4"
12 X 30	15-1/2" X 23-1/4"
12 X 32/34	15-1/2" X 25-1/4"
12 X 36	15-1/2" X 29-3/4"
12 X 42	15-1/2" X 31-3/4"
12 X 48/54/60	15-1/2" X 38-3/8"
18 X 24	22-1/4" X 16-3/4"
18 X 27	22-1/4" X 18-3/4"
18 X 30	22-1/4" X 23-1/4"
18 X 32/34	22-1/4" X 25-1/4"
18 X 36	22-1/4" X 29-3/4"
18 X 42	22-1/4" X 31-3/4"
18 X 48/54/60	22-1/4" X 38-3/8"
24/30 X 24	29" X 16-3/4"
24/30 X 27	29" X 18-3/4"
24/30 X 30	29" X 23-1/4"
24/30 X 32/34	29" X 25-1/4"
24/30 X 36	29" X 29-3/4"
24/30 X 42	29" X 31-3/4"
24/30 X 48/54/60	29" X 38-3/8"
36 X 24	35-3/4" X 16-3/4"
36 X 27	35-3/4" X 18-3/4"
36 X 30	35-3/4" X 23-1/4"
36 X 32/34	35-3/4" X 25-1/4"
36 X 36	35-3/4" X 29-3/4"
36 X 42	35-3/4" X 31-3/4"
36 X 48/54/60	35-3/4" X 38-3/8"
42 X 24	42-1/2" X 16-3/4"
42 X 27	42-1/2" X 18-3/4"
42 X 30	42-1/2" X 23-1/4"
42 X 32/34	42-1/2" X 25-1/4"
42 X 36	42-1/2" X 29-3/4"
42 X 42	42-1/2" X 31-3/4"
42 X 48/54/60	42-1/2" X 38-3/8"

STAINLESS STEEL KICKPLATES

NOMINAL SIZE *HT. X DOOR WIDTH*	ACTUAL SIZE *HT. X KICKPLATE WIDTH*
12 X 24	15" X 15-3/4"
12 X 27	15" X 16-3/4"
12 X 30	15" X 22-3/8"
12 X 32/34	15" X 23-3/8"
12 X 36	15" X 29"
12 X 39.5/42	15" X 30"
12 X 48	15" X 36-5/8"
12 X 54	15" X 43-1/4"
12 X 60	15" X 49-7/8"
18 X 24	21-3/4" X 15-3/4"
18 X 27	21-3/4" X 16-3/4"
18 X 30	21-3/4" X 22-3/8"
18 X 32/34	21-3/4" X 23-3/8"
18 X 36	21-3/4" X 29"
18 X 39.5/42	21-3/4" X 30"
18 X 48	21-3/4" X 36-5/8"
18 X 54	21-3/4" X 43-1/4"
18 X 60	21-3/4" X 49-7/8"
24 X 24	28-1/2" X 15-3/4"
24 X 27	28-1/2" X 16-3/4"
24 X 30	28-1/2" X 22-3/8"
24 X 32/34	28-1/2" X 23-3/8"
24 X 36	28-1/2" X 29"
24 X 39.5/42	28-1/2" X 30"
24 X 48	28-1/2" X 36-5/8"
24 X 54	28-1/2" X 43-1/4"
24 X 60	28-1/2" X 49-7/8"
36 X 24	35-1/4" X 15-3/4"
36 X 27	35-1/4" X 16-3/4"
36 X 30	35-1/4" X 22-3/8"
36 X 32/34	35-1/4" X 23-3/8"
36 X 36	35-1/4" X 29"
36 X 39.5/42	35-1/4" X 30"
36 X 48	35-1/4" X 36-5/8"
36 X 54	35-1/4-" X 43-1/4"
36 X 60	35-1/4" X 49-7/8"
42 X 24	42" X 15-3/4"
42 X 27	42" X 16-3/4"
42 X 30	42" X 22-3/8"
42 X 32/34	42" X 23-3/8"
42 X 36	42" X 29"
42 X 39.5/42	42" X 30"
42 X 48	42" X 36-5/8"
42 X 54	42" X 43-1/4"
42 X 60	42" X 49-7/8"

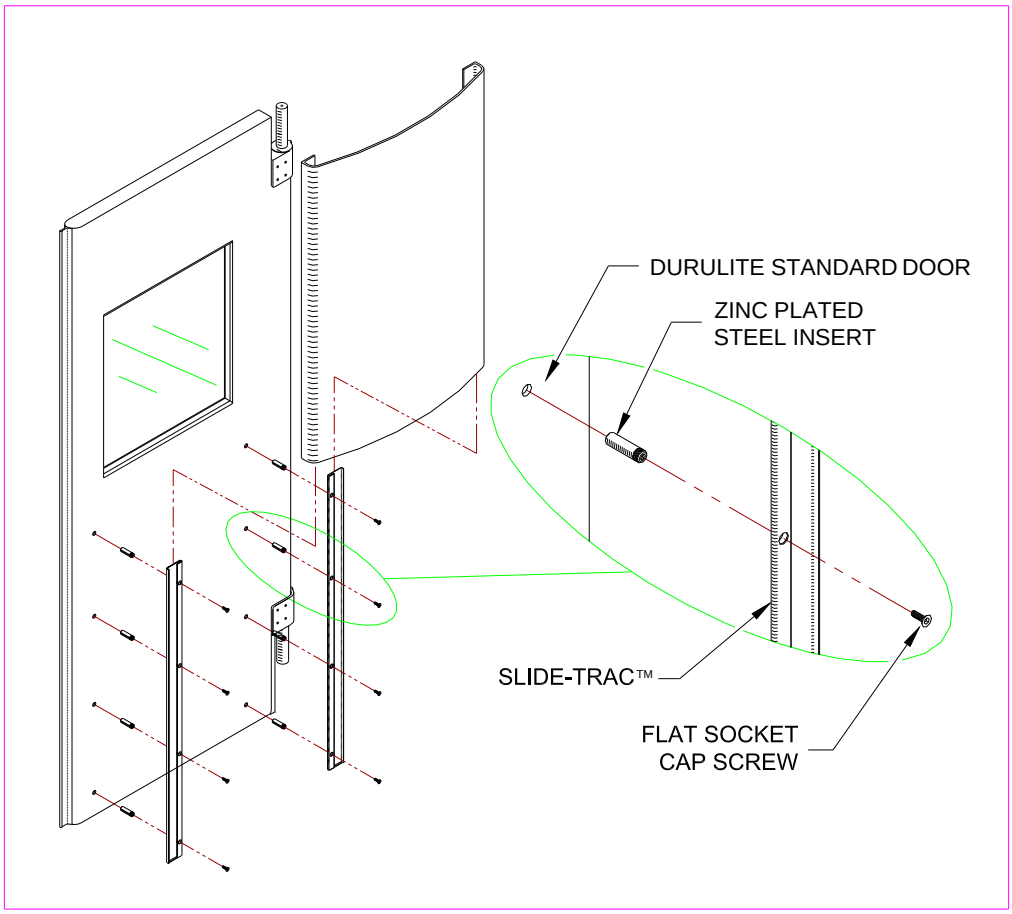
DURULITE DOOR HARDWARE FACTS SHEET

THE REVOLUTIONARY SLIDE-TRAC™ BUMPER

Durulite Standard Doors (see NOTE below) may be equipped with the Slide-Trac™ Bumper. This unique bumper not only protects your door but is a great place to show your logo or other graphics. Graphics are applied using a molded in process which actually pulls the graphic into the polyethylene material of the bumper. This creates an extremely strong and durable graphic that won't peel or fade.

The Slide-Trac™ Bumper is mounted to the door using a stainless steel track system. The track is bolted to steel inserts which are pressed into the door. There is one track on the leading edge and one track on the back edge of each side of the door. You then slide the bumper down to the bottom of the tracks. This allows a customer to swap bumpers to show seasonal specials, advertisements, and even show off products or services.

NOTE: The Slide-Trac™ Bumper is ***NOT*** intended for use in industrial applications and should ***NOT*** be mounted on a Durulite Industrial Door.



SLIDE-TRAC™ BUMPER ASSEMBLY
MATERIAL: POLYETHYLENE
WITH STAINLESS STEEL TRACKS

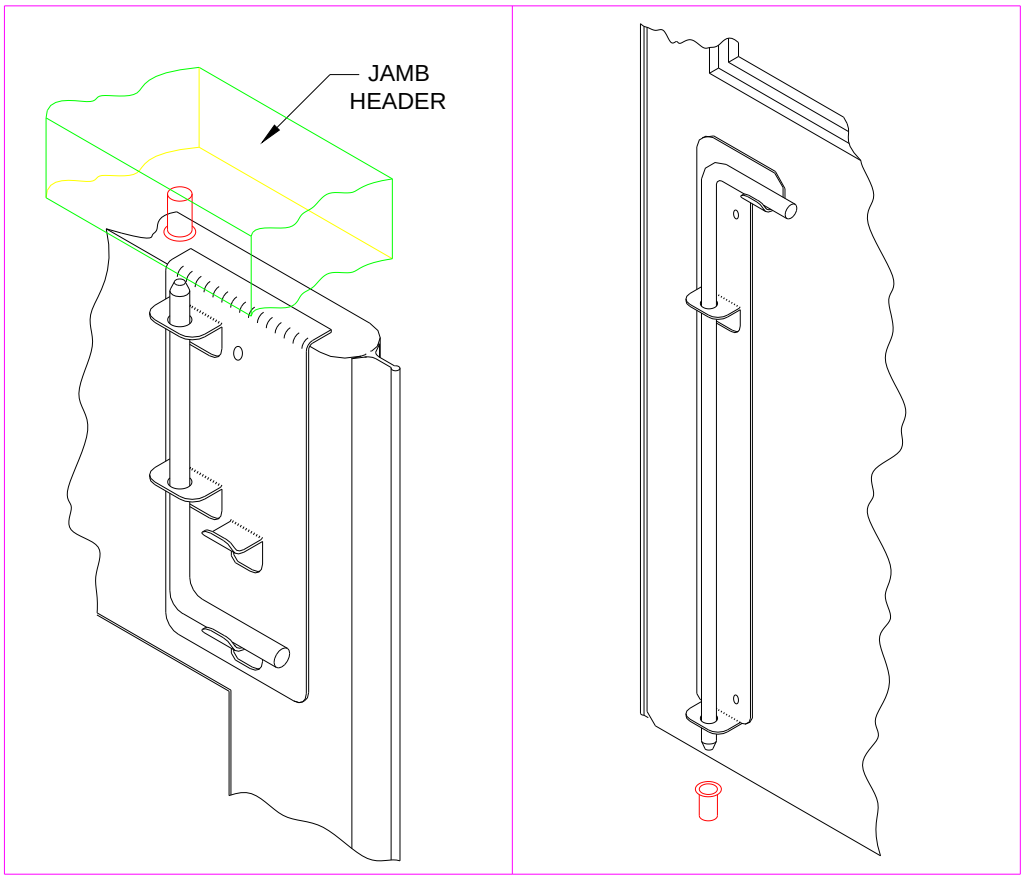
DURULITE DOOR HARDWARE FACTS SHEET

CANE BOLTS

Upper and Lower Steel Cane Bolts are available on the Durulite Door. Cane Bolts act to secure the door, making it accessible from one side only. Cane Bolts in the closed position are recessed into holes or keepers in the frame header and the floor.

Upper Cane Bolts are recommended for use on door heights up to a maximum of 96". 12" Upper Cane Bolts are specified on door heights of 78" through 84", 18" Cane Bolts are specified on 90" and 96" door heights. Cane Bolts are not recommended on taller doors due to difficulty in reaching them. The Upper Cane Bolt cannot be used when the gap between the top of the door and the jamb header exceeds 2".

Lower Cane Bolts are designed to operate behind Bumpers. Lower Cane Bolts are available in lengths of 12", 18", 24", 36", and 42". The length of the Cane Bolt ordered should match the height of the Bumper. Use of Lower Cane Bolts without Bumpers is not recommended due to the possibility of personal injury.



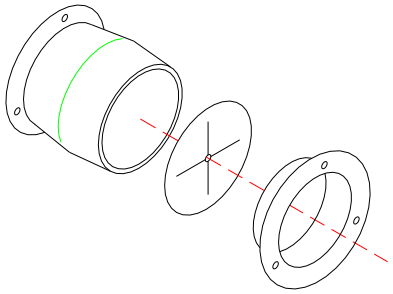
UPPER CANE BOLT **LOWER CANE BOLT**

DURULITE DOOR HARDWARE FACTS SHEET

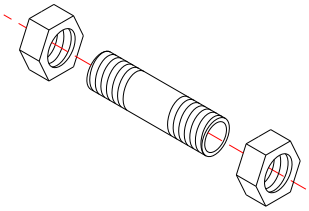
LOCKING DEVICES

2" LOCK SLEEVE

A 2" inside diameter stainless steel Lock Sleeve is available on the Durulite Door. It is intended primarily for use with double doors. The 2" Lock Sleeve provides its own inner seal and is fastened on each side of the door with three stainless steel screws. It is placed approximately 42" above the bottom of the door and 4" in from the leading edge. It is designed for use with a cable or chain type lock. The 2" Lock Sleeve is required on all 200 Series doors. This lock cannot be used on doors equipped with 42" Bumpers.



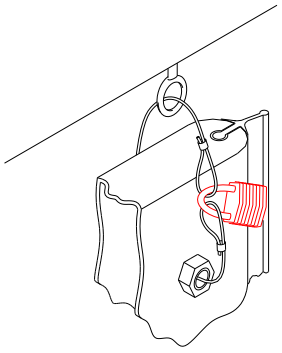
2" LOCKING DEVICE ASSEMBLY



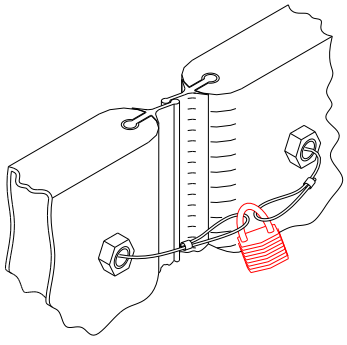
1/2" LOCKING DEVICE ASSEMBLY

1/2" LOCK SLEEVE

A 1/2" inside diameter galvanized Lock Sleeve with a wire rope is available on the Durulite Door. The 1/2" Lock Sleeve is threaded on both ends and finished with end caps. The 1/8" diameter wire rope cable is looped on both ends to accommodate a padlock. The Lock Sleeve is available on either single or double doors. The cable lock on single doors is 10-1/2" long, and on double doors is 21" long. The 1/2" Lock Sleeve is placed 2" down from the top of the door on single doors, and 17" down from the top on double doors. Both Sleeves are placed 3" in from the leading edge. No seal is provided on the 1/2" Lock Sleeve.



1/2" LOCKING DEVICE IN SINGLE DOOR

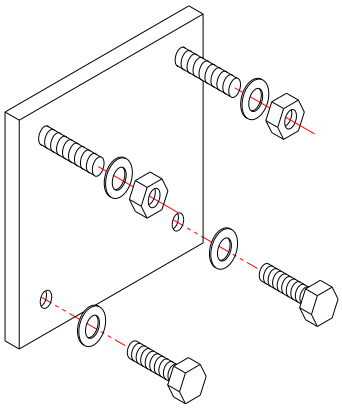


1/2" LOCKING DEVICE IN DOUBLE DOOR

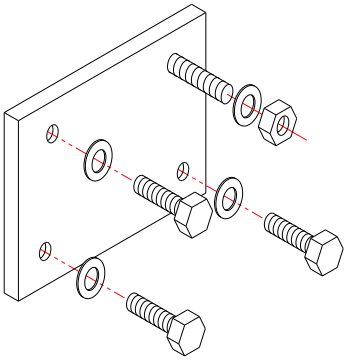
DURULITE DOOR HARDWARE FACTS SHEET

WELD PLATES

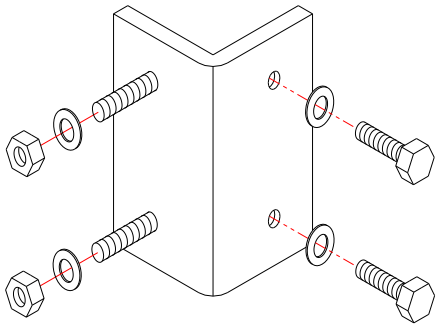
Weld Plates for 90° and 180° hardware are available on the Durulite Door. Weld Plates are designed for ease of installation and for applications where it is not possible or practical to drill and tap into the frame. Weld Plates are made of 1/4" mild steel plate, and are designed to be welded to metal frames. They are fabricated to fit behind the V-Cam and Pillow Block. Weld Plates are pre-drilled and pre-tapped for either tamper-pruf fasteners or grade 8 bolts. They come assembled with press-in studs to assist in the initial positioning of the hardware. The Weld Plate assembly comes complete with fasteners. Weld Plates have the effect of reducing the finished opening size 1/4" per panel.



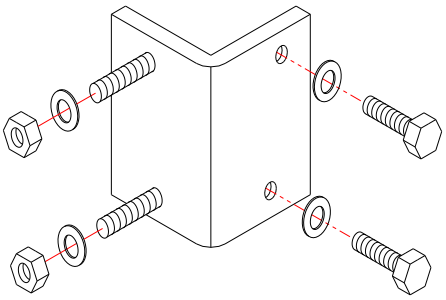
90° V-CAM WELD PLATE



90° PILLOW BLOCK WELD PLATE



180° V-CAM WELD PLATE



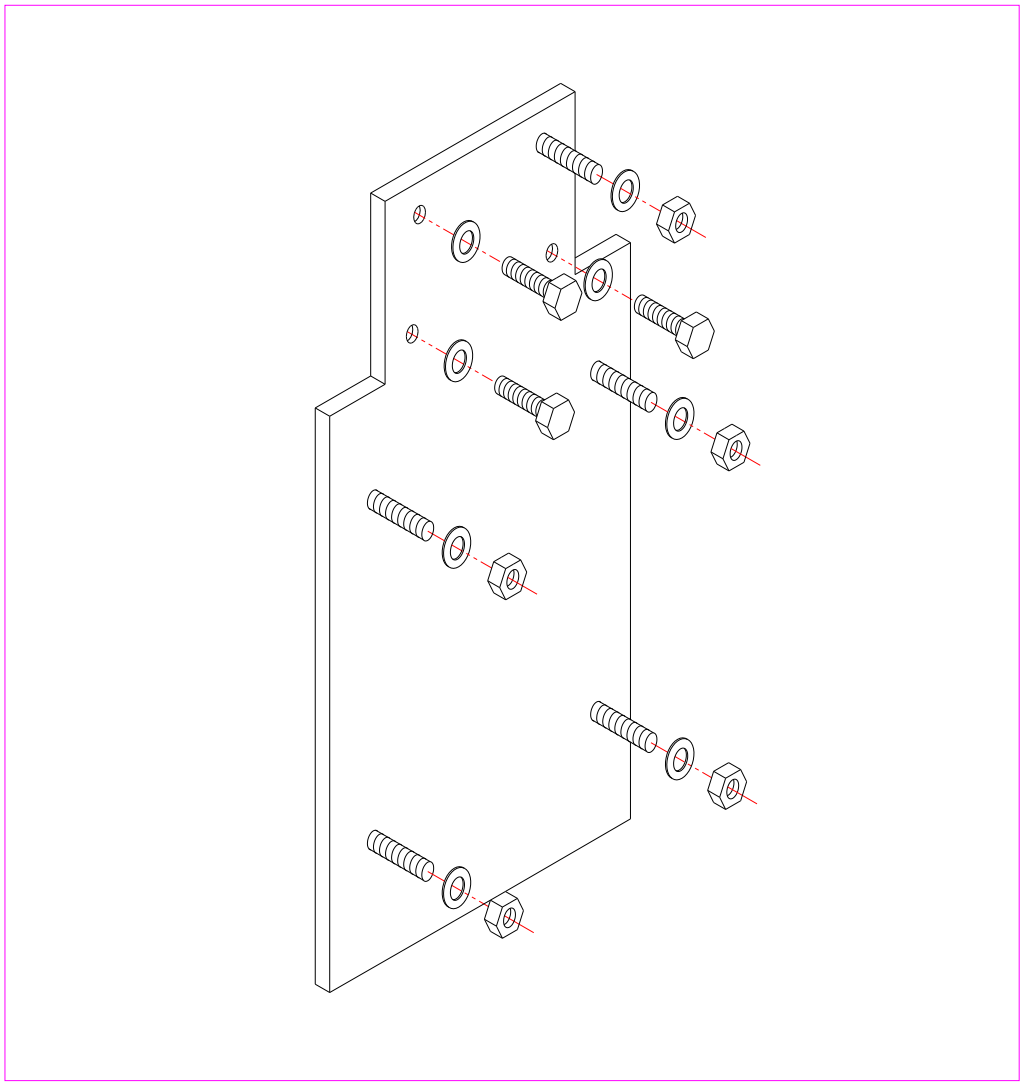
180° PILLOW BLOCK WELD PLATE

DURULITE DOOR HARDWARE FACTS SHEET

90° PILLOW BLOCK INDUSTRIAL WELD PLATE

The Pillow Block Industrial Weld Plate is made of 1/4" thick mild steel. It provides the same ease of installation as the standard Pillow Block Weld Plate and it is equipped with an additional four pressed in studs to mount the Industrial Lower Hinge Guard without drilling.

The Pillow Block Industrial Weld Plate **requires a minimum 5-1/2" jamb width** for installation.

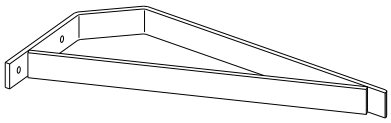


90° PILLOW BLOCK
INDUSTRIAL WELD PLATE

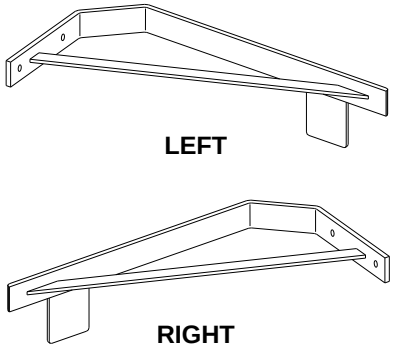
DURULITE DOOR HARDWARE FACTS SHEET

DOOR STOPS

Durus offers black steel Door Stops for the Durulite Door for applications where Limiting Posts are not practical or desirable. Door Stops are available for 90° hardware and are equipped with replaceable rubber contact pads. Door Stops with tabs may be used in applications where the Door Stop must be mounted above the door. Door Stops are suitable for any size door panel. Fasteners are not included due to variety of wall materials.



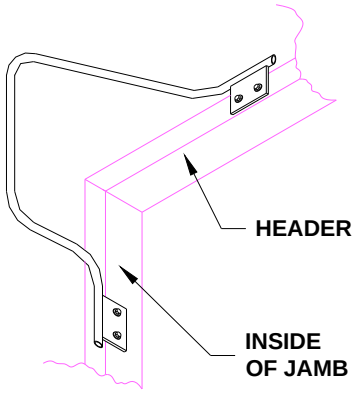
90° DOOR STOP



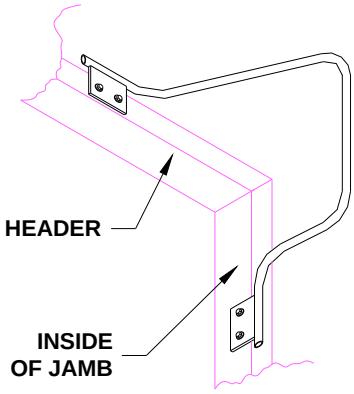
90° DOOR STOP
WITH TAB

WING DINGS

Wing Dings are a tubular steel Door Stop with a 1" I.D. and a 1-1/4" O.D. Wing Dings should be used on taller doors in a situation where head clearance from pedestrian traffic is not an issue.



WING DING (LEFT)

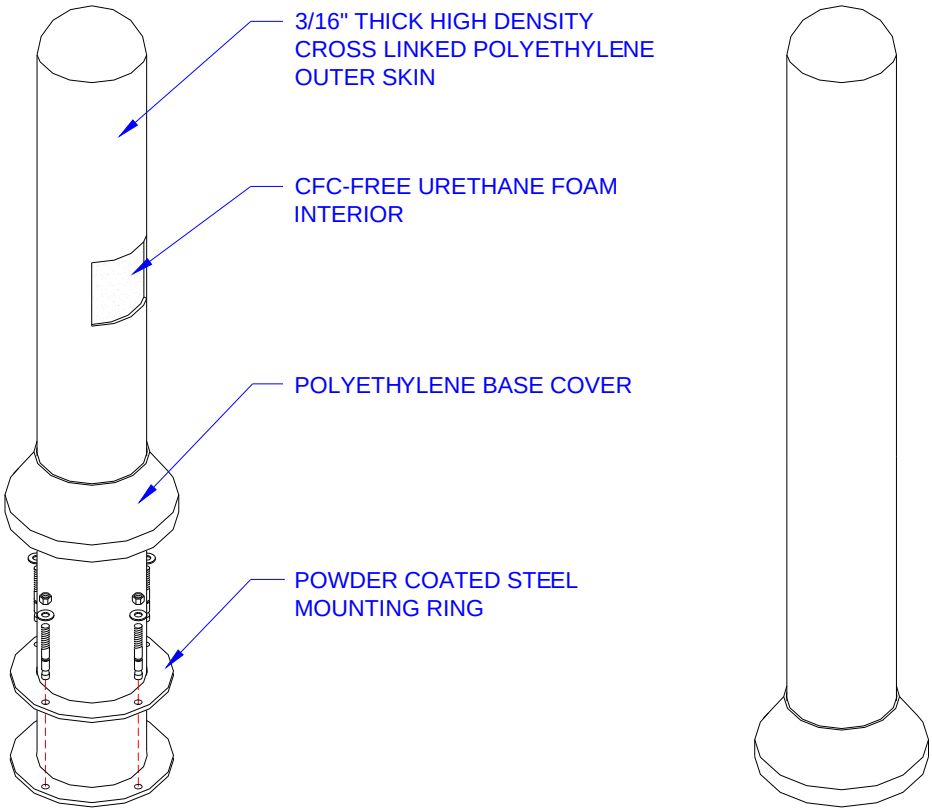


WING DING (RIGHT)

DURULITE DOOR HARDWARE FACTS SHEET

LIMITING POSTS

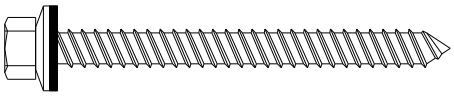
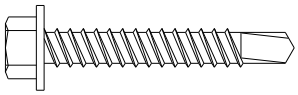
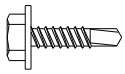
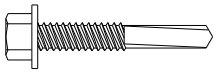
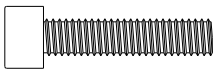
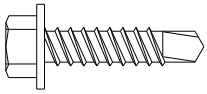
Polyethylene Limiting Posts may be used as door stops on Durulite Doors. The Durulite Limiting Post is 42" high and 5-1/4" in diameter. The outer skin of the Limiting Post is 3/16" thick. The inside of the Limiting post is filled with Non-CFC Urethane Foam. The bottom of the Limiting Post is flanged to a diameter of 7-3/4". The bottom flange and a powder coated steel ring provide the mounting surface for four 3/8" X 3" concrete wedge anchors. A 3-1/2" high, 8-1/4" diameter polyethylene base cover is provided to protect and conceal the mounting hardware.



LIMITING POSTS

DURULITE DOOR HARDWARE FACTS SHEET

FASTENERS

FASTENER TYPE	*USES*
FOR WOOD JAMBS 1/4" X 3" St. St. Hex Head Hardware Screw W/ 1/4" St. St. Washer & Neoprene Gasket. Drill Bit Size: 3/16" 	PILLOW BLOCK V-CAM
FOR STEEL JAMBS 1/4"-14 X 1-1/2" Hex Washer Head St. St. Tek Screw W/ Galv. Plating. Drill Bit Size: 1/8" For Steel Up To 3/8" Thick, 13/64" For Steel 3/8" Or Thicker. 	PILLOW BLOCK V-CAM
#10 X 1/2" Hex Washer Head Tek Screw. Drill Bit Size: 5/64" On Steel 1/4" Or Thicker 	UPPER HINGE SEAL
#14 X 1-1/2" Hex Washer Head Tek Screw. Drill Bit Size: 5/32" 	TOP SEAL
1/4" - 20 Tamper Pruf Fastener. Drill Bit Size: 13/64" Or #7 Tap: 1/4" - 20 	FOR SECURITY DOORS ONLY V-CAM PILLOW BLOCK LOWER HING GUARD
1/4" - 14 X 1" Hex Washer Head St. St. Tek Screw. Drill Bit Size: 1/8" Up To 3/8" Steel 13/64" For Steel 3/8" Or Thicker. 	DUTCH MIDDLE HINGE SEAL LOWER HINGE GUARD

DURULITE DOOR HARDWARE FACTS SHEET

U.S.P.S. SECURITY DOORS

The Durulite Postal Series door is an industrial (1/4" skin) type door. 200 Series specifications require the following options:

- **SET OF FOUR - 38" INDUSTRIAL BUMPERS**
- **ALUMINUM LOWER HINGE GUARDS**
- **LOCK SLEEVE**
- **TWO TOP CANE BOLTS (1 PER PANEL)**
- **TWO BOTTOM CANE BOLTS (1 PER PANEL)**
- **DOUBLE PANED WINDOWS**
- **SECURITY BARS IN WINDOWS**
- **TAMPER-PRUF FASTENERS**
- **ENTER AND DO NOT ENTER SIGNS**

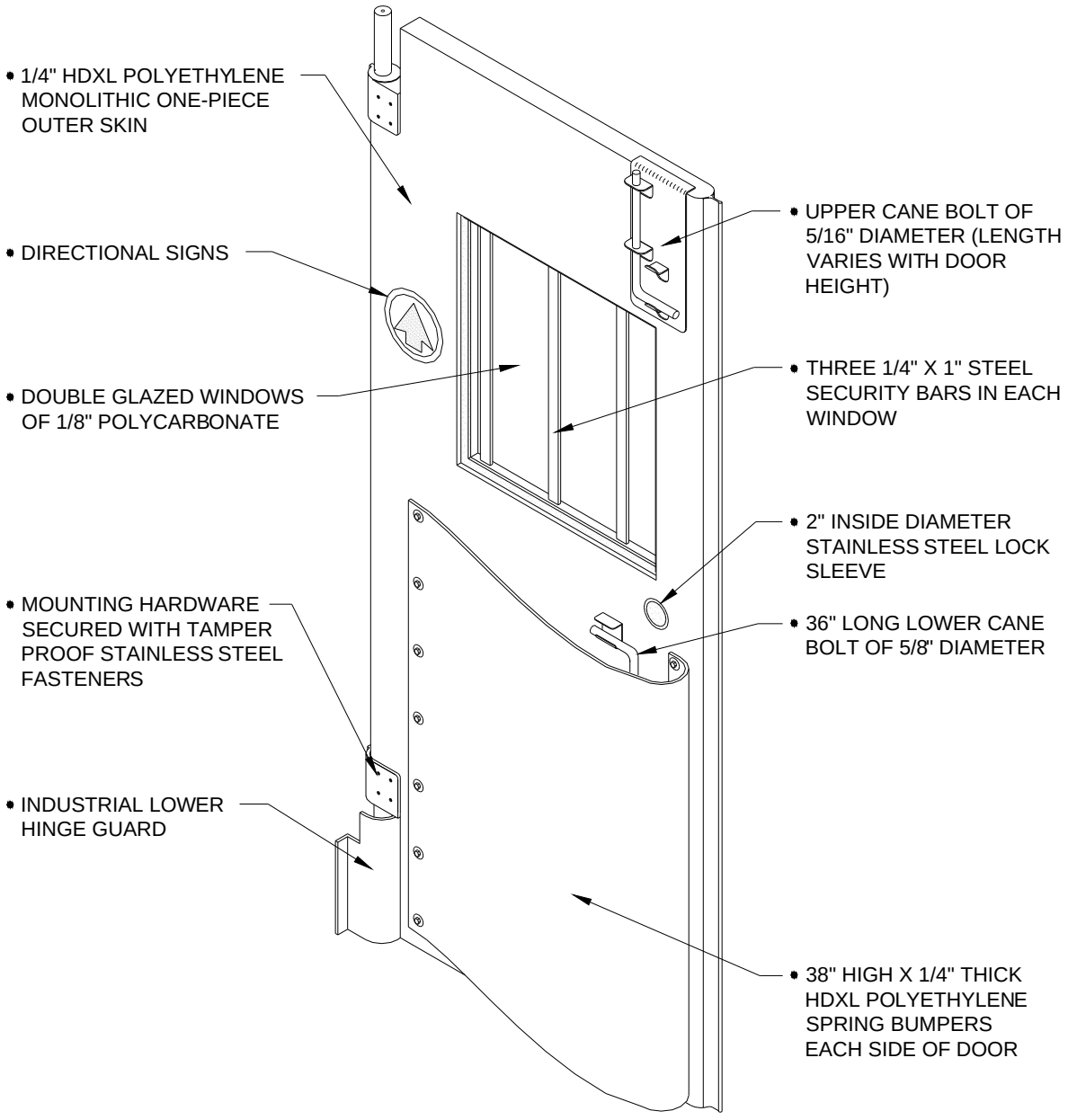
The following door heights and widths have been approved as part of the Durulite 200-Series by the U.S.P.S.. Single panes are not included in the 200-Series.

FINISHED OPENING WIDTHS: 48", 54", 60", 64", 68", 72", 79", 84"

FINISHED OPENING HEIGHTS: 84", 90", 96"

DURULITE DOOR HARDWARE FACTS SHEET

DURULITE POSTAL DOOR
EXCLUSIVE FEATURES
(TWO YEAR WARRANTY)



ASK FOR INFORMATION ON THESE OTHER QUALITY PRODUCTS FROM

Chase Doors

TRAFFIC DOORS

- ⇨ Durulite® Insulated Impact Traffic Doors
- ⇨ Proline™ Impact Traffic Doors
- ⇨ Airgard® Flexible Doors
- ⇨ Saino Fire & Service Doors
- ⇨ Pharmaceutical Doors
- ⇨ Corrosion-Resistant Doors

STRIP DOORS

Chase Doors offers the largest variety of vinyl strip products in the country.

- ○ Standard and USDA approved formulation
- ○ 4" to 48" widths
- ○ Loc-Rib for exterior/forklift applications
- ○ Color-View (black, blue)
- ○ Amber-Weld material
- ○ Safety orange material

DOCK SEALS

- ○ Forms a weather tight barrier between truck and building.
- ○ Custom engineered by the factory to fit most any application.
- ○ Wide variety of fabrics.

DOCK BUMPERS

- ○ Molded
- ○ Pressure laminated
- ○ Depths of 4 1/2", 6" and 9"
- ○ Lengths up to 96"

MAINTENANCE MANUAL

Chase Doors
2809 SW 13th Street • P.O. Box 577 • Redmond, OR 97756
(541) 923-8787 • 1-800-547-6856 • FAX 1-800-285-0126

Introduction

This manual has been prepared to assist you in maintaining your Durulite doors. It will provide information as to the identity and location of the parts involved in the door system. The major portion of this manual will deal with methods used to diagnose and repair the most common problems that might occur with years of use. We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program. Finally, armed with an increased familiarity of the Durulite door system and the part numbers involved, this manual will give information that will make it easier and faster to order replacement parts.

By consulting the manual when you have a problem, you should be able to determine which parts are necessary before calling the factory or your local sales representative. If a problem is encountered which is not covered in the manual or to which the solution is unclear, please call our sales department at (800) 547-6856.

Table of Contents

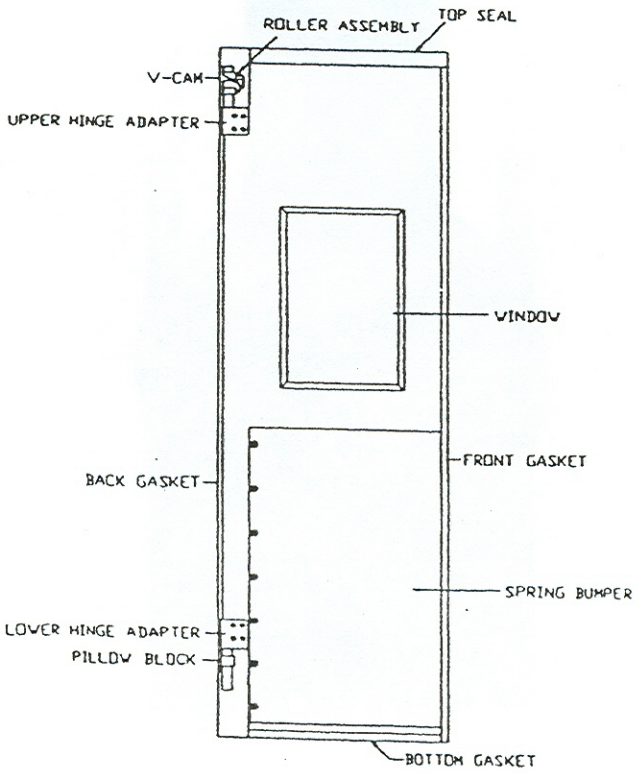
Parts List

(Most Part Numbers are noted on the part)

1) Roller Assembly	#5508-1
2) Standard V-Cam	#5561-1
St. Steel V-Cam	#5509-1
180 Degree V-Cam	
Left	#5573-1
Right	#5572-1
Low Rise V-Cam	#5587-1
3) Upper Hinge Adapter	#5510-1
4) Lower Hinge Adapter	#5510-3
Ind. Hinge Adapter	#5550-1
5) Pillow Block	#5531-1
180 Degree L & R	#5579-1
6) Lower Hinge Guards	
8-1/2" Std.	#5518
11" Ind.	#5567
11" w/base	#5576
180 Degree	——
7) Bumpers	——
Kickplates	——

8) Window	——
9) Gaskets	
Bulb	#1556
Bullnose	#1559
Weld Plate	#1560
180 Degree	#1561
1/2"	#1546
1"	#1545
1-1/4"	#1558
2"	#1535
10) Top Seal	
Standard	——
Extended	——
180 Degree	——
11) Hinge Seal	
Upper	#1542
Lower	#1536
180 Degree Upper	#1531
180 Degree Lower	#1554

Durus Door Nomenclature



Maintenance Program

A regular maintenance program is the easiest way to ensure trouble free operation of the Durulite door. Your program should include a regularly scheduled lubrication and cleaning procedure. While this is being done, the doors and seals can be inspected visually. Gaskets should be checked for cuts and tears. The top seal and hinge seals should be securely fastened and fre from worn spots or tears. The door should open and close freely. When closed the door should be centered in the opening. Double doors should also seal in the middle where gaskets touch. Bumpers or kickplates and hinge adapters can be examined for loose fasteners.

Our recommendation for lubrication and cleaning are as follows:

Hinge System

Apply light oil or all purpose grease to ramp of v-cam biannually.

Door Panel and Gaskets:

Wash door panel and gaskets with detergent, either sponged or sprayed on. Dishwashing detergent, mixed with water 1/50, works well. For dirtier areas, commercial cleaners can be used. On white, yellow, or sand colored doors, bleach can be used to remove difficult stains. In areas where greasy or extremely dirty conditions are encountered, it may be necessary to use a steam pressure wash (use detergent). Rinse thoroughly. Dry and apply a plastic treatment, such as ARMOR-ALL, to the panel and gaskets.

Window Cleaning

Wash the window area with a mild soap and dry with a soft cloth. **Do not use solvents, bleach or petroleum products on windows.**

Trouble Shooting and Repair

As with any product designed for impact, the Durulite door will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when needed.

Trouble Shooting Procedure

General Problems

I. Doors will not swing properly.

A. Lubricate top and bottom hinge adapter shafts.

B. If still a problem, loosen v-cam and pillow block fasteners on return and cycle doors 90 degrees in both directions to align hardware. Retighten fasteners.

II. Gaskets binding or rubbing.

A. Lower gasket binding?
Roller assembly may be loose. Adjust height and tighten both upper socket head cap screws (see roller assembly, page 4)

B. Back gasket binding?
Jamb may not be a flat surface between the v-cam and pillow block. Place 1/8" shims behind the v-cam and pillow block or split the back gasket vertically.

III. Doors do not seal at center.

A. Check alignment of doors with centerline of header.
If not aligned, readjust per directions for roller assembly (page 4).

B. Check plumb of hardware on both sides. Adjust pillow block to correct out of plumb and establish seal at center.

Roller Assembly

The roller assembly contains the only moving part of the entire Durulite door system. In combination with the v-cam and upper hinge adapter, the roller assembly carries the full weight of the door panel, is used to align the door in the centerline of the opening, and to adjust the height at which the door panel is hung. If the roller assembly is not lubricated well, wear will increase and ease of operation will decline. If the socket head cap screws are not as tight as possible, the roller assembly can slip on the hinge adapter shaft. In situations where the roller assembly continuously works loose, the roller assembly can be permanently fixed to the upper hinge adapter shaft by means of a split pin. All industrial doors and doors equipped with a spring assist are supplied with a pin for this purpose. If it becomes necessary to install a new roller assembly on a previously pinned hinge post, a new hole must be drilled approximately 3/8" higher and 15 degrees away from the previous hole. Refer to drilling and installing instructions.

If during inspection the door moves 1" or more (2" or more on large panels) before it begins to rise, you will need to order a complete new roller assembly, Part #5508-1.

Roller Assembly Replacement

Place the roller assembly over the hinge adapter shaft until **the end of the shaft is flush with the top of the roller assembly.** Align roller assembly center with door centerline. Tighten the upper socket head cap screw on the roller assembly with the allen wrench provided.

Aligning and Sealing

1. In and out (Swing) adjustment

a. Slip a 7/8" diameter pipe under the door. Loosen upper cap screw on roller assembly.
b. Align top of door panel with centerline of header.
c. Seat roller on roller assembly on lowest possible position on v-cam.
d. Retighten cap screw securely and remove the 7/8" diameter pipe.

2. Up and down adjustment.

Applies to full gasketed doors only.

3. Carefully open door and tighten lower cap screw as tight as possible.

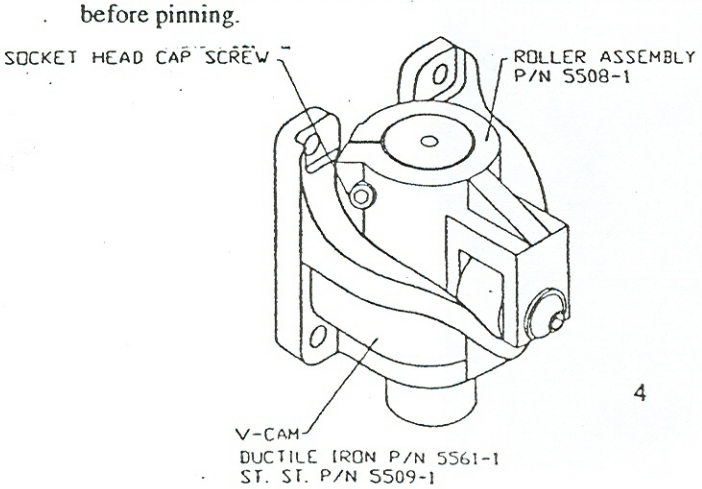
Without altering swing adjustment, loosen upper cap screw slightly and raise or lower door until bottom gasket just comes in contact with the finished floor. Tighten upper cap screw as tight as possible.

Pinning the Roller

Note: This procedure will permanently fix the doors in their operational arc, the doors must be in exact adjustment prior to drilling.

Drilling and Installing

1. At the punch mark on the roller casting drill a 5/16" diameter hole parallel to the socket head cap screws through the roller casting and the center of the hinge post.
2. Drive the 5/16" roll pin through the roller casting and hinge adapter shaft.
3. Clean all shavings and foreign material from the v-cam and roller assembly.
4. Check the alignment of the second (unpinned) door with the pinned door and make any necessary adjustments before pinning.



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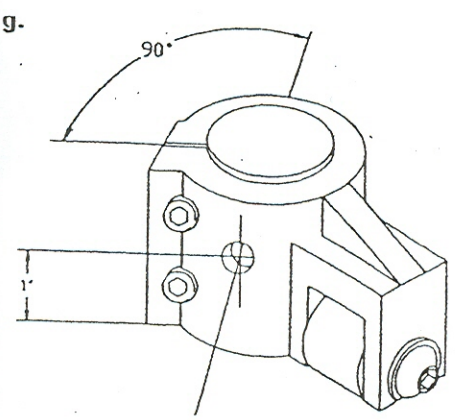
g.



Gaskets

Gaskets are the most commonly damaged part of the Durulite door. Since they are located on the edge of the door, they may become cut, torn or otherwise damaged through normal use. Gaskets are also used to fit and seal doors in odd sized openings and can be changed for this purpose. When ordering a new gasket, it is necessary to have the overall height and width measurements of the door opening.

Gasket Replacement

1. Removal of old gasket.

Look under wing of gasket to find crimp marks in the aluminum extrusion. Use a large flat blade screwdriver to spread the extrusion slightly so gasket can be removed.

For back edge gaskets:

After spreading extrusion, grasp gasket in the middle of its length and pull straight out from door.

For leading edge and bottom gaskets:

After spreading extrusion, pry out one end of the gasket with a screwdriver. Grasp the gasket and pull out the full length of gasket.

Note:

To replace bottom gasket, door should be removed from opening as follows:

Remove hinge seal and lower hinge guard.

Remove (4) v-cam fasteners. Remove (3) pillow block fasteners. Loosen the remaining pillow block fastener and remove spring assist if one is installed. Remove door from pillow block and lay on flat surface to remove and replace gasket.

To re-hang door reverse procedure and realign panel.

2. Preparation of extrusion for new gasket.

Remove all crimp marks in extrusion using two wide flat tools such as chisels. This will spread the extrusion slightly. Lubricate the extrusion with WD-40 or a similar lubricant.

3. Insertion of new gasket.

Back edge gasket.

Measure the distance between the hinge adapters and add 1". Cut the new gasket to this length. Spray the ball and shank portion of the gasket with WD-40 on both sides for the full length. Push the ball into the aluminum extrusion starting at one hinge adapter. Compress the gasket lengthwise as you go.

When the gasket is fully inserted there should be wrinkles in the bulb portion of the gasket. These will disappear as the gasket relaxes with use.

Leading edge and bottom gaskets.

Lubricate the ball and shank portion of the new gasket with WD-40. Push the gasket ball first into the extrusion, leaving approximately 1" projecting out of the end of the door.

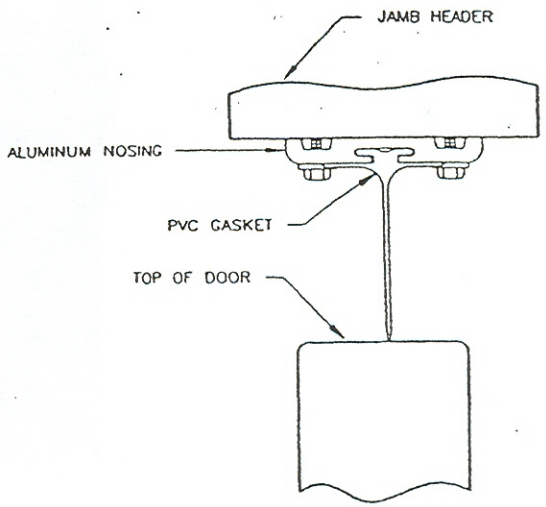
Compress the gasket lengthwise as you go until the gasket is fully inserted.

4. Re-crimping extrusion.

To lock the gasket in place, insert a screwdriver blade under the wing of the gasket by hitting the handle of the screw driver with a hammer. Do this at both ends of the extrusion and a few times in the middle on taller doors.

5. Trimming gaskets.

When bottom and leading edge gaskets are installed, use a razor knife or heavy scissors to cut off ends of the gaskets square and flush. Wipe all gaskets with Armor All or a similar vinyl coating.



Top Seals

Top seals are used to seal the gap between the Durulite door and the jamb header against air and dust infiltration. When ordering top seals it is necessary to know the opening size and the size of the gap between the top of the door and the header. It is also important to know the type of hardware the doors are equipped with. The 90 x 90 degree top seal consists of 2-1/4" wide aluminum nosing and an extruded PVC top seal gasket.

Hinge Seals

Hinge seals provide an improved seal and a more finished appearance at the hinge areas of the Durulite door. The most commonly used types of hinge seals on the Durulite door are:

1. **The 90 x 90 degree upper hinge seal** is made of flexible black PVC. It is attached to a steel backer plate that shares a hole pattern with and mounts behind the v-cam.

   Installation - Drawing A

   If you are replacing an old style hinge seal you will have to place a backer plate behind the v-cam. This is done as follows:

   Remove old hinge seal.
   On standard height openings, lift the door vertically until you can place a piece of 2" x 4' under the door. (1" thick wood on short openings.)
   Remove the (4) v-cam fasteners and slide the backer plate behind the v-cam so that the hole patterns match.
   Insert screws through the v-cam and backer plate and reattach v-cam to jamb.
   To attach hinge seal, peel paper from double face tape on hinge seal. With hinge seal position skirt side down and with top of seal flush with header, attach to backer plate with #10 x 1/2" tek fasteners.

2. **The 90 x 90 degree lower hinge seal** is made of flexible reinforced nylon inserted into two black aluminum mounting strips. A solid riser (part #1548) and a foam strip attached to the seal are used to provide a rigid structure and improved seal at the lower hinge notch.

   Installation - Drawing B

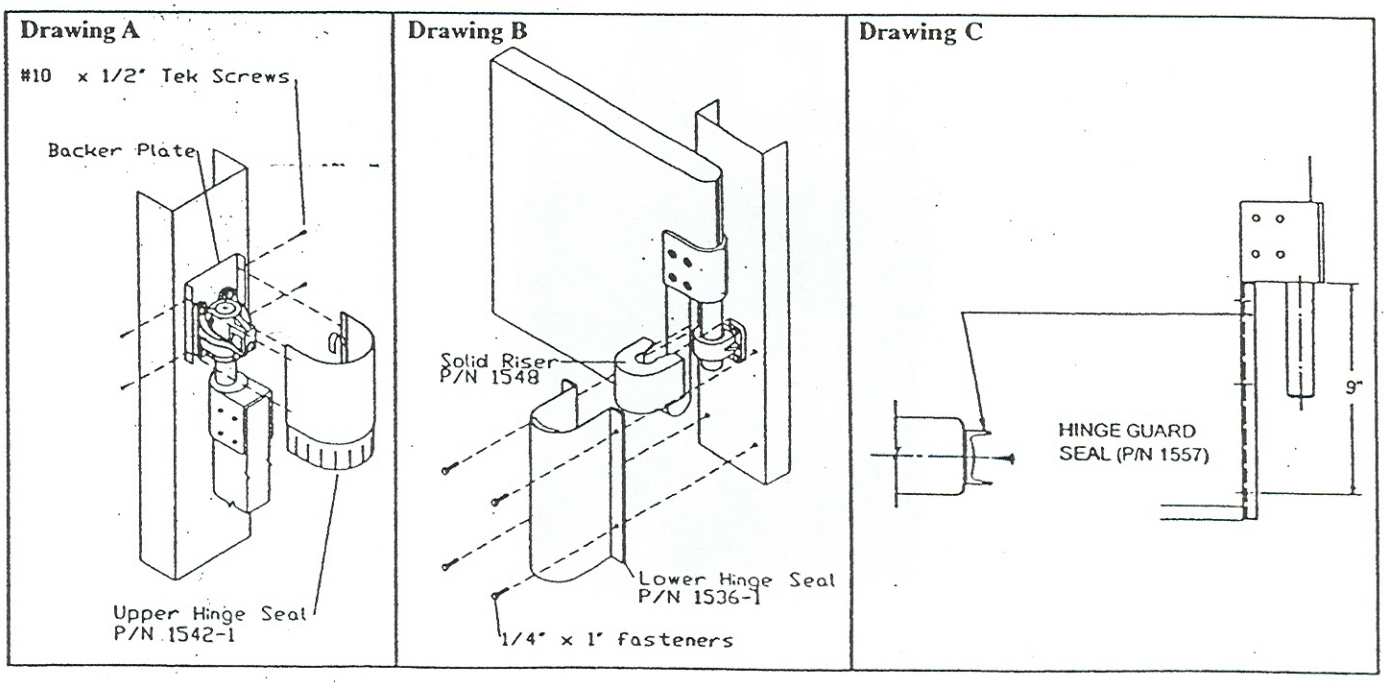
   Snap solid riser open side down onto hinge post between pillow block and hinge adapter. Slide seal between door and solid riser when door is closed. With bottom of seal approximately 1/4" above finished floor line, place seal around riser (do not pull tight) and attach to jamb with tape. Check door function in both directions. Drill pilot holes with 1/8" drill bit. Attach to jamb with 1/4" x 1" tek screws.

Lower Door Sweep

The lower door sweep attaches to the lower notch area of the door and provides a seal between the door and the lower hinge guard.

Installation - Drawing C

Position lower door sweep on notch area of door as shown. Install lower fastener 9" from top of sweep. Install additional fasteners as needed.



Spring Bumpers and Kickplates

The Durulite spring bumper is made in a teardrop shape of the same material as the door, crosslinked polyethylene. When the bumper is installed on the door it is compressed slightly from end to end. This causes the bumper to bow outward and act like a spring on impact. When the bumper is contacted by a load, the energy of impact is transferred into opening force, causing the doors to literally spring open.

Kickplates can be made of polyethylene or stainless steel and are applied flat to the surface of the door. They provide abrasion resistance and are used in situations where for reasons of space or style, Durulite spring bumpers cannot be used.

When ordering Durulite spring bumpers or kickplates, it is necessary to know the serial number of the door. In addition, the height of the bumpers or kickplates and the width of the opening must be measured. Do not measure the length of the bumper.

Durulite Bumper Installation

1. Check contents of package:
   - Bumpers
   - Threaded steel inserts (P/N 5521)
   - Bumper screws with washers
   - Template
   - Pipe adjuster
   - Hex key - 3/16"

2. Remove door from opening. Align the template with the bottom and leading edge of the door per the instructions on the template. Transfer the hole pattern to the door with an awl or center punch. **Do Not Allow The Template To Move While Transferring The Hole Pattern.**

3. Drill the mounting insert holes with a sharp 3 1/64" diameter drill bit. We recommend drilling the mounting insert holes in the door using a drill press. If the mounting insert holes are drilled with hand held tools, be sure to drill as perpendicular to the door centerline as possible.

4. Drive in the threaded steel mounting inserts smooth end first. The knurl on the other end will keep the insert from turning while installing screws.

5. Mount one bumper on the door, running the screws in **finger tight.** Insert the screws in the holes **under the rolled section first.** Working from one end to the other allows you to flex the bumper to line up the holes. To set the holes in the flat end or "tail" of the bumper so that they will line up with the inserts, it is necessary to bow the bumper away from the door slightly. One method of doing this is to insert one or more awls through the mounting holes in the bumper and into the inserts in the door. The awls can then be used as a lever to compress the bumper and align the holes.

6. Repeat step 5 on the far side of the door with the other bumper. After both bumpers are mounted, tighten all fasteners. Hex head screws require a 7/16" socket or open end wrench. Button head screws on kickplates require a 5/32" hex key.

Windows

There are several sizes of windows. As each panel has its own size, the width of the door opening must be known when ordering replacements. Replacement windows can, in most cases, be installed using a #1 square driver.

Window Installation

Make sure new window fits the opening. Peel backing from double face tape. Peel plastic or paper covering from the taped side of the window. **On double pane windows be careful not to get finger prints on the inside of the window.** Set the window in place and peel the covering from the exposed side. Fit trim pieces to the opening. If trim is too long, carefully cut one end at an exact 45 degree angle so that it fits easily, but firmly, in place.

After all four trim pieces fit, screw them in place with the screws provided. Setting the corners first, making sure they fit tightly together works best. Please note that it is **not necessary to pre-drill** the screw holes through the polycarbonate window.

Spring Assist

The spring assist is used to increase the amount of pressure required to open the doors. It is used where there is a wind condition or where a difference in pressure exists across the opening and the doors are not staying closed. It should be noted that the spring increases the load on and may shorten the life of the roller assembly. The spring assist is recommended only where absolutely necessary. If spring assists are used on your installation, it is recommended that the roller assemblies be inspected weekly.

Installation
(perform steps 1 and 2 before door is hung)

1. Insert threaded shaft into lower hinge adapter until jamb nut is bottomed out.
2. Give jamb nut a half turn to lock in place.

Hang Door

3. Slide washer over shaft.
4. Slide spring over shaft (it may be necessary to raise door panel to do this.)
5. Thread adjustment washer on threaded shaft and tighten until desired closing action is obtained.
   Spring coils must not touch when door is in the open position.
   Overtightening the spring assist will cause severe damage to your roller assembly.
6. Place open end wrenches on the threaded adjustment washer and the jamb nut. Turn one against the other to lock the adjustment washer in place.

Ordering

Determine what part you need by using the trouble shooting guide and repair instructions. Find the part number. The Durulite door is molded in a number of common sizes and then fitted to specific openings by varying the sizes of the gaskets and seals or combining panel sizes. For this reason we need to know the height and width of the opening to get you the proper parts.

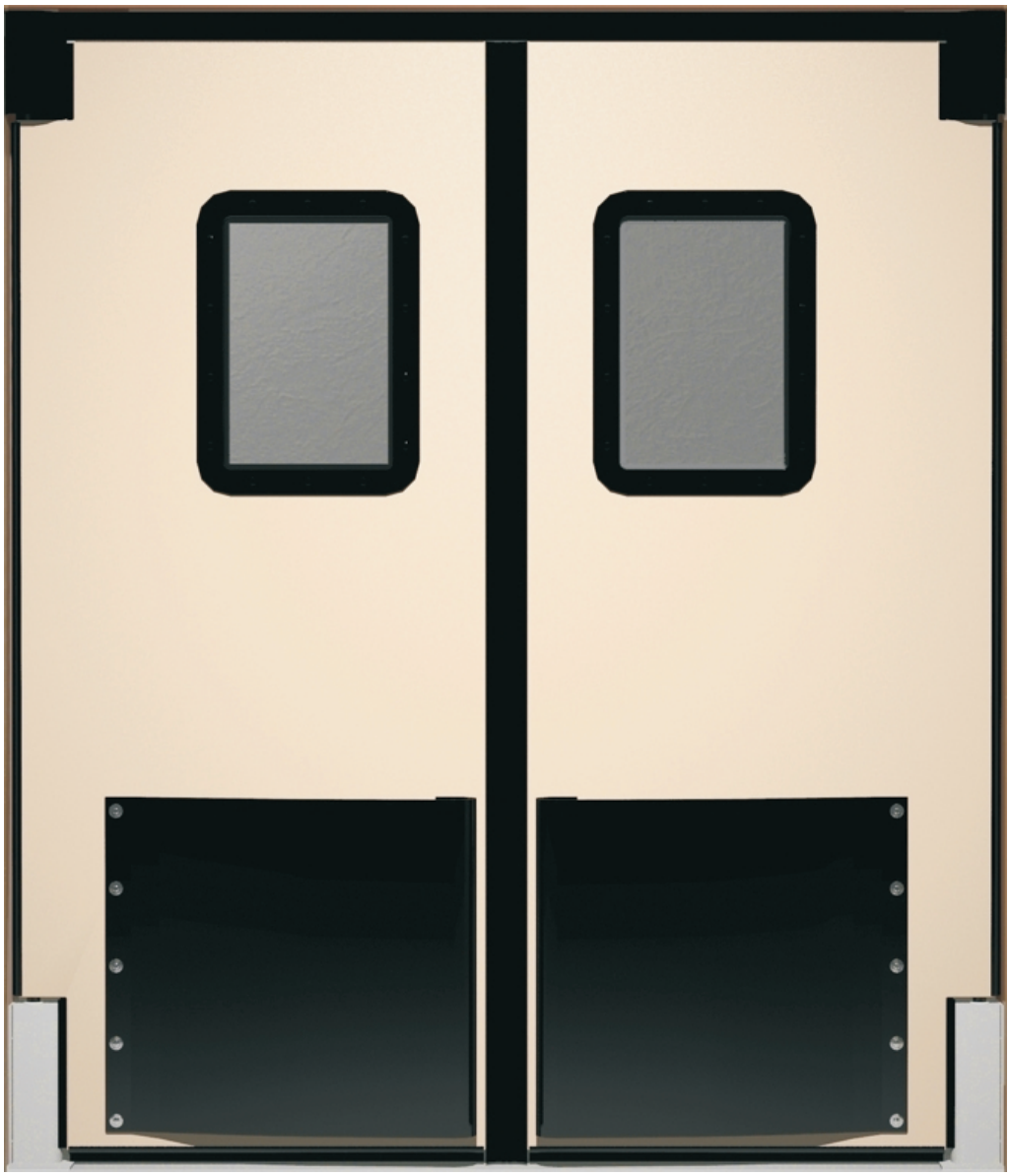
If you are unsure of what is wrong, take these measurements before calling the factory:

Width of opening at top and bottom.
Height of opening at right and left jambs.
Squareness (top corners to opposite bottom corners).
Plumb jamb faces. Use a 6" level or a plumb bob.
Distance from top panels to header.
Overlap of leading edge gaskets.

The door serial number will assist us in processing your order.

To determine right and left hand panels, face the doors from the side the window trim is mounted on. From this view the door on your right is the right hand panel and the door on the left is the left hand panel. If you have double pane windows, face the side from which you can read the serial number.

Contact the Durus Division sales dept. to order parts and to determine shipping arrangements.



Durulite® Retailer™ Hardware Manual

Chase Doors
World's Leading Manufacturer Of Traffic Doors
Cincinnati, Ohio and Redmond, Oregon
Phone: 1-800-543-4455 • Fax: 1-800-245-7045
www.chasedoors.com

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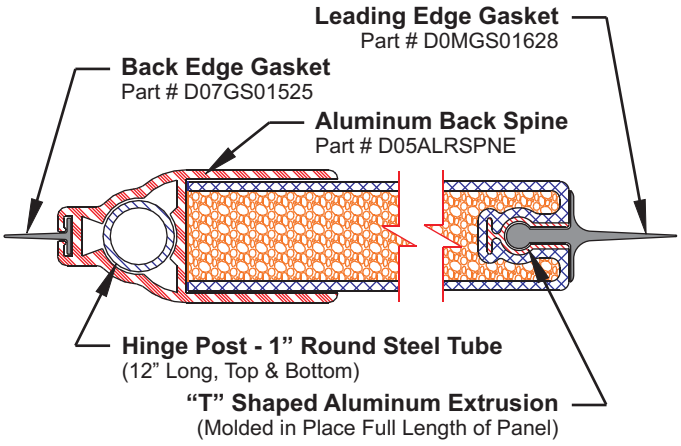
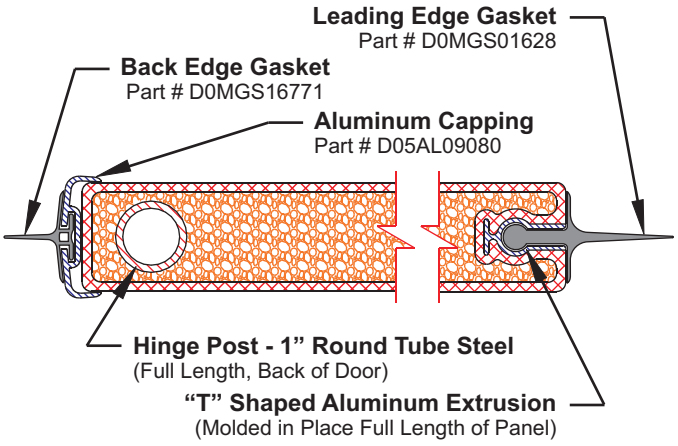
DURULITE RETAILER DOOR



Section "A-A"



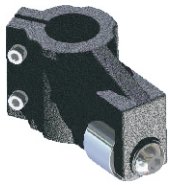
Section "B-B"

Retailer "Cut to Size"
(Top, Back & Hinge Areas Cut to Fit Opening)

Retailer "Monolithic"
(One Piece Panel Molded to Standard Sizes)

UPPER HINGE COMPONENTS

ROLLER BEARING ASSEMBLY



Retailer Roller Assembly
Part # D05AS5508C

Retailer Doors are equipped with a Roller Bearing Assembly which consists of a stainless steel or black oxide coated steel bearing roller fastened to a solid cast aluminum housing. The Roller Assembly is mounted above the V-Cam (See Below) and fastened to the upper hinge post. A roll pin is inserted completely through the aluminum housing and hinge post to prevent the door from slipping when in operation.
The Roller Assembly supports the weight of the door and secures the door at the proper height. When the door opens, the roller rides up the path on the v-cam up to a height of 1 3/8" at the fully open position. When the door is released at that point, gravity causes the roller to descend to the lowest position on the v-cam, thus closing the door and holding it in the closed position.

V-CAMS

90° X 90° V-Cam Assembly
Part # D05ASUHGNM

The design of the V-Cam provides a path for the roller bearing and a "V" which holds the roller bearing and door stationary while in the closed position. Retailer V-Cams are made from an engineered composite material which is extremely durable. Although the door and roller assembly only rise 1-3/8", Chase Doors requires an ***Absolute Minimum 2" Gap*** between the top of the door and the jamb header when the door/doors are in the closed position.

The 90º x 90º V-Cam has a total swing of over 100º in each direction. At full swing the door will rise 1-3/8" from the closed position. This V-Cam is pre-mounted to a stainless steel corner plate for ease of installation and mounting of the hinge seal.

180° X 90° "LEFT" V-Cam Assembly
Part # D05AS180LC

180° X 90° "RIGHT" V-Cam Assembly
Part # D05AS180RC

The 180º x 90º (270º) V-Cam has a total swing of over 100º in one direction and 180º in the other direction . At full swing the door will rise 1-3/8" from the closed position on the 90º side and 2" on the 180" side.
NOTE: The 180º must never be mounting inside of the opening jamb, door and property damage will result!

There are two separate V-Cams for the 180º x 90º applications, one for each side of the opening. There is a Left (Part # D05AS180LC) and a Right (Part # D05AS180RC) for each double door opening and either one may be used for a single door as indicated on order, see images to the left. Always be sure that the 180º side has plenty of clearance to swing completely open.

LOWER HINGE COMPONENTS

STANDARD 90° LOWER HINGE GUARD

Retailer 90° Cast Aluminum Lower Hinge Guard
Part # D05ASHGRTC

Retailer 90° Stainless Steel Lower Hinge Guard
Part # D05AS9090C

The Standard 90° Lower Hinge Guard is available in cast aluminum or stainless steel with a UHMW bushing inserted at the pivot point.

This lower hinge assembly holds the lower hinge post in position, preventing horizontal movement of the door. The assembly also protects the lower hinge post from impact damage.

The pivot point on the lower hinge guard and the v-cam must be in line with one another for proper operation of your door/doors.

The base plate has two pre-drilled holes for the installation of 3/8” floor anchors.

A double bladed gasket is mounted to the door and provides a seal between the hinge assembly and the door.

A Minimum 3-1/2 jamb is required for mounting the Retailer lower hinge assembly.

180° X 90° LOWER HINGE GUARD

Retailer 180° Lower Hinge Guard
Part # D05AL18LHC

The 180° X 90° (270°) Lower Hinge Guard is also a one-piece cast aluminum part with a UHMW bushing inserted at the pivot point.

This hinge assembly has the same basic functions as the 90° lower hinge assembly. The 180° X 90° hinge guard mounts on the corner of the jamb and allows for the door swing of 90° toward the inside of the jamb and 180° toward the outside of the jamb.

The 180° X 90° lower hinge guard is made to fit either side in a double opening.

The pivot point on the lower hinge guard and the v-cam must be in line with one another for proper operation of your door/doors.

The base plate has three pre-drilled holes for the installation of 3/8” floor anchors.

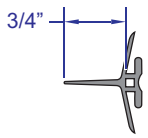
A double bladed gasket is mounted to the door and provides a seal between the hinge assembly and the door.

GASKETS and TOP SEALS

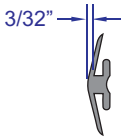
RETAILER GASKETS

The Retailer Door comes equipped with gaskets along the leading, bottom and back edges. The gasket on the leading edge is held in place by a “Molded In” aluminum extruded key-way. The bottom and back edges have an extruded aluminum cap with a key-way running down the center. The base of the gasket is inserted into this key-way and held in place by bending the legs of the key-way down which pinches the gasket.

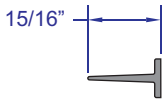
By varying the leading edge gaskets, nominal door widths for double doors may be increased by up to 1” or reduced by up to 1-3/4”. Nominal door widths for single doors may be increased by up to 1/8” or reduced by up to 3/4”.



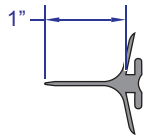
D0MGS1677
3/4” Blade for Back Edge of All Doors



D0MGS01182
“Bull Nose” Back and Bottom Edges as Needed



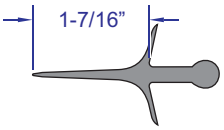
D07GS01525
Back Edge on “Cut Retailers”



D05GS01182
1” Blade for Bottom Edge of All Doors

D05GS1680A
180º Retailer Back Edge

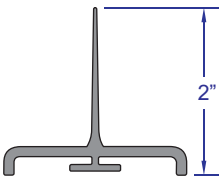
D05GS1682C
Back Edge on 180º “Cut Retailers”



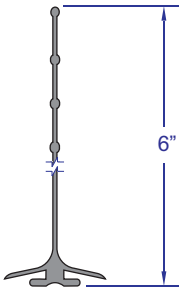
D0MGS01628
1-7/16” Blade for Leading Edge of Double Doors

RETAILER TOP SEALS

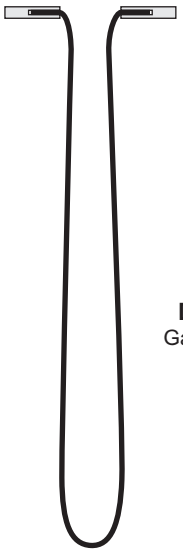
To function properly the Retailer traffic door requires a minimum of 2” between the top of the door and the frame header while in the closed position. The Top Seals along with the upper hinge seals provide a seal for this gap.
When the gap between the top of the door and the frame header is over 2” and up to 6”, an extruded top seal is mounted to the header. The tip of the blade rests on the top edge of the door.
If the gap is greater than 6”, a fabricated extended top seal is required. This top seal is made of black flexible reinforced nylon. Each end of the flexible nylon is pressed into a black aluminum mounting strip. The fasteners are inserted through these aluminum strips and into the header.



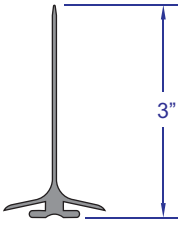
D0MASTS - - -
2” Standard Top Seal
(Part # Reflects Size)



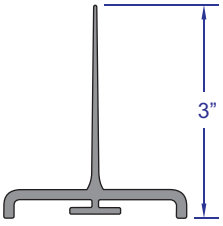
D0MGS01343
6” Blade Extended Top Seal



D0MGS01343
Gaps Exceeding 6”



D05GS01200
3” Blade - Top Seal
(Requires Aluminum Nosing)



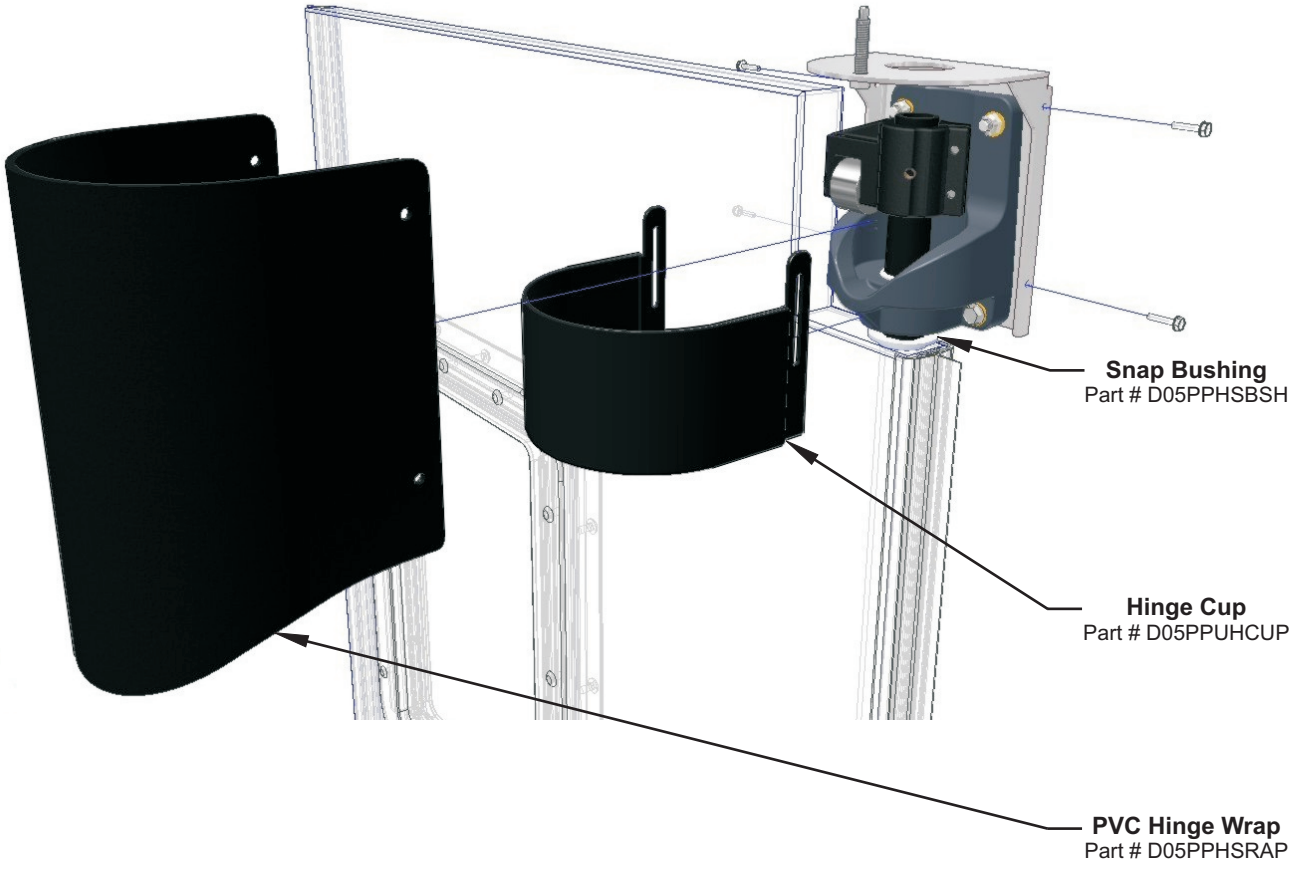
D0MASTS - - -
3” Extended Top Seal
(Part # Reflects Size)

UPPER HINGE SEAL

RETAILER UPPER HINGE SEAL

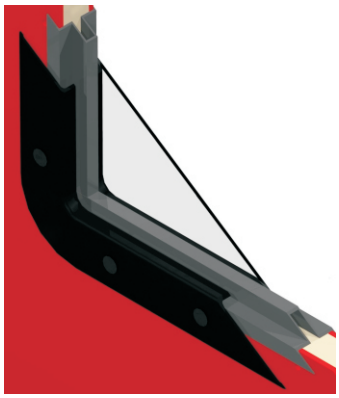
The “New” Retailer Upper Hinge Seal consists of three main components: 1 Snap Bushing, 1 Hinge Cup and 1 Hinge Wrap. The snap bushing is pressed fit onto the base of the upper hinge post. The bushings main function is to pull the hinge cup down as the door lowers to the closed position. The hinge cup snaps onto the bushing under a flange. The hinge cup holds the shape of the wrap so that it seals the hinge area at the door. The main purpose of the hinge seal is to provide a seal between the jamb, header and hinge area of the door. In addition to providing a seal, the upper hinge seal provides a finished appearance to the door.

The flexible PVC Hinge Wrap is mounted to the stainless steel mounting plate with #10 X ½” Tek Screws.

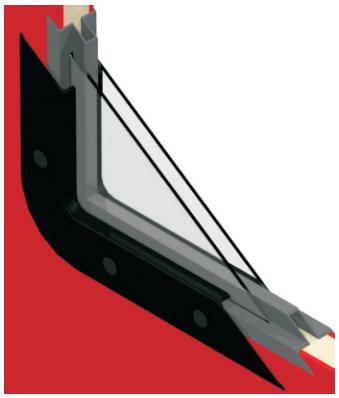


WINDOWS (Standard & ADA)

STANDARD RETAILER WINDOWS



Standard Retailer Window
Single Pane



Standard Retailer Window
Double Pane

Retailer windows are available in single pane or double pane.

The single pane window assembly consists of two ABS frames, one sheet of polycarbonate, a cap separator strip and fasteners. The cap separator strip is placed between one of the frames and the polycarbonate sheet, then the second frame is installed on the opposite side. The second frame presses the polycarbonate against the cap separator strip and holds the polycarbonate firmly in place..

The double pane window assembly consists of two ABS frames, two sheets of polycarbonate, a cap separator strip and fasteners. In the double pane configuration, the cap separator strip sits in between the two sheets of polycarbonate. It separates the polycarbonate and holds the polycarbonate tightly against the frames.

Below is a list of “Standard Window Sizes” and the corresponding door size.

PANEL SIZE	STANDARD WINDOW SIZE
24” & 27”	12” x 18”
30”	12” x 18”
32”	12” x 18” & 16” x 16”
34”	12” x 18” & 16” x 16”
36”, 42” & 48”	12” x 18”, 16” x 16” & 17” x 23”

ADA APPROVED RETAILER WINDOWS

ADA Window Frame
20” X 30” Shown

ADA Requires that the lowest portion of the vision area on a window not exceed 40” from the Finished Floor. Retailer Standard Windows do not meet this requirement. Therefore we have developed several window sizes and locations that satisfy both ADA and OSHA requirements.

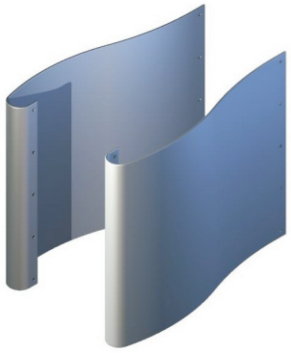
ADA Windows are available in single pane only.

Below is a list of “ADA Window Sizes” and the corresponding door size.

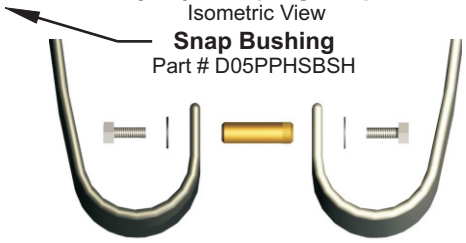
PANEL SIZE	STANDARD WINDOW SIZE
24” & 27”	12” x 30”
30”	12” x 30” & 16” x 30”
32” & 34”	12” x 30”, 16” x 30” & 20” x 30”
36”, 42” & 48”	12” x 30”, 16” x 30”, 20” x 30” & 24” x 30”

BUMPERS & KICK-PLATES

POLYETHYLENE SPRING BUMPERS



Polyethylene Spring Bumpers
Isometric View



Polyethylene Spring Bumpers
Top Exploded Assembly View

Retailer doors are available with standard polyethylene spring bumpers. Standard bumpers have a 3” Curl at the leading edge.

To mount the bumpers, a threaded steel insert in pressed into the door panel. A 1” washer and a 1/4-20 bolt are used to fasten the bumper to the insert. The procedure is duplicated on the opposite side of the panel which pulls both bumpers tight to the face of the door panel.

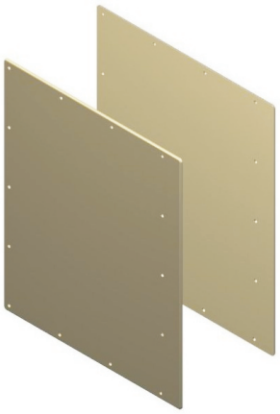
Polyethylene bumpers are available in the same color choices as the doors.

Bumper Sizes

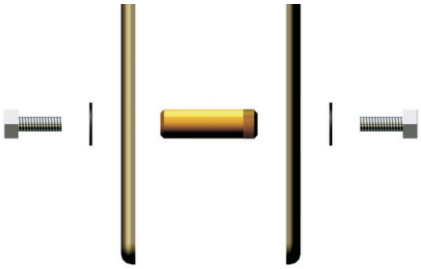
Bumper Height X Door Width

Nominal	Actual	Nominal	Actual	Nominal	Actual
6” x 24”	7-3/4” x 18-1/4”	18” x 24”	18-5/8” x 18-1/4”	36” x 24”	7-3/4” x 18-1/4”
6” x 27”	7-3/4” x 18-1/4”	18” x 27”	18-5/8” x 18-1/4”	36” x 27”	7-3/4” x 18-1/4”
6” x 30”	7-3/4” x 21-1/4”	18” x 30”	18-5/8” x 21-1/4”	36” x 30”	7-3/4” x 21-1/4”
6” x 32”	7-3/4” x 24-1/4”	18” x 32”	18-5/8” x 24-1/4”	36” x 32”	7-3/4” x 24-1/4”
6” x 34”	7-3/4” x 26-1/4”	18” x 34”	18-5/8” x 26-1/4”	36” x 34”	7-3/4” x 26-1/4”
6” x 36”	7-3/4” x 27-1/4”	18” x 36”	18-5/8” x 27-1/4”	36” x 36”	7-3/4” x 27-1/4”
12” x 24”	13” x 18-1/4”	24” x 24”	24-3/8” x 18-1/4”	42” x 24”	13” x 18-1/4”
12” x 27”	13” x 18-1/4”	24” x 27”	24-3/8” x 18-1/4”	42” x 27”	13” x 18-1/4”
12” x 30”	13” x 21-1/4”	24” x 30”	24-3/8” x 21-1/4”	42” x 30”	13” x 21-1/4”
12” x 32”	13” x 24-1/4”	24” x 32”	24-3/8” x 24-1/4”	42” x 32”	13” x 24-1/4”
12” x 34”	13” x 26-1/4”	24” x 34”	24-3/8” x 26-1/4”	42” x 34”	13” x 26-1/4”
12” x 36”	13” x 27-1/4”	24” x 36”	24-3/8” x 27-1/4”	42” x 36”	13” x 27-1/4”

KICK-PLATES (Impact Plates)



Polyethylene Kick-Plates
Isometric View



Polyethylene Kick-Plates
Top Exploded Assembly View

Retailer Kick-Plates (often referred to as Impact Plates) are available in Polyethylene or Stainless Steel. Polyethylene Kick-Plates are 1/4” Thick and have a radius around the outside edges. The Stainless Steel kick-plates are made of 18 Gauge Stainless Steel with a #4 Brushed finish.

Both styles of kick-plate are installed in the same manner as a spring bumper. A threaded steel insert is pressed into the door panel. a 1” washer and a 1/4-20 bolt are used to fasten the kick-plate to the insert. The procedure is duplicated on the opposite side of the panel which pulls both kick-plates tight to the face of the door panel.

Polyethylene kick-plates are available in the same color choices as the doors.

Kick-Plate Sizes

Kick-Plate Height X Door Width

Nominal	Actual	Nominal	Actual	Nominal	Actual
6” x 24”	8-3/4” x 16-3/4”	18” x 24”	22-1/4” x 16-3/4”	36” x 24”	35-3/4” x 16-3/4”
6” x 27”	8-3/4” x 18-3/4”	18” x 27”	22-1/4” x 18-3/4”	36” x 27”	35-3/4” x 18-3/4”
6” x 30”	8-3/4” x 23-1/4”	18” x 30”	22-1/4” x 23-1/4”	36” x 30”	35-3/4” x 23-1/4”
6” x 32”	8-3/4” x 25-1/4”	18” x 32”	22-1/4” x 25-1/4”	36” x 32”	35-3/4” x 25-1/4”
6” x 34”	8-3/4” x 25-1/4”	18” x 34”	22-1/4” x 25-1/4”	36” x 34”	35-3/4” x 25-1/4”
6” x 36”	8-3/4” x 29-3/4”	18” x 36”	22-1/4” x 29-3/4”	36” x 36”	35-3/4” x 29-3/4”
12” x 24”	15-1/2” x 16-3/4”	24” x 24”	29” x 16-3/4”	42” x 24”	42-1/2” x 16-3/4”
12” x 27”	15-1/2” x 18-3/4”	24” x 27”	29” x 18-3/4”	42” x 27”	42-1/2” x 18-3/4”
12” x 30”	15-1/2” x 23-1/4”	24” x 30”	29” x 23-1/4”	42” x 30”	42-1/2” x 23-1/4”
12” x 32”	15-1/2” x 25-1/4”	24” x 32”	29” x 25-1/4”	42” x 32”	42-1/2” x 25-1/4”
12” x 34”	15-1/2” x 25-1/4”	24” x 34”	29” x 25-1/4”	42” x 34”	42-1/2” x 25-1/4”
12” x 36”	15-1/2” x 29-3/4”	24” x 36”	29” x 29-3/4”	42” x 36”	42-1/2” x 29-3/4”

SLIDE TRACK™ BUMPERS

POLYETHYLENE SLIDE TRACK BUMPERS

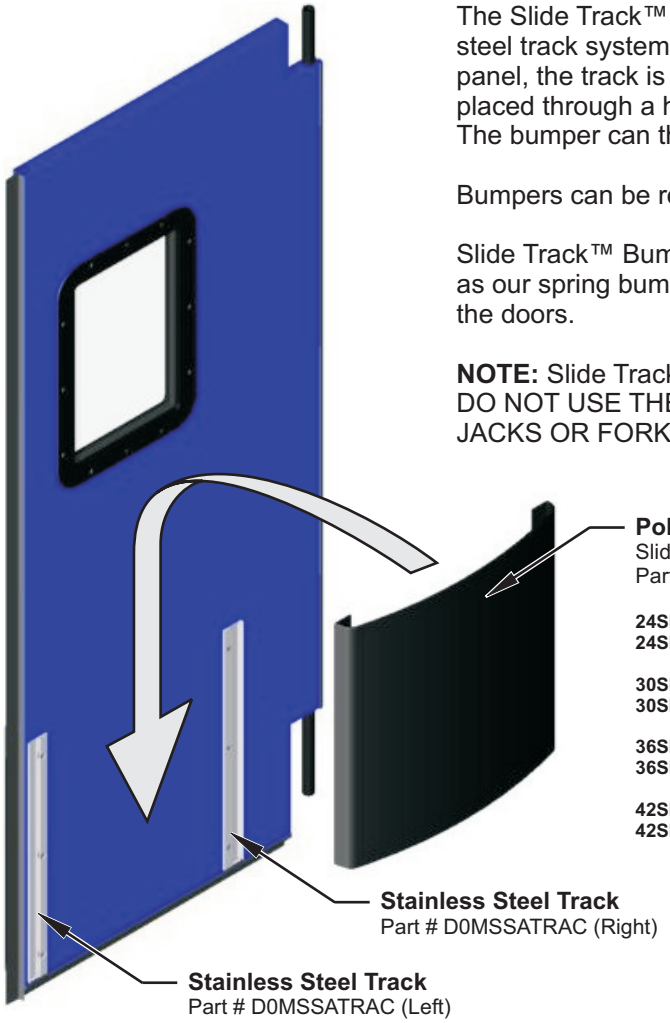
Retailer doors may be equipped with a Slide Track™ Bumper.

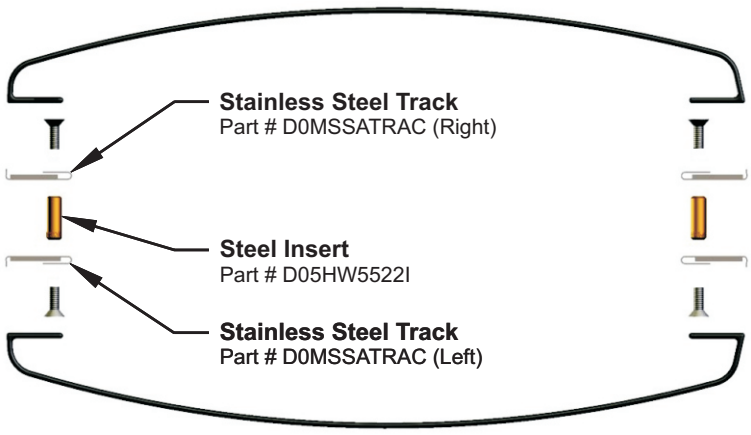
The Slide Track™ Bumpers are mounted to the door using a stainless steel track system. A threaded steel insert is pressed into the door panel, the track is lined up with the inserts and a flat head screw is placed through a hole in the track and screwed tightly into the insert. The bumper can then slide into the track.

Bumpers can be removed for easy cleaning or replacement.

Slide Track™ Bumpers are made from the same polyethylene material as our spring bumpers and are available in the same color choices as the doors.

NOTE: Slide Track™ Bumpers are NOT intended for industrial use. DO NOT USE THESE BUMPERS WITH MOTORIZED PALLET JACKS OR FORKLIFTS!



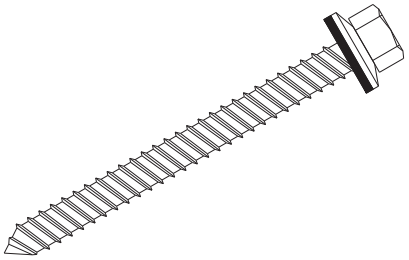


Polyethylene Slide Track™ Bumper
Top Exploded Assembly View

RETAILER FASTENERS

STANDARD RETAILER FASTENERS

Retailer doors ship from the factory with fasteners for the type of frame construction indicated on the original sales order.

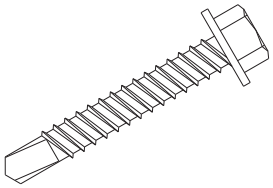


Lower Hinge Guard & V-Cam

Lower Hinge Guard & V-Cam (Wood Frame)

1/4" x 3" SS Hex Head Screw w/ 1/4" SS Washer & Neoprene Gasket

Pilot Hole: Use 3/16" Drill Bit

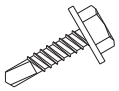


Lower Hinge Assembly & V-Cam

Lower Hinge Guard & V-Cam (Steel Frame)

1/4"-14 X 1 3/4" Hex Washer Head Tek Screw w/ Galv. Plating

Pilot Hole: Use 1/8" Drill Bit for Steel up to 3/8" Thick
Use 13/64" Drill Bit for Steel over 3/8" Thick

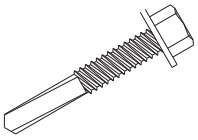


Upper Hinge Seal

Upper Hinge Seal

#10 X 1/2" Hex Washer Head Tek Screw

Pilot Hole: Use 5/64" On Steel 1/4" or Thicker

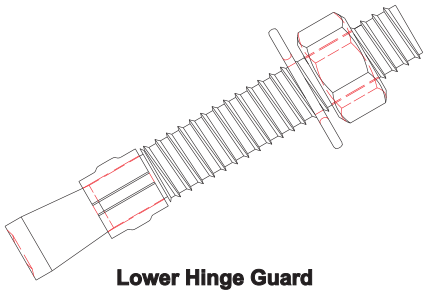


Top "Header" Seal

Top "Header" Seal

#14 X 1 1/2" Hex Washer Head Tek Screw

Pilot Hole: Use 5/32" Drill Bit



Lower Hinge Guard

Lower Hinge Guard (to Floor)

3/8" Wedge Anchor for Floor

Pilot Hole: Use 3/8" Bit which is applicable for you flooring material

LIMITING POSTS

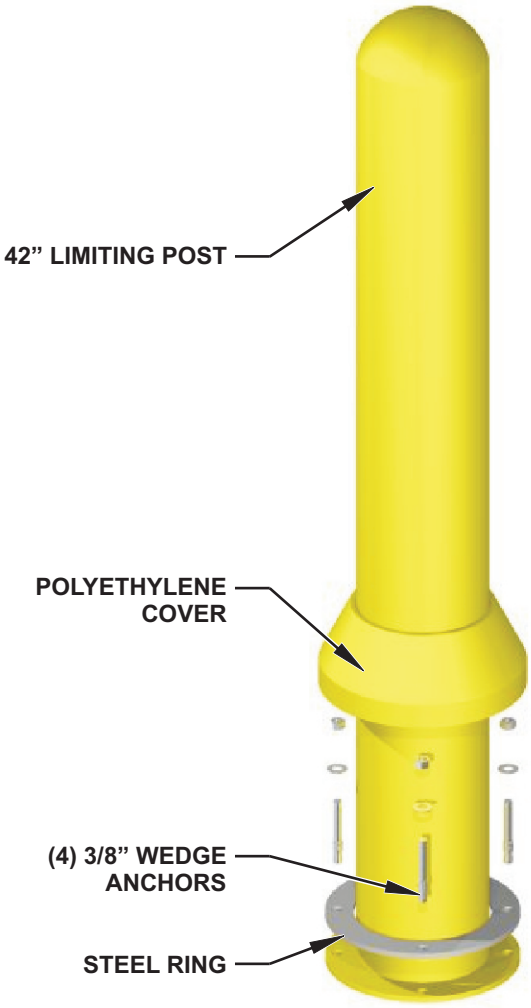
RETAILER LIMITING POSTS

Roto-Molded Polyethylene Limiting Posts may be used as door stops for Retailer doors. The purpose of the limiting post is to limit the swing of the doors so they do not over-swing which can cause damage to property, the door or both. Limiting Posts are anchored to the floor in a location specified by Chase Doors.

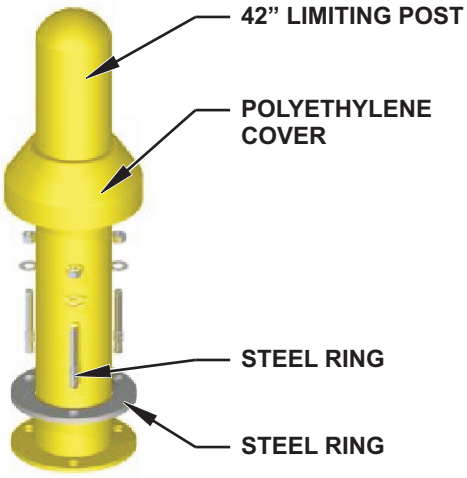
The limiting posts come in two different sizes, a 42” High model which is 5-1/4” in Diameter and a 19” High Model which is approximately 3” in diameter. Each model has a polyethylene shell with a thickness of 3/16”.

A flange is molded onto the base of the limiting post. A steel ring is placed over the flange. Then the limiting posts are anchored to the floor using (4) 3/8” Wedge anchors for the 42” Model and (3) 3/8” Wedge anchors for the 19” Model. A Polyethylene cap is placed over the post and then slid down to conceal and protect the mounting hardware.

Limiting Posts are available in the same color choices as the doors.



42” LIMITING POST



19” LIMITING POST

ASK FOR INFORMATION ON THESE OTHER QUALITY PRODUCTS FROM

Chase Doors
World's Leading Manufacturer Of Traffic Doors

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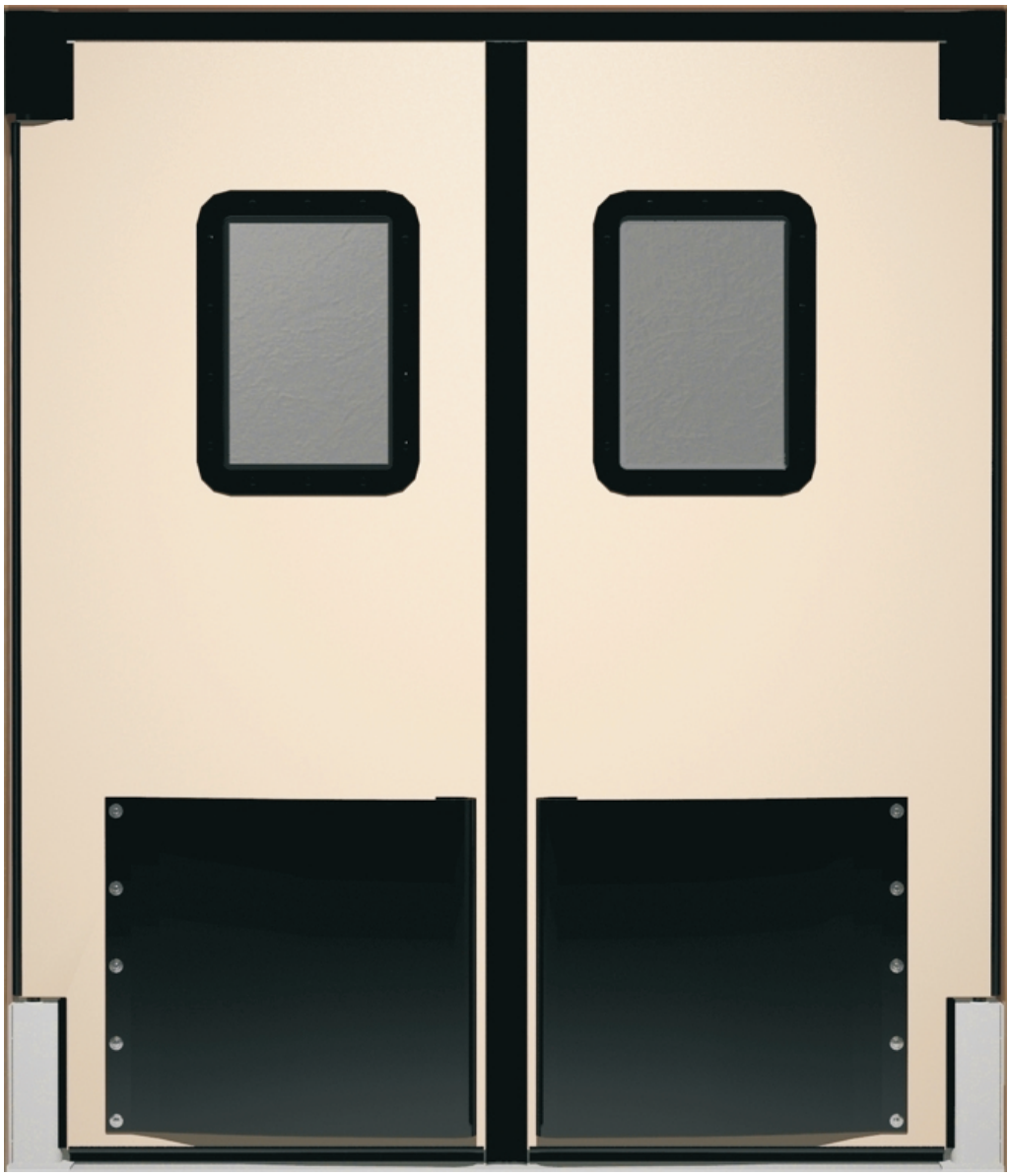
- ***Durulite® Insulated Impact Traffic Doors***
  - *Industrial*
  - *Standard*
  - *200 Series (Postal/Security)*
  - *XLS270*
  - *XLD360*
- ***Chase Traffic Doors***
  - *SC3000*
  - *Café Doors*
- ***Chase Service Doors***
  - *ABS 5000*
  - *SD2000*
  - *SRP5000*
  - *SST2000*
  - *XLP5000*
- ***Proline™ Impact Traffic Doors***
  - *300i & 400i*
  - *300s & 400s*
  - *350i & 350s*
  - *600-SEC (Postal/Security)*
- ***Saino Fire Doors***
  - *1000 & 2000*
  - *3000 & 4000*
  - *50000*
- ***Saino Service Doors***
  - *1100*
  - *3100*
  - *61000*
  - *63000*
  - *73000*
- ***Pharmaceutical Doors***
  - *DuruSlide® 67000F*
  - *DuruSlide® 67000D*
  - *DuruSlide® 67000K*
- ***Personnel Doors***
  - *Durulite CR1400*
  - *Chase FG1400*
  - *DuruSwing 9700K*
- ***Airgard® Flexible Doors***
  - *100, 200 & 300*
  - *973*
  - *EconoClear*
  - *HS*
  - *Uni-Flex 240*
- ***Saino Operators***
  - *F1900 PLC - 1900 PLC*
  - *TN*
  - *TXP*

STRIP DOORS

- ***Chase Doors offers the largest variety of vinyl strip products in the country.***
  - *Standard and USDA Approved Formulation*
  - *4" to 48" Widths*
  - *Low-Temp Material*
  - *Loc-Rib for Exterior and Forklift Applicatiuons*
  - *Color-View (Black, Blue)*
  - *Amber-Weld Material*
  - *Safety Orange Material*
- ***Mounting Options***
  - *"J-Hook" (Bi Mount)*
  - *EconoTrack (Hole Punch)*
  - *Wall Mount*
  - *In Jamb*
  - *Over Head Door Brackets*
  - *Gate Doors*
  - *Trolley Mounts*
  - *Truck and Trailer Brackets*



Durulite® Retailer™ Hardware Manual

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Phone: 1-800-543-4455 • Fax: 1-800-245-7045
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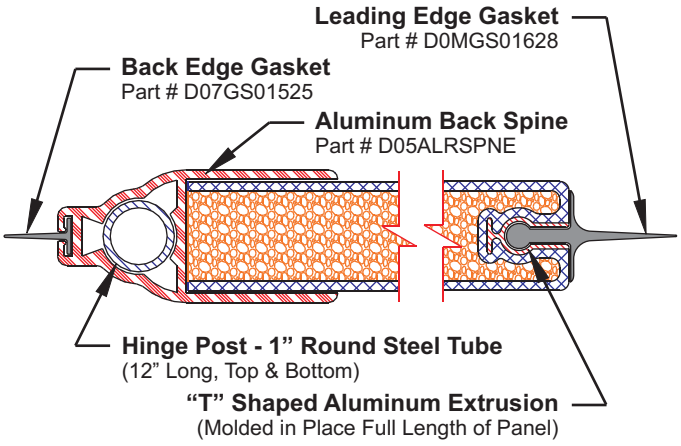
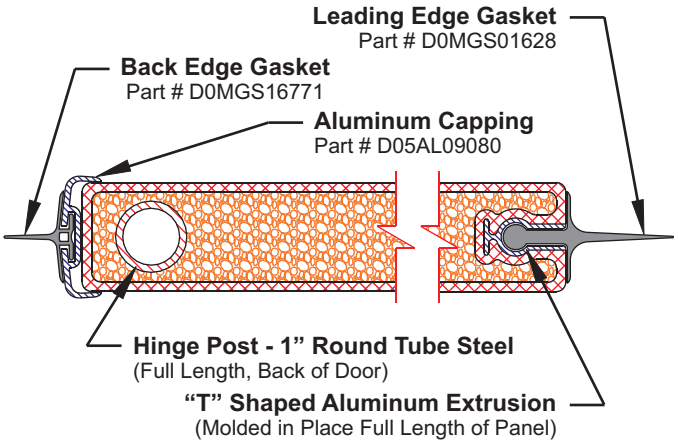
DURULITE RETAILER DOOR



Section "A-A"



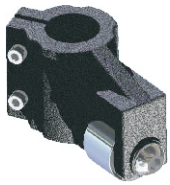
Section "B-B"

Retailer "Cut to Size"
(Top, Back & Hinge Areas Cut to Fit Opening)

Retailer "Monolithic"
(One Piece Panel Molded to Standard Sizes)

UPPER HINGE COMPONENTS

ROLLER BEARING ASSEMBLY



Retailer Roller Assembly
Part # D05AS5508C

Retailer Doors are equipped with a Roller Bearing Assembly which consists of a stainless steel or black oxide coated steel bearing roller fastened to a solid cast aluminum housing. The Roller Assembly is mounted above the V-Cam (See Below) and fastened to the upper hinge post. A roll pin is inserted completely through the aluminum housing and hinge post to prevent the door from slipping when in operation.
The Roller Assembly supports the weight of the door and secures the door at the proper height. When the door opens, the roller rides up the path on the v-cam up to a height of 1 3/8" at the fully open position. When the door is released at that point, gravity causes the roller to descend to the lowest position on the v-cam, thus closing the door and holding it in the closed position.

V-CAMS

90° X 90° V-Cam Assembly
Part # D05ASUHGNM

The design of the V-Cam provides a path for the roller bearing and a "V" which holds the roller bearing and door stationary while in the closed position. Retailer V-Cams are made from an engineered composite material which is extremely durable. Although the door and roller assembly only rise 1-3/8", Chase Doors requires an ***Absolute Minimum 2" Gap*** between the top of the door and the jamb header when the door/doors are in the closed position.

The 90º x 90º V-Cam has a total swing of over 100º in each direction. At full swing the door will rise 1-3/8" from the closed position. This V-Cam is pre-mounted to a stainless steel corner plate for ease of installation and mounting of the hinge seal.

180° X 90° "LEFT" V-Cam Assembly
Part # D05AS180LC

180° X 90° "RIGHT" V-Cam Assembly
Part # D05AS180RC

The 180º x 90º (270º) V-Cam has a total swing of over 100º in one direction and 180º in the other direction . At full swing the door will rise 1-3/8" from the closed position on the 90º side and 2" on the 180" side.
NOTE: The 180º must never be mounting inside of the opening jamb, door and property damage will result!

There are two separate V-Cams for the 180º x 90º applications, one for each side of the opening. There is a Left (Part # D05AS180LC) and a Right (Part # D05AS180RC) for each double door opening and either one may be used for a single door as indicated on order, see images to the left. Always be sure that the 180º side has plenty of clearance to swing completely open.

LOWER HINGE COMPONENTS

STANDARD 90° LOWER HINGE GUARD

Retailer 90° Cast Aluminum Lower Hinge Guard
Part # D05ASHGRTC

Retailer 90° Stainless Steel Lower Hinge Guard
Part # D05AS9090C

The Standard 90° Lower Hinge Guard is available in cast aluminum or stainless steel with a UHMW bushing inserted at the pivot point.

This lower hinge assembly holds the lower hinge post in position, preventing horizontal movement of the door. The assembly also protects the lower hinge post from impact damage.

The pivot point on the lower hinge guard and the v-cam must be in line with one another for proper operation of your door/doors.

The base plate has two pre-drilled holes for the installation of 3/8” floor anchors.

A double bladed gasket is mounted to the door and provides a seal between the hinge assembly and the door.

A Minimum 3-1/2 jamb is required for mounting the Retailer lower hinge assembly.

180° X 90° LOWER HINGE GUARD

Retailer 180° Lower Hinge Guard
Part # D05AL18LHC

The 180° X 90° (270°) Lower Hinge Guard is also a one-piece cast aluminum part with a UHMW bushing inserted at the pivot point.

This hinge assembly has the same basic functions as the 90° lower hinge assembly. The 180° X 90° hinge guard mounts on the corner of the jamb and allows for the door swing of 90° toward the inside of the jamb and 180° toward the outside of the jamb.

The 180° X 90° lower hinge guard is made to fit either side in a double opening.

The pivot point on the lower hinge guard and the v-cam must be in line with one another for proper operation of your door/doors.

The base plate has three pre-drilled holes for the installation of 3/8” floor anchors.

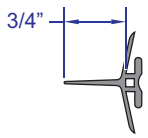
A double bladed gasket is mounted to the door and provides a seal between the hinge assembly and the door.

GASKETS and TOP SEALS

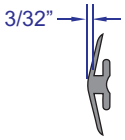
RETAILER GASKETS

The Retailer Door comes equipped with gaskets along the leading, bottom and back edges. The gasket on the leading edge is held in place by a “Molded In” aluminum extruded key-way. The bottom and back edges have an extruded aluminum cap with a key-way running down the center. The base of the gasket is inserted into this key-way and held in place by bending the legs of the key-way down which pinches the gasket.

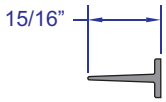
By varying the leading edge gaskets, nominal door widths for double doors may be increased by up to 1” or reduced by up to 1-3/4”. Nominal door widths for single doors may be increased by up to 1/8” or reduced by up to 3/4”.



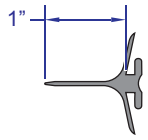
D0MGS16771
3/4” Blade for Back Edge of All Doors



D0MGS01182
“Bull Nose” Back and Bottom Edges as Needed



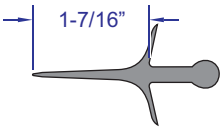
D07GS01525
Back Edge on “Cut Retailers”



D05GS01182
1” Blade for Bottom Edge of All Doors

D05GS1680A
180º Retailer Back Edge

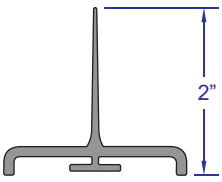
D05GS1682C
Back Edge on 180º “Cut Retailers”



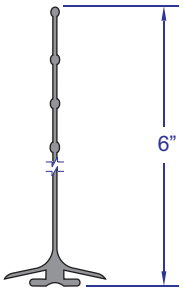
D0MGS01628
1-7/16” Blade for Leading Edge of Double Doors

RETAILER TOP SEALS

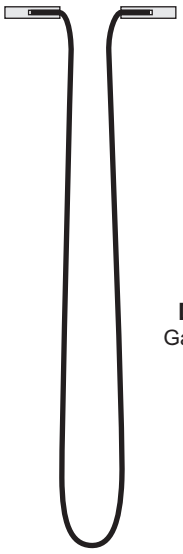
To function properly the Retailer traffic door requires a minimum of 2” between the top of the door and the frame header while in the closed position. The Top Seals along with the upper hinge seals provide a seal for this gap.
When the gap between the top of the door and the frame header is over 2” and up to 6”, an extruded top seal is mounted to the header. The tip of the blade rests on the top edge of the door.
If the gap is greater than 6”, a fabricated extended top seal is required. This top seal is made of black flexible reinforced nylon. Each end of the flexible nylon is pressed into a black aluminum mounting strip. The fasteners are inserted through these aluminum strips and into the header.



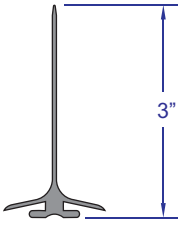
D0MASTS - - -
2” Standard Top Seal
(Part # Reflects Size)



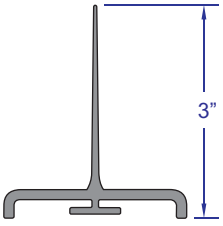
D0MGS01343
6” Blade Extended Top Seal



D0MGS01343
Gaps Exceeding 6”



D05GS01200
3” Blade - Top Seal
(Requires Aluminum Nosing)



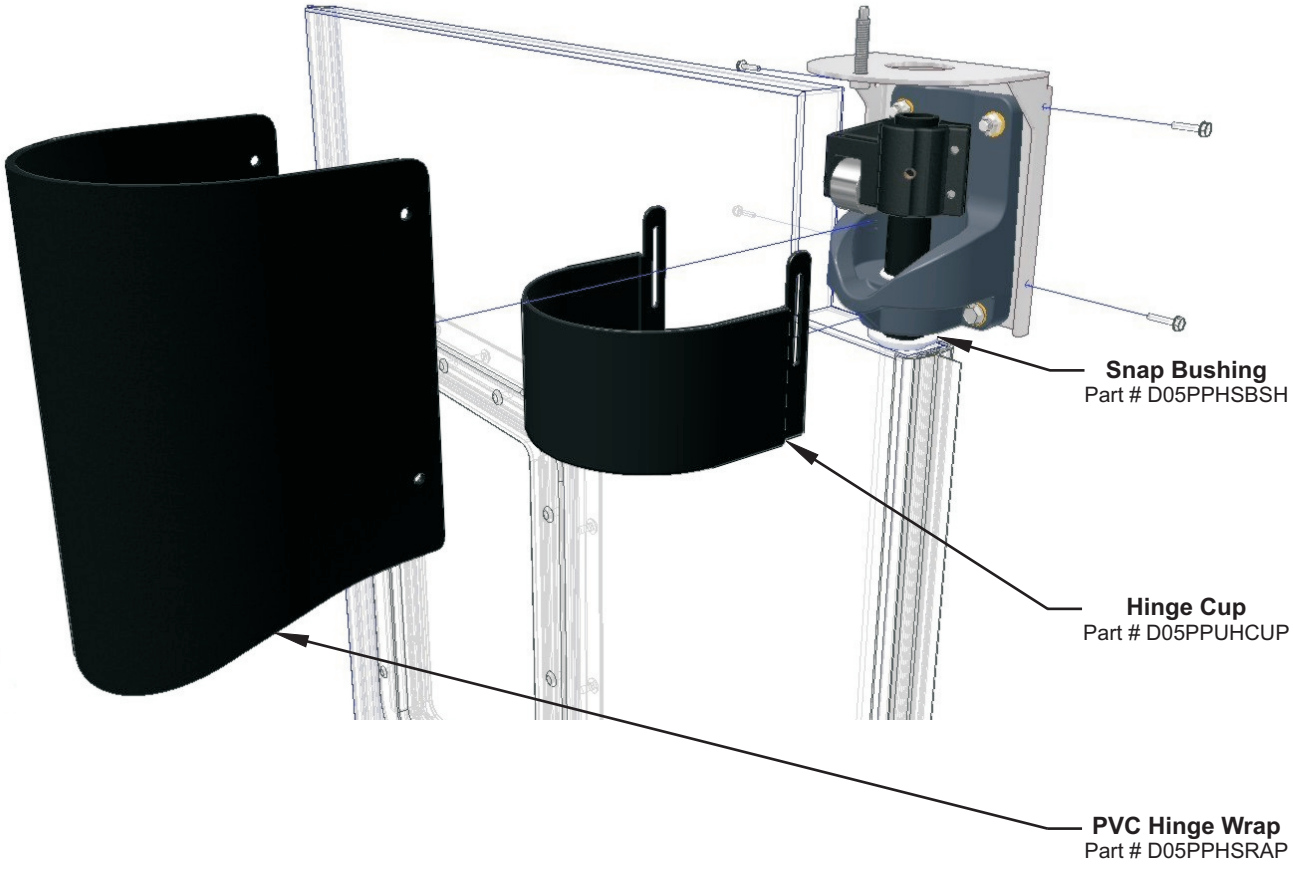
D0MASTS - - -
3” Extended Top Seal
(Part # Reflects Size)

UPPER HINGE SEAL

RETAILER UPPER HINGE SEAL

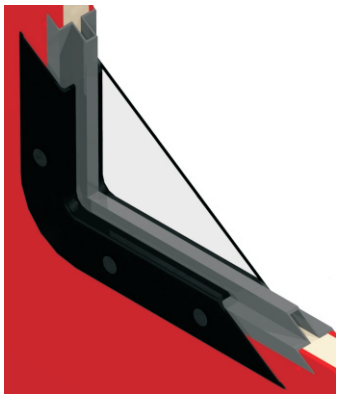
The “New” Retailer Upper Hinge Seal consists of three main components: 1 Snap Bushing, 1 Hinge Cup and 1 Hinge Wrap. The snap bushing is pressed fit onto the base of the upper hinge post. The bushings main function is to pull the hinge cup down as the door lowers to the closed position. The hinge cup snaps onto the bushing under a flange. The hinge cup holds the shape of the wrap so that it seals the hinge area at the door. The main purpose of the hinge seal is to provide a seal between the jamb, header and hinge area of the door. In addition to providing a seal, the upper hinge seal provides a finished appearance to the door.

The flexible PVC Hinge Wrap is mounted to the stainless steel mounting plate with #10 X ½” Tek Screws.

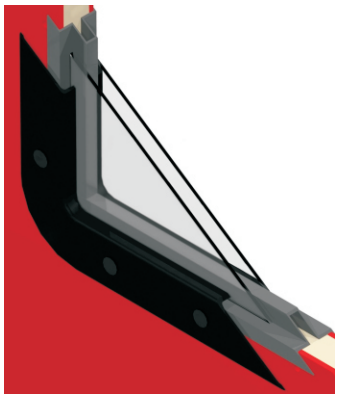


WINDOWS (Standard & ADA)

STANDARD RETAILER WINDOWS



Standard Retailer Window
Single Pane



Standard Retailer Window
Double Pane

Retailer windows are available in single pane or double pane.

The single pane window assembly consists of two ABS frames, one sheet of polycarbonate, a cap separator strip and fasteners. The cap separator strip is placed between one of the frames and the polycarbonate sheet, then the second frame is installed on the opposite side. The second frame presses the polycarbonate against the cap separator strip and holds the polycarbonate firmly in place..

The double pane window assembly consists of two ABS frames, two sheets of polycarbonate, a cap separator strip and fasteners. In the double pane configuration, the cap separator strip sits in between the two sheets of polycarbonate. It separates the polycarbonate and holds the polycarbonate tightly against the frames.

Below is a list of “Standard Window Sizes” and the corresponding door size.

PANEL SIZE	STANDARD WINDOW SIZE
24” & 27”	12” x 18”
30”	12” x 18”
32”	12” x 18” & 16” x 16”
34”	12” x 18” & 16” x 16”
36”, 42” & 48”	12” x 18”, 16” x 16” & 17” x 23”

ADA APPROVED RETAILER WINDOWS

ADA Window Frame
20” X 30” Shown

ADA Requires that the lowest portion of the vision area on a window not exceed 40” from the Finished Floor. Retailer Standard Windows do not meet this requirement. Therefore we have developed several window sizes and locations that satisfy both ADA and OSHA requirements.

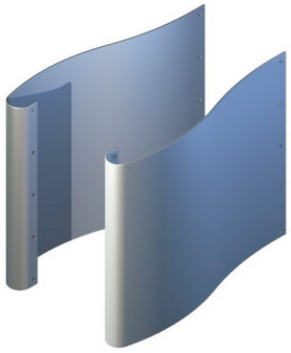
ADA Windows are available in single pane only.

Below is a list of “ADA Window Sizes” and the corresponding door size.

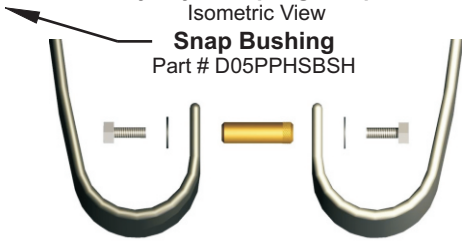
PANEL SIZE	STANDARD WINDOW SIZE
24” & 27”	12” x 30”
30”	12” x 30” & 16” x 30”
32” & 34”	12” x 30”, 16” x 30” & 20” x 30”
36”, 42” & 48”	12” x 30”, 16” x 30”, 20” x 30” & 24” x 30”

BUMPERS & KICK-PLATES

POLYETHYLENE SPRING BUMPERS



Polyethylene Spring Bumpers
Isometric View



Polyethylene Spring Bumpers
Top Exploded Assembly View

Retailer doors are available with standard polyethylene spring bumpers. Standard bumpers have a 3” Curl at the leading edge.

To mount the bumpers, a threaded steel insert in pressed into the door panel. A 1” washer and a 1/4-20 bolt are used to fasten the bumper to the insert. The procedure is duplicated on the opposite side of the panel which pulls both bumpers tight to the face of the door panel.

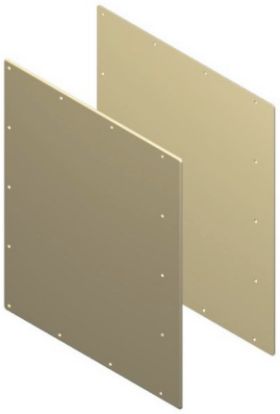
Polyethylene bumpers are available in the same color choices as the doors.

Bumper Sizes

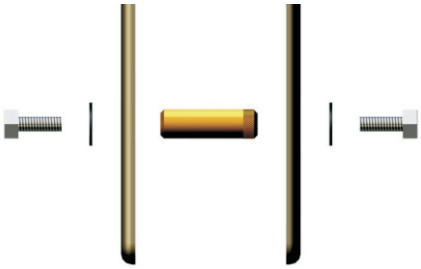
Bumper Height X Door Width

Nominal	Actual	Nominal	Actual	Nominal	Actual
6” x 24”	7-3/4” x 18-1/4”	18” x 24”	18-5/8” x 18-1/4”	36” x 24”	7-3/4” x 18-1/4”
6” x 27”	7-3/4” x 18-1/4”	18” x 27”	18-5/8” x 18-1/4”	36” x 27”	7-3/4” x 18-1/4”
6” x 30”	7-3/4” x 21-1/4”	18” x 30”	18-5/8” x 21-1/4”	36” x 30”	7-3/4” x 21-1/4”
6” x 32”	7-3/4” x 24-1/4”	18” x 32”	18-5/8” x 24-1/4”	36” x 32”	7-3/4” x 24-1/4”
6” x 34”	7-3/4” x 26-1/4”	18” x 34”	18-5/8” x 26-1/4”	36” x 34”	7-3/4” x 26-1/4”
6” x 36”	7-3/4” x 27-1/4”	18” x 36”	18-5/8” x 27-1/4”	36” x 36”	7-3/4” x 27-1/4”
12” x 24”	13” x 18-1/4”	24” x 24”	24-3/8” x 18-1/4”	42” x 24”	13” x 18-1/4”
12” x 27”	13” x 18-1/4”	24” x 27”	24-3/8” x 18-1/4”	42” x 27”	13” x 18-1/4”
12” x 30”	13” x 21-1/4”	24” x 30”	24-3/8” x 21-1/4”	42” x 30”	13” x 21-1/4”
12” x 32”	13” x 24-1/4”	24” x 32”	24-3/8” x 24-1/4”	42” x 32”	13” x 24-1/4”
12” x 34”	13” x 26-1/4”	24” x 34”	24-3/8” x 26-1/4”	42” x 34”	13” x 26-1/4”
12” x 36”	13” x 27-1/4”	24” x 36”	24-3/8” x 27-1/4”	42” x 36”	13” x 27-1/4”

KICK-PLATES (Impact Plates)



Polyethylene Kick-Plates
Isometric View



Polyethylene Kick-Plates
Top Exploded Assembly View

Retailer Kick-Plates (often referred to as Impact Plates) are available in Polyethylene or Stainless Steel. Polyethylene Kick-Plates are 1/4” Thick and have a radius around the outside edges. The Stainless Steel kick-plates are made of 18 Gauge Stainless Steel with a #4 Brushed finish.

Both styles of kick-plate are installed in the same manner as a spring bumper. A threaded steel insert is pressed into the door panel. a 1” washer and a 1/4-20 bolt are used to fasten the kick-plate to the insert. The procedure is duplicated on the opposite side of the panel which pulls both kick-plates tight to the face of the door panel.

Polyethylene kick-plates are available in the same color choices as the doors.

Kick-Plate Sizes

Kick-Plate Height X Door Width

Nominal	Actual	Nominal	Actual	Nominal	Actual
6” x 24”	8-3/4” x 16-3/4”	18” x 24”	22-1/4” x 16-3/4”	36” x 24”	35-3/4” x 16-3/4”
6” x 27”	8-3/4” x 18-3/4”	18” x 27”	22-1/4” x 18-3/4”	36” x 27”	35-3/4” x 18-3/4”
6” x 30”	8-3/4” x 23-1/4”	18” x 30”	22-1/4” x 23-1/4”	36” x 30”	35-3/4” x 23-1/4”
6” x 32”	8-3/4” x 25-1/4”	18” x 32”	22-1/4” x 25-1/4”	36” x 32”	35-3/4” x 25-1/4”
6” x 34”	8-3/4” x 25-1/4”	18” x 34”	22-1/4” x 25-1/4”	36” x 34”	35-3/4” x 25-1/4”
6” x 36”	8-3/4” x 29-3/4”	18” x 36”	22-1/4” x 29-3/4”	36” x 36”	35-3/4” x 29-3/4”
12” x 24”	15-1/2” x 16-3/4”	24” x 24”	29” x 16-3/4”	42” x 24”	42-1/2” x 16-3/4”
12” x 27”	15-1/2” x 18-3/4”	24” x 27”	29” x 18-3/4”	42” x 27”	42-1/2” x 18-3/4”
12” x 30”	15-1/2” x 23-1/4”	24” x 30”	29” x 23-1/4”	42” x 30”	42-1/2” x 23-1/4”
12” x 32”	15-1/2” x 25-1/4”	24” x 32”	29” x 25-1/4”	42” x 32”	42-1/2” x 25-1/4”
12” x 34”	15-1/2” x 25-1/4”	24” x 34”	29” x 25-1/4”	42” x 34”	42-1/2” x 25-1/4”
12” x 36”	15-1/2” x 29-3/4”	24” x 36”	29” x 29-3/4”	42” x 36”	42-1/2” x 29-3/4”

SLIDE TRACK™ BUMPERS

POLYETHYLENE SLIDE TRACK BUMPERS

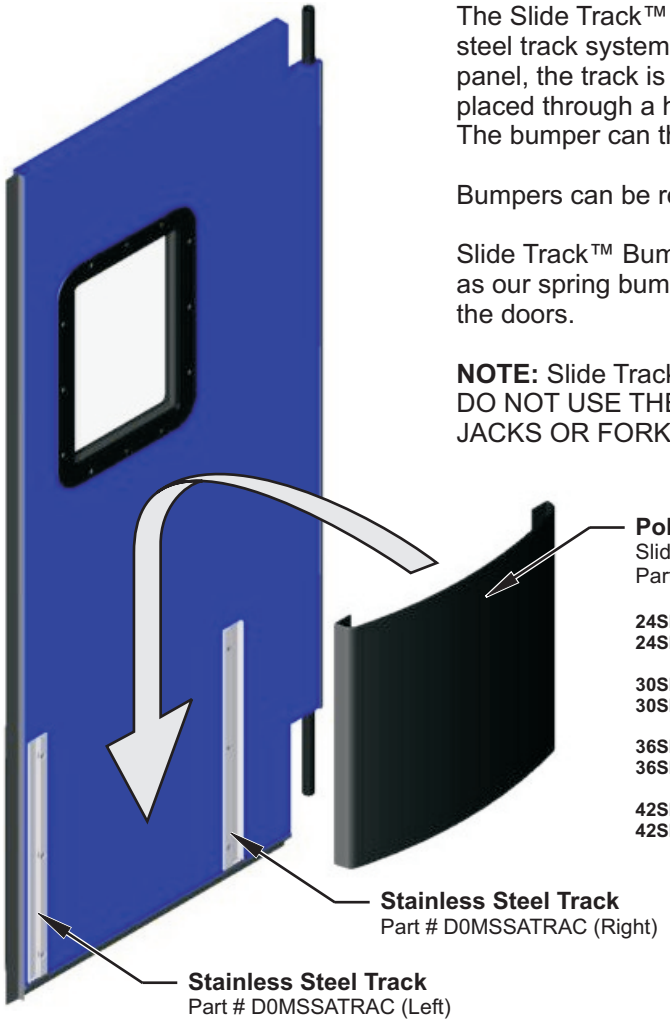
Retailer doors may be equipped with a Slide Track™ Bumper.

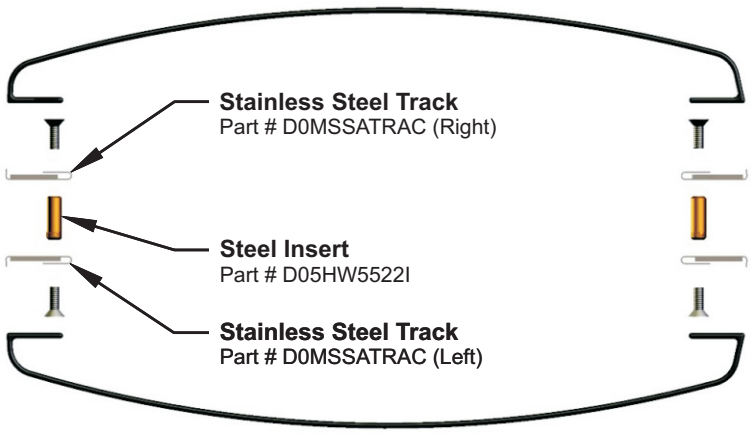
The Slide Track™ Bumpers are mounted to the door using a stainless steel track system. A threaded steel insert is pressed into the door panel, the track is lined up with the inserts and a flat head screw is placed through a hole in the track and screwed tightly into the insert. The bumper can then slide into the track.

Bumpers can be removed for easy cleaning or replacement.

Slide Track™ Bumpers are made from the same polyethylene material as our spring bumpers and are available in the same color choices as the doors.

NOTE: Slide Track™ Bumpers are NOT intended for industrial use. DO NOT USE THESE BUMPERS WITH MOTORIZED PALLET JACKS OR FORKLIFTS!



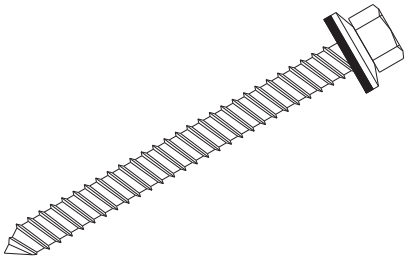


Polyethylene Slide Track™ Bumper
Top Exploded Assembly View

RETAILER FASTENERS

STANDARD RETAILER FASTENERS

Retailer doors ship from the factory with fasteners for the type of frame construction indicated on the original sales order.

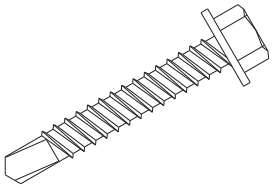


Lower Hinge Guard & V-Cam

Lower Hinge Guard & V-Cam (Wood Frame)

1/4" x 3" SS Hex Head Screw w/ 1/4" SS Washer & Neoprene Gasket

Pilot Hole: Use 3/16" Drill Bit

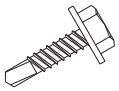


Lower Hinge Assembly & V-Cam

Lower Hinge Guard & V-Cam (Steel Frame)

1/4"-14 X 1 3/4" Hex Washer Head Tek Screw w/ Galv. Plating

Pilot Hole: Use 1/8" Drill Bit for Steel up to 3/8" Thick
Use 13/64" Drill Bit for Steel over 3/8" Thick

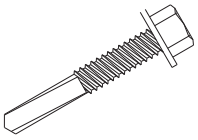


Upper Hinge Seal

Upper Hinge Seal

#10 X 1/2" Hex Washer Head Tek Screw

Pilot Hole: Use 5/64" On Steel 1/4" or Thicker

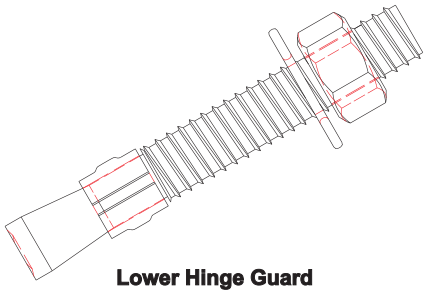


Top "Header" Seal

Top "Header" Seal

#14 X 1 1/2" Hex Washer Head Tek Screw

Pilot Hole: Use 5/32" Drill Bit



Lower Hinge Guard

Lower Hinge Guard (to Floor)

3/8" Wedge Anchor for Floor

Pilot Hole: Use 3/8" Bit which is applicable for you flooring material

LIMITING POSTS

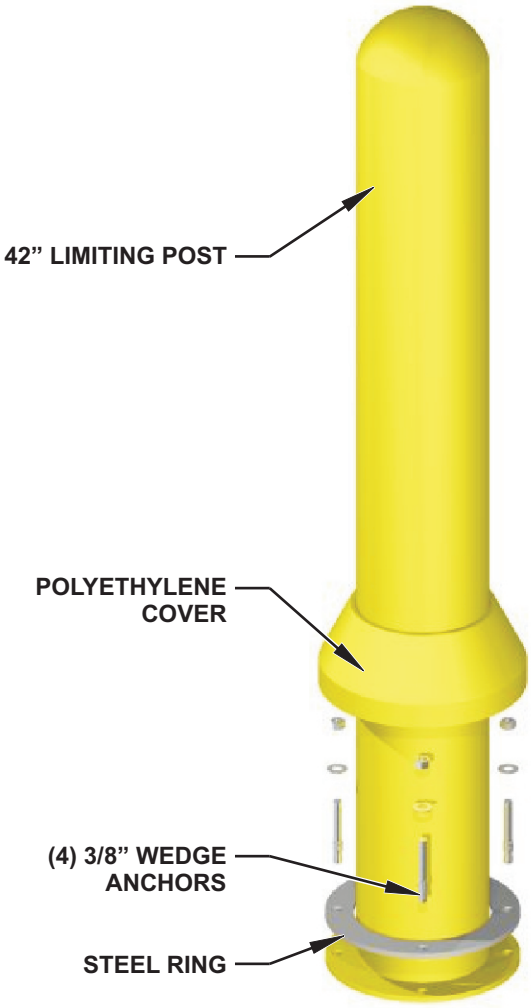
RETAILER LIMITING POSTS

Roto-Molded Polyethylene Limiting Posts may be used as door stops for Retailer doors. The purpose of the limiting post is to limit the swing of the doors so they do not over-swing which can cause damage to property, the door or both. Limiting Posts are anchored to the floor in a location specified by Chase Doors.

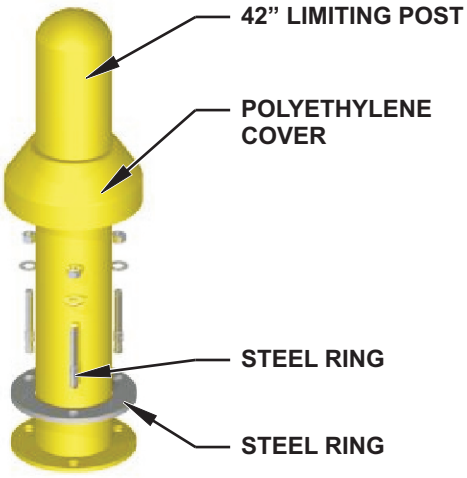
The limiting posts come in two different sizes, a 42” High model which is 5-1/4” in Diameter and a 19” High Model which is approximately 3” in diameter. Each model has a polyethylene shell with a thickness of 3/16”.

A flange is molded onto the base of the limiting post. A steel ring is placed over the flange. Then the limiting posts are anchored to the floor using (4) 3/8” Wedge anchors for the 42” Model and (3) 3/8” Wedge anchors for the 19” Model. A Polyethylene cap is placed over the post and then slid down to conceal and protect the mounting hardware.

Limiting Posts are available in the same color choices as the doors.



42” LIMITING POST



19” LIMITING POST

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Chase Doors
World's Leading Manufacturer Of Traffic Doors

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- ***Durulite® Insulated Impact Traffic Doors***
  - *Industrial*
  - *Standard*
  - *200 Series (Postal/Security)*
  - *XLS270*
  - *XLD360*
- ***Chase Traffic Doors***
  - *SC3000*
  - *Café Doors*
- ***Chase Service Doors***
  - *ABS 5000*
  - *SD2000*
  - *SRP5000*
  - *SST2000*
  - *XLP5000*
- ***Proline™ Impact Traffic Doors***
  - *300i & 400i*
  - *300s & 400s*
  - *350i & 350s*
  - *600-SEC (Postal/Security)*
- ***Saino Fire Doors***
  - *1000 & 2000*
  - *3000 & 4000*
  - *50000*
- ***Saino Service Doors***
  - *1100*
  - *3100*
  - *61000*
  - *63000*
  - *73000*
- ***Pharmaceutical Doors***
  - *DuruSlide® 67000F*
  - *DuruSlide® 67000D*
  - *DuruSlide® 67000K*
- ***Personnel Doors***
  - *Durulite CR1400*
  - *Chase FG1400*
  - *DuruSwing 9700K*
- ***Airgard® Flexible Doors***
  - *100, 200 & 300*
  - *973*
  - *EconoClear*
  - *HS*
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- ***Saino Operators***
  - *F1900 PLC - 1900 PLC*
  - *TN*
  - *TXP*

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  - *Standard and USDA Approved Formulation*
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  - *Low-Temp Material*
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  - *EconoTrack (Hole Punch)*
  - *Wall Mount*
  - *In Jamb*
  - *Over Head Door Brackets*
  - *Gate Doors*
  - *Trolley Mounts*
  - *Truck and Trailer Brackets*

Durulite® Door Hardware Manual

Chase Doors

World's Leading Manufacturer Of Traffic Doors

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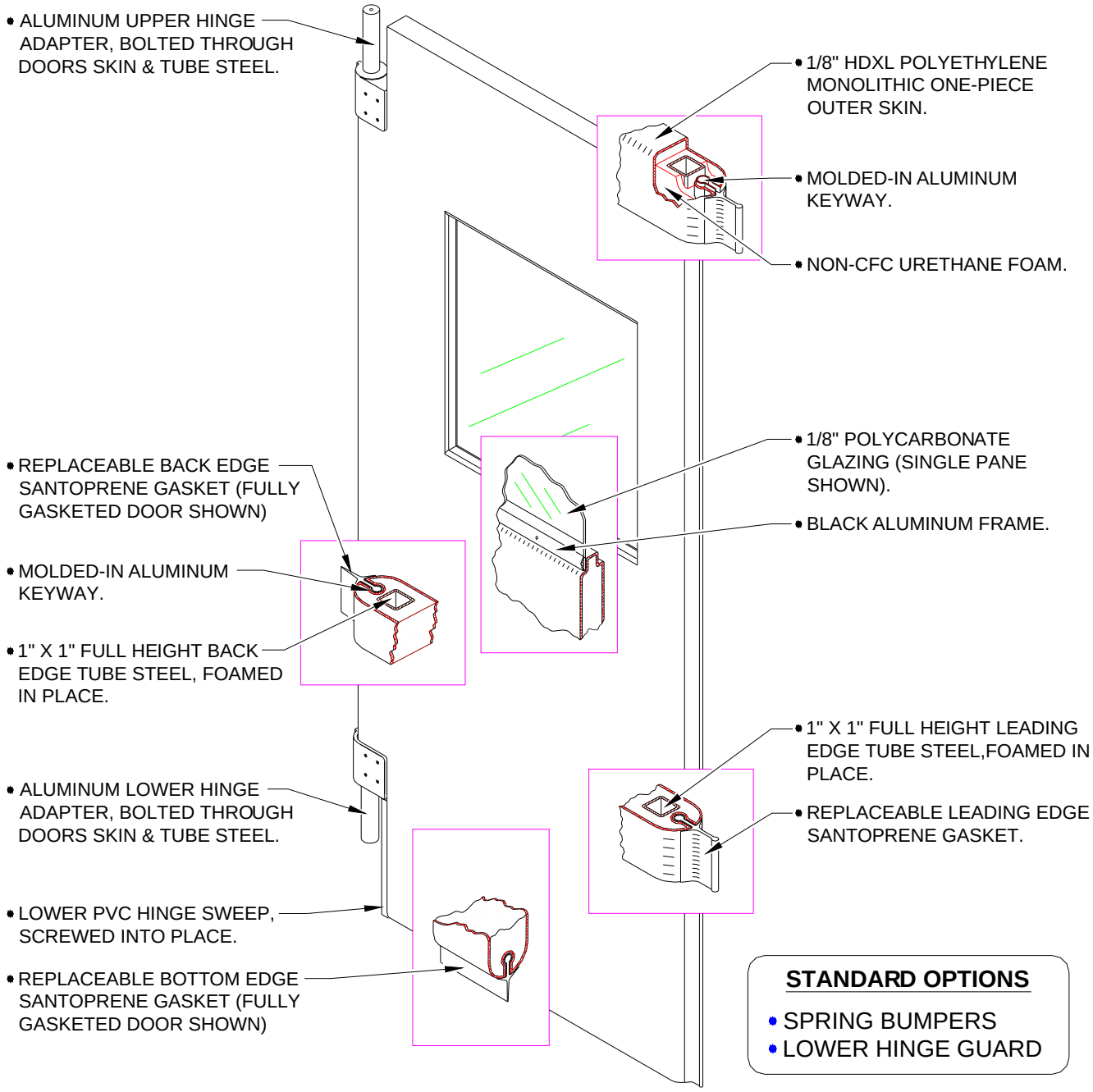
DURULITE STANDARD DOOR

EXCLUSIVE FEATURES
(TWO YEAR WARRANTY)

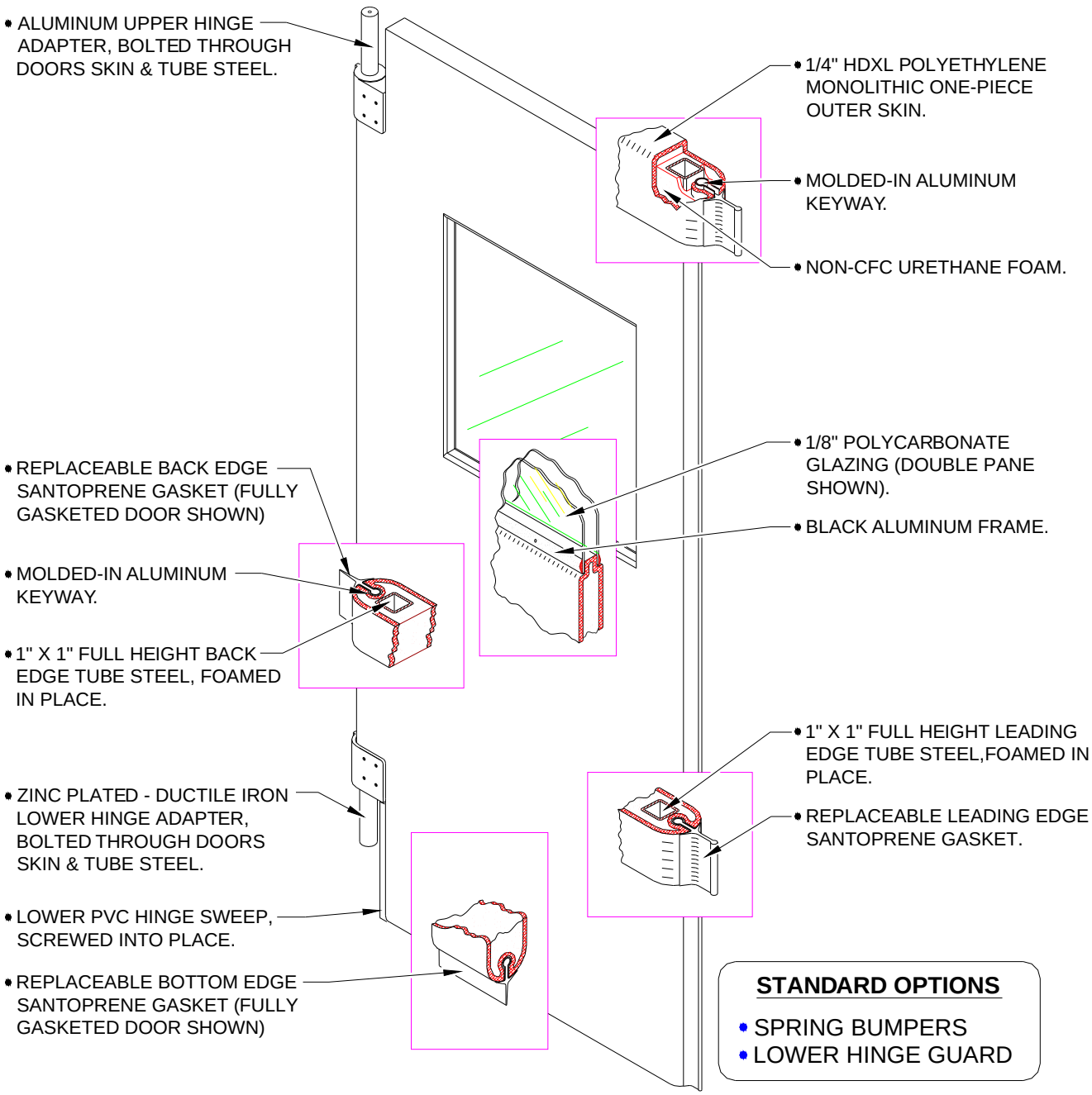


STANDARD OPTIONS

- SPRING BUMPERS
- LOWER HINGE GUARD

DURULITE INDUSTRIAL DOOR

EXCLUSIVE FEATURES
(ONE YEAR WARRANTY)



STANDARD OPTIONS

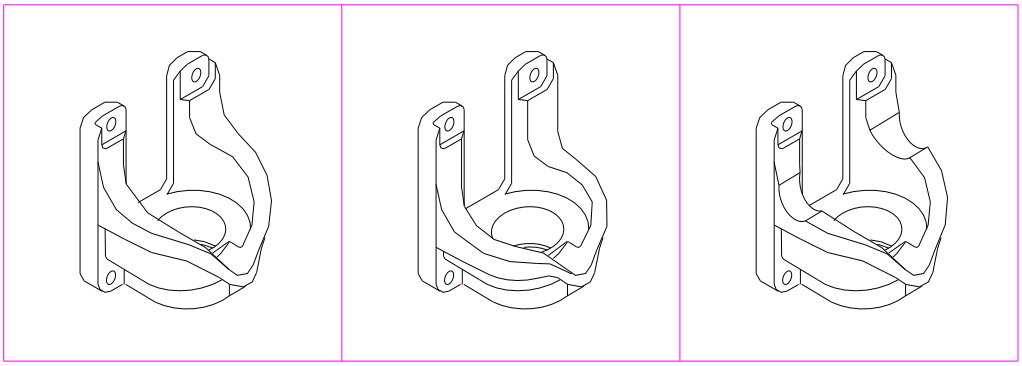
- SPRING BUMPERS
- LOWER HINGE GUARD

DURULITE DOOR HARDWARE FACTS SHEET

V-CAM

The V-Cam is the upper jamb hardware for the Durulite Door. It provides the upward track which the roller bearing follows as the door opens. It also seats the roller bearing in the doors closed position. V-Cams are available with a 90° swing in two directions, or a 90° swing one direction and a 180° swing the opposite direction. The 90° and 180° V-Cams are available in Ductile Iron material. The 90° V-Cam is available with a 1-3/8" or 3/4" rise. The 180° V-Cam is available only with a 1-3/8" rise. All V-Cams come equipped with a replaceable bushing, which holds the Hinge Adapter Shaft in place. An absorber pad lines the back of the V-Cam, cushioning the shock of door movement. ***Welding of the V-Cam to the frame voids the warranty.*** Weldplates are available through the factory.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Standard V-Cam	5561-1	Ductile Iron	90° swing in two directions. 1-3/8" rise.
Low-Rise V-Cam	5587-1	Ductile Iron	90° swing in two directions. 3/4" rise. For use in corrosive evironments. Specify when ease of opening door is required, or reduced height openings (requires 1-1/2" Top Seal gap).
V-Cam with Hold-Open	5561-1-H	Ductile Iron	90° swing in two directions. 1-3/8" rise. V-Cam with hold open device. Use when doors must be maintained in open position.
180° V-Cam	5573-1 (left) 5572-1 (right)	Ductile Iron	180° swing in direction. 90° swing opposite direction. 1-3/8" rise. For use in corrosive evironments. V-Cam mounts on corner of jamb. Specify when traffic turns immediately after exiting doors.
180° V-Cam With Hold-Open	5573-1-H (left) 5572-1-H (right)	Ductile Iron	180° swing in direction. 90° swing opposite direction. 1-3/8" rise. Use when doors must be maintained in open position. Hold-Open device occurs on 90° side.



90° V-CAM

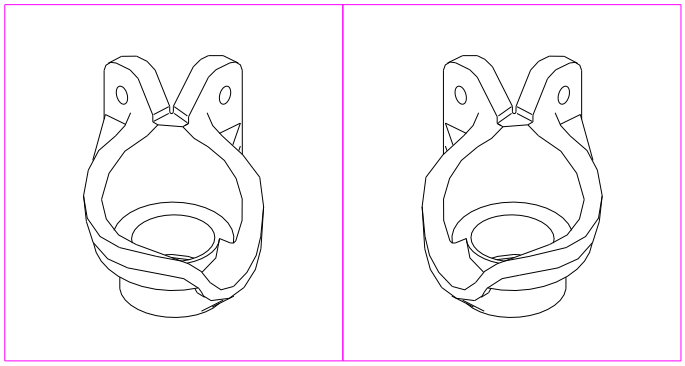
P/N 5561-1 • 1-3/8" RISE
MATERIAL: DUCTILE IRON

90° V-CAM

P/N 5587-1 • 3/4" RISE
MATERIAL: DUCTILE IRON

90° V-CAM

P/N 5561-1-H
1-3/8" RISE W/ HOLD OPEN
MATERIAL: DUCTILE IRON

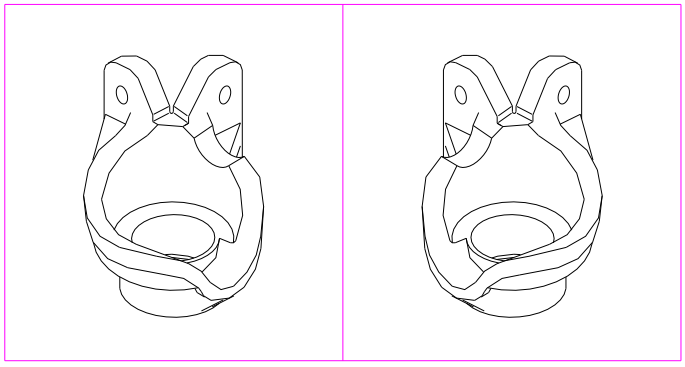


180° V-CAM

P/N 5573-1
1-3/8" RISE • LEFT HAND
MATERIAL: DUCTILE IRON

180° V-CAM

P/N 5572-1
1-3/8" RISE • RIGHT HAND
MATERIAL: DUCTILE IRON



180° V-CAM

P/N 5573-1-H • LEFT HAND
1-3/8" RISE W/ HOLD OPEN
MATERIAL: DUCTILE IRON

180° V-CAM

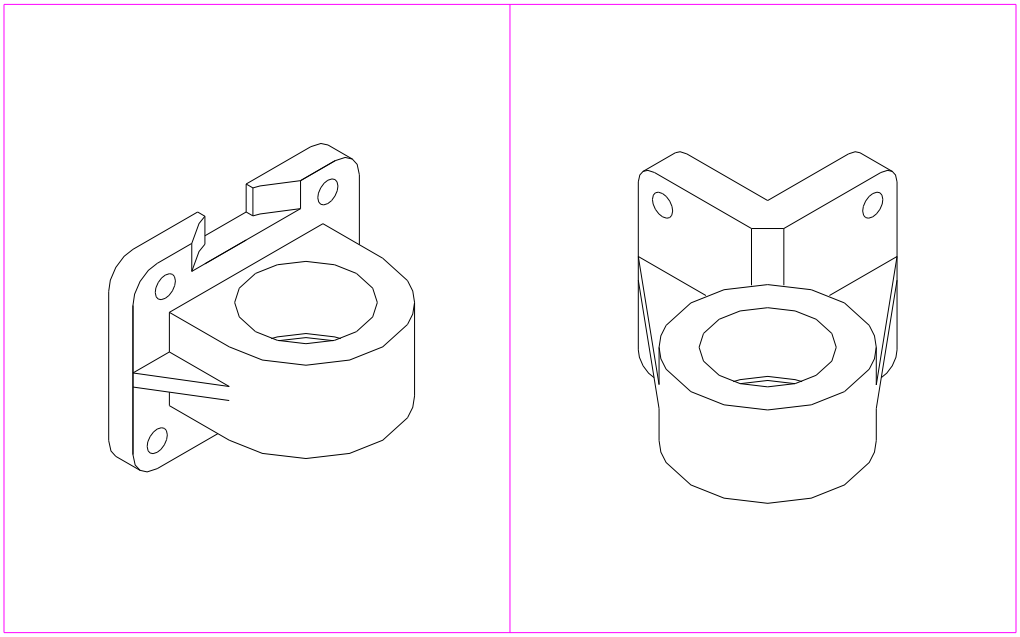
P/N 5572-1-H • RIGHT HAND
1-3/8" RISE W/ HOLD OPEN
MATERIAL: DUCTILE IRON

DURULITE DOOR HARDWARE FACTS SHEET

PILLOW BLOCK

The Pillow Block is the lower jamb hardware for the Durulite Door. The Pillow Block holds the lower Hinge Adapter Shaft in position, preventing horizontal movement of the door. Pillow Blocks are available for 90° or 180° hardware. The 90° and 180° Pillow Blocks are available in Ductile Iron and Stainless Steel materials. Pillow Blocks come equipped with a replaceable bushing, which holds the Hinge Adapter in place. An absorber pad lines the back of the Pillow Block, cushioning the shock of door movement. ***Welding of Pillow Blocks to frame voids the warranty.*** Weldplates are available through the factory.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Standard Pillow Block	5555-1	Ductile Iron *or* Stainless Steel	90° Pillow Block.
180° Pillow Block	5579-1 (left) 5579-1 (right)	Ductile Iron *or* Stainless Steel	180° Pillow Block, for use with 180° V-Cam.



90° PILLOW BLOCK
P/N 5555-1

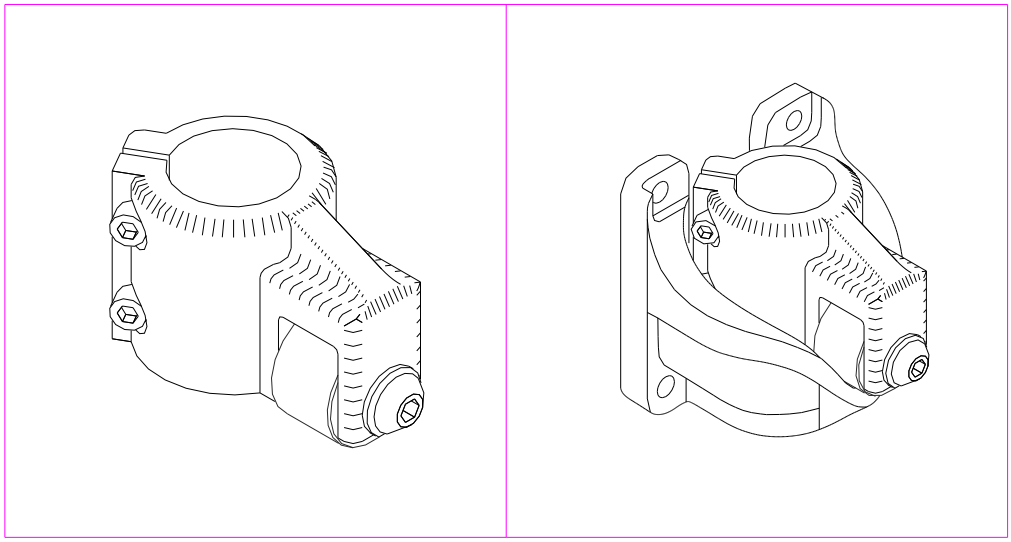
180° PILLOW BLOCK
P/N 5579-1

DURULITE DOOR HARDWARE FACTS SHEET

ROLLER ASSEMBLY

The Roller Assembly is positioned over the upper Hinge Adapter Shaft, and follows the V-Cam path as the door opens. The Roller Bearing supports the weight of the door and secures the door at the correct height limiting vertical movement. The V-Cam and Roller Assembly maintain the door in the closed position and provide rise as the door opens. The Roller Assembly, on industrial doors and doors with spring assist, is pinned through the upper Hinge Adapter Shaft. The housing material is cast aluminum alloy. The Roller is made of Bearing Steel with a black oxide coating and is also available in Stainless Steel. The Roller Assembly is standard hardware on the Durulite Door.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Roller Assembly	5508-1	Cast Aluminum Housing With Bearing Steel or Stainless Steel Roller Bearing	Roller Assembly Composed of Cast Aluminum Alloy Housing With A Roller Bearing Made Of Bearing Steel or Stainless Steel.



ROLLER ASSEMBLY
P/N 5508-1

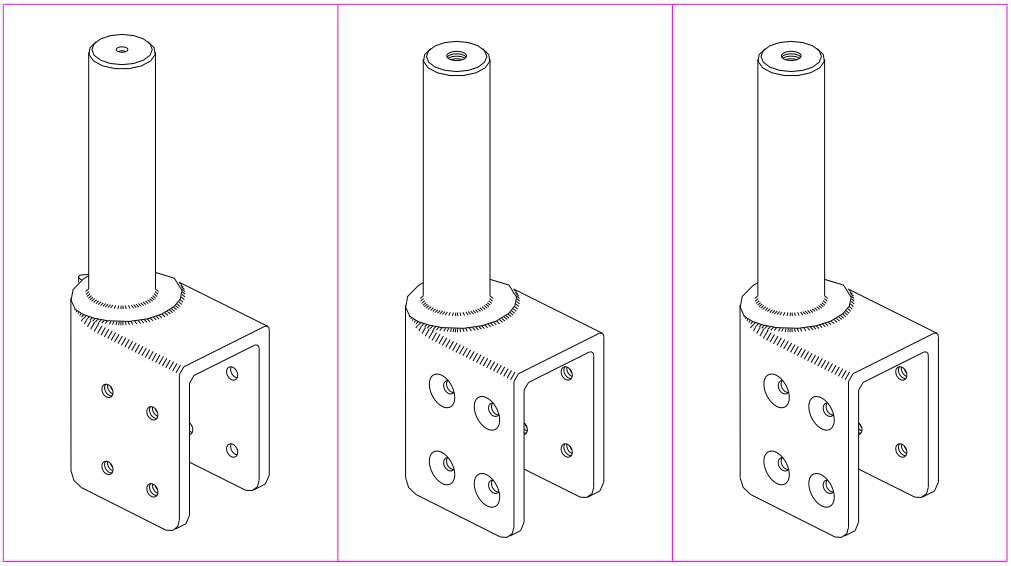
ROLLER ASSEMBLY IN 90° V-CAM

DURULITE DOOR HARDWARE FACTS SHEET

HINGE ADAPTER

Hinge Adapters attach to the upper and lower portions of the door panel. The Upper Hinge Adapter Shaft is inserted into the V-Cam. The Lower Hinge Adapter Shaft is inserted into the Pillow Block. The Hinge Adapter provides a pivot point for the door. Lower Hinge Adapters are threaded to receive the Spring Assist.

DESCRIPTION	PART NO.	MATERIAL	FEATURES
Upper Hinge Adapter	5510-1	Cast Aluminum Alloy	Upper Hinge Adapter. Standard Hardware.
Standard Lower Hinge Adapter	5510-3	Cast Aluminum Alloy	Lower Hinge Adapter. Used on all standard Durulite Doors. Threaded to receive the Spring Assist.
Industrial Lower Hinge Adapter	5550-1	Ductile Iron	Lower Hinge Adapter. Used on all industrial Durulite Doors. Threaded to receive the Spring Assist.



UPPER HINGE ADAPTER

P/N 5510-1
MATERIAL: ALUM. ALLOY

LOWER HINGE ADAPTER

P/N 5510-3
MATERIAL: ALUM. ALLOY

INDUSTRIAL LOWER HINGE ADAPTER

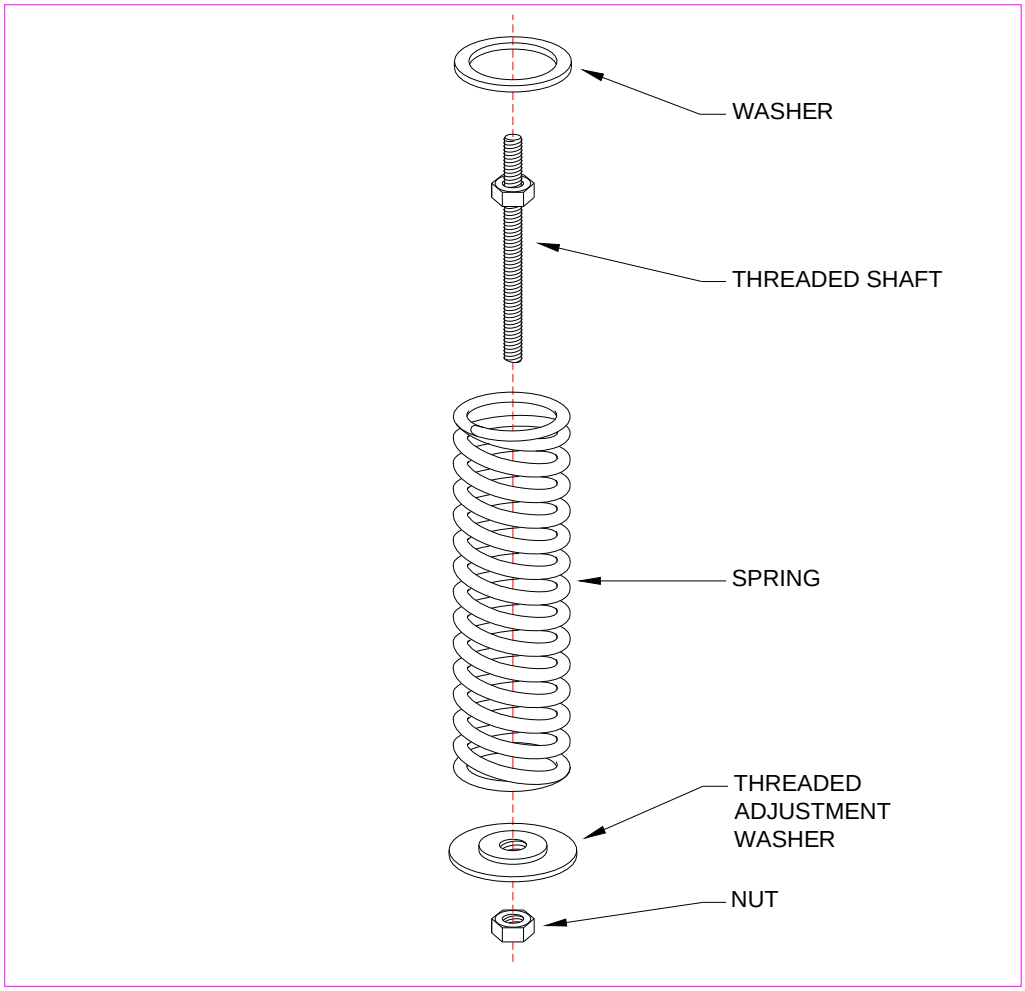
P/N 5550-1
MATERIAL: DUCTILE IRON

DURULITE DOOR HARDWARE FACTS SHEET

SPRING ASSIST

The Spring Assist consists of five replaceable parts. The Spring Assist threads into the Lower Hinge Adapter Shaft. The Spring Assist should be specified when doors are required to maintain the closed position, when there is a negative air pressure condition, or when a wind condition exists. The Spring Assist cannot be used with the Low-Rise or No-Rise hardware.

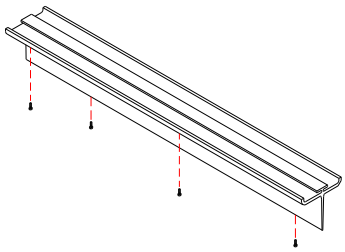
DESCRIPTION	PART NO.	MATERIAL	FEATURES
Spring Assist	5543	Steel Parts	Five-Part Spring Assist assembly composed of a Spring, Threaded Shaft, Washer, Threaded Adjustment Washer, and Nut. Assembly also includes Roll Pin for pinning the Roller to the Upper Hinge Adapter Shaft.



DURULITE DOOR HARDWARE FACTS SHEET

TOP SEAL

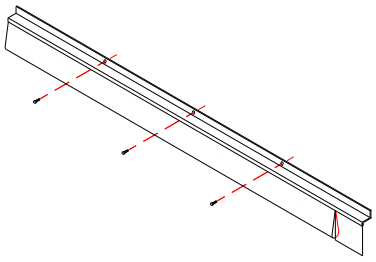
The Top Seal serves to seal the gap between the top of the door and the frame header. The Standard Rise V-Cam requires a minimum 2" gap between the top of the door panel and the frame header to operate. The Low Rise V-Cam requires a 1-1/2" gap. Top Seals are standard equipment on fully gasketed doors and are available on partially gasketed doors as an option.



90° STANDARD TOP SEAL

THE 90 X 90° STANDARD TOP SEAL consists of a 2-1/4" wide extruded PVC Top Seal Gasket. The Standard Top Seal mounts on the header and is used for gaps from 2" to 6".

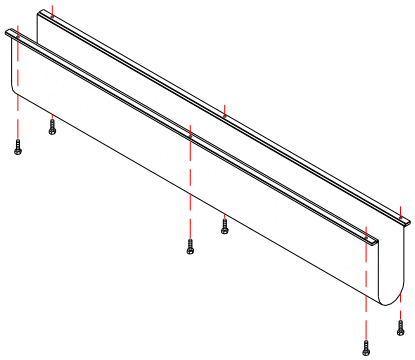
FASTENERS: #12 X 1-1/2" TEK SCREWS
DRILL SIZE: 5/32"



180° TOP SEAL

THE 180 X 90° STANDARD TOP SEAL is made of flexible reinforced nylon with an aluminum mounting strip. The 180° Top Seal mounts to the face of the jamb above the header.

FASTENERS: #12 X 1-1/2" TEK SCREWS
DRILL SIZE: 5/32"



90° EXTENDED TOP SEAL

THE 90 X 90° EXTENDED TOP SEAL consists of flexible reinforced nylon inserted into two aluminum mounting strips. It mounts on the header and is used for gaps larger than 6". It is also used for foam filled seals when extra insulation is required.

FASTENERS: #12 X 1-1/2" TEK SCREWS
DRILL SIZE: 5/32"

DURULITE DOOR HARDWARE FACTS SHEET

HINGE SEALS

Upper and Lower Hinge Seals wrap around the V-Cam and Pillow Block on Durulite Doors. Hinge Seals provide an improved seal and a finished appearance at the hinge areas. Upper and Lower Hinge Seals are standard items on fully gasketed doors.

On doors with 90° hardware and Lower Hinge Guards the Lower Hinge Seal is replaced by the Lower Hinge Guard.

180° hardware uses both a Lower Hinge Seal and a Lower Hinge Guard.
Hinge Seals are available on partially gasketed doors as an option.

90 X 90° LOWER HINGE SEALS are made of black, flexible reinforced nylon, with black aluminum mounting strips. Foam tape is applied to the aluminum mounting strips for temporary positioning prior to fastening. They are equipped with a foam strip along the inside center to provide greater rigidity.

Lower Hinge Seals are attached with 1/4" - 14 x 1" ST. ST. Tek Screws.

180 X 90° LOWER HINGE SEALS are made of flexible black PVC. Foam tape is applied to the inside face for temporary positioning prior to fastening.

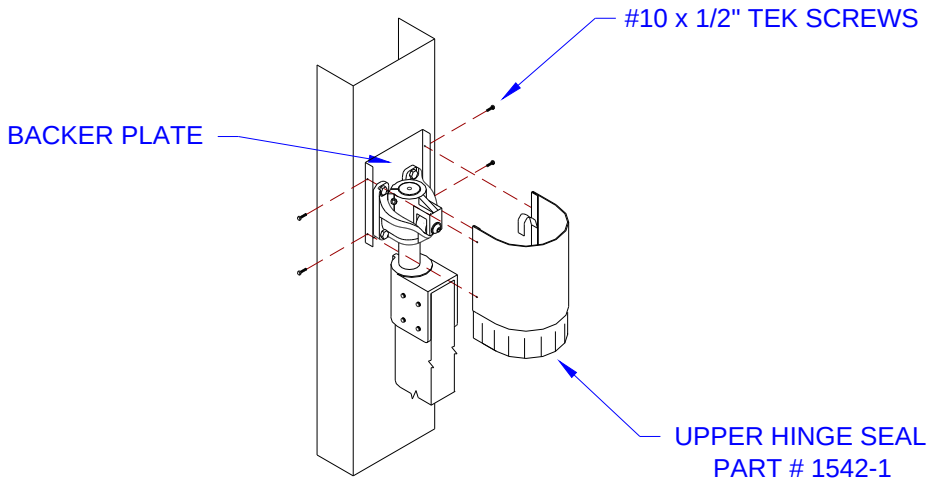
Lower Hinge Seals are attached with 1/4" - 14 x 1" ST. ST. Tek Screws.

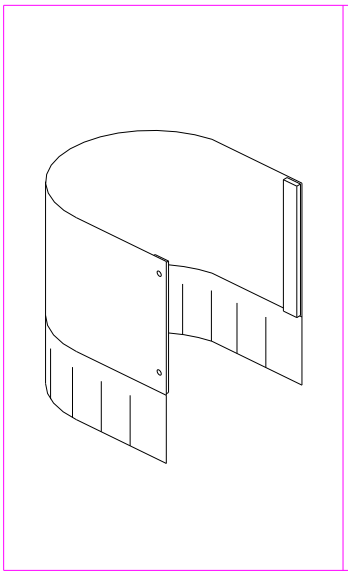
180 X 90° UPPER HINGE SEALS are made of black, flexible reinforced nylon, with black aluminum mounting strips. Foam tape is applied for temporary positioning prior to fastening.

Upper Hinge Seals are attached with 1/4" - 14 x 1" ST. ST. Tek Screws.

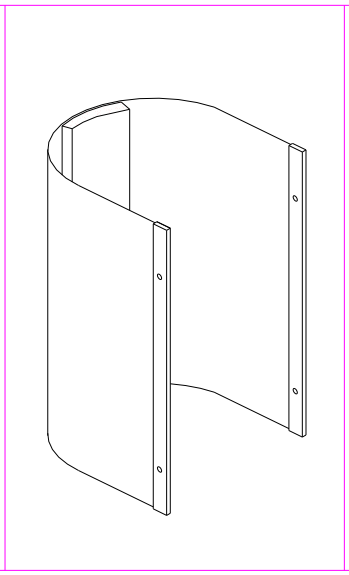
90 X 90° UPPER HINGE SEALS are made of flexible black PVC. Foam tape is applied for temporary positioning prior to fastening. The 90° Upper Hinge Seal is attached to a steel Backer Plate that mounts behind the V-Cam.

Upper Hinge Seals are attached to a Backer Plate with #10 x 1/2" Tek Screws.

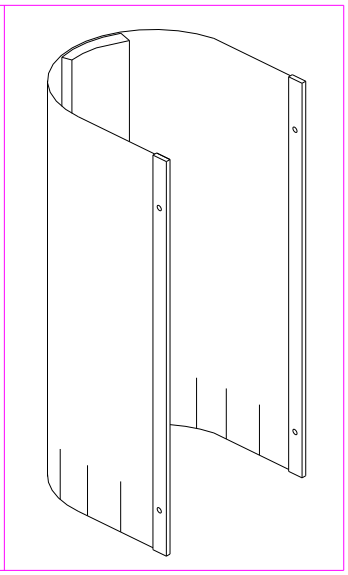




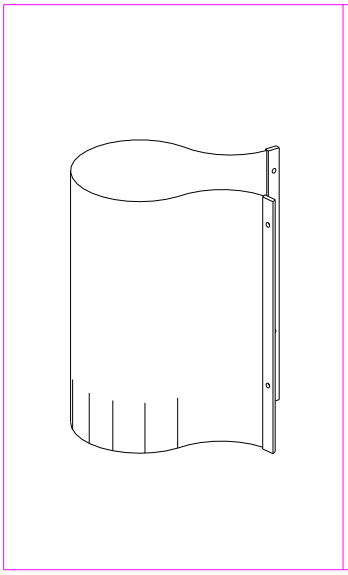
90° UPPER HINGE SEAL
P/N 1542-1



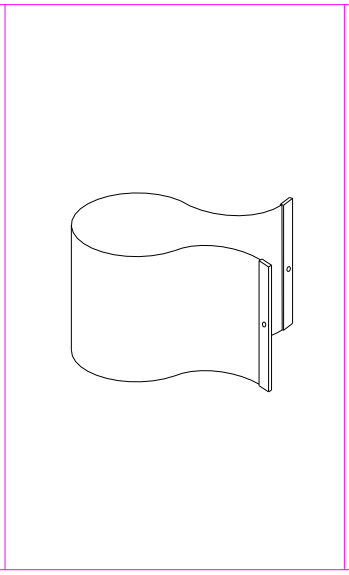
90° LOWER HINGE SEAL
P/N 1536-1



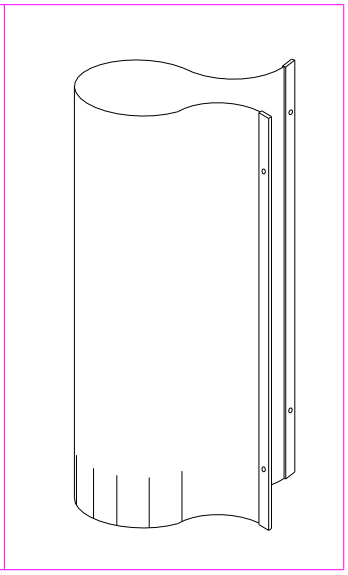
90° DUTCH DOOR HINGE SEAL
P/N 1540-1



180° UPPER HINGE SEAL
P/N 1554-1



180° LOWER HINGE SEAL
P/N 1531-1



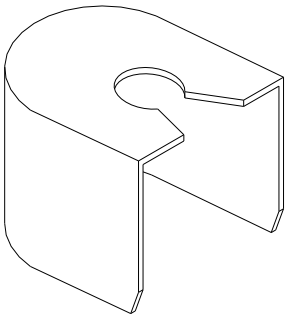
180° DUTCH DOOR HINGE SEAL
P/N 1553-1

DURULITE DOOR HARDWARE FACTS SHEET

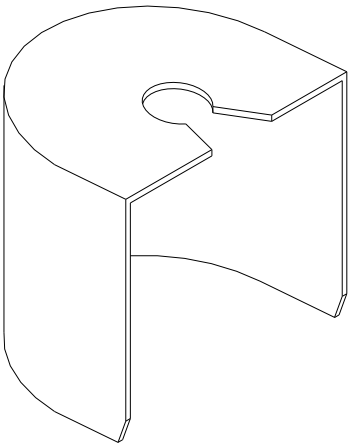
SOLID RISER

The Solid Riser is an accessory of the Hinge Seal system which provides a rigid surface for the more flexible types of Hinge Seals to wrap around. Solid Risers are made of black polyethylene. The Solid Riser snaps onto the Hinge Adapter Shaft between the Hinge Adapter and the V-Cam on the upper hardware and between the Hinge Adapter and the Pillow Block on the lower hardware.

On doors with 90° X 90° hardware a Solid Riser is provided if the door receives a Standard Lower Hinge Guard or a Lower Hinge Seal. On doors with 180° X 90° hardware a Solid Riser is provided for the Upper Hinge Seal.



90° X 90° SOLID RISER
P/N 1548

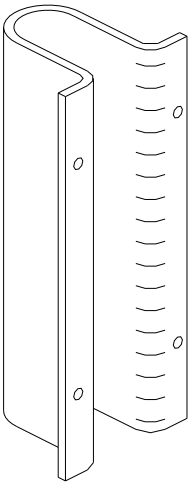


180° X 90° SOLID RISER
P/N 1547

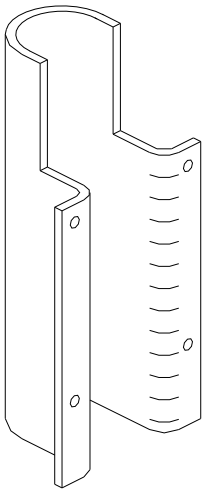
DURULITE DOOR HARDWARE FACTS SHEET

LOWER HINGE GUARD

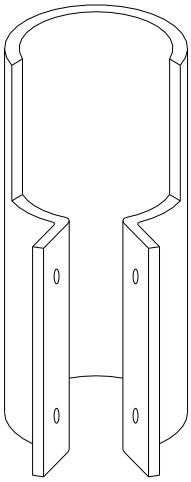
STANDARD LOWER HINGE GUARD	Designed for use with 90° hardware. Provides protection of hardware from pedestrian traffic. Normally ordered with standard Durulite Doors. Requires 3-1/2" minimum jamb width for installation. Available in Polyethylene or Aluminum. Designed to cover Lower Hinge Adapter shaft. Standard Lower Hinge Guard is installed below Pillow Block, and fastens to inside face of jamb.
INDUSTRIAL LOWER HINGE GUARD	Designed for use with 90° hardware. Provides protection of hardware from vehicular and cart traffic. Normally ordered with industrial Durulite Doors, or with doors receiving Spring Assist. Requires a 5-1/2" minimum jamb width for installation. Available in Polyethylene or Aluminum. Designed to cover Pillow Block and Lower Hinge Adapter Shaft. Fastens to inside face of jamb.
180° LOWER HINGE GUARD	Designed for use with 180° hardware. Provides protection of hardware from vehicular and cart traffic. Available in Polyethylene. Designed to cover Pillow Block and Lower Hinge Adapter Shaft. Fastens to corner of jamb.
WRAPAROUND LOWER HINGE GUARD	Designed for doors with jamb widths of 4" - 4-1/2". Available in 10 gauge galvanized steel only. For use with Spring Assist. Fastens to outside face of jamb.



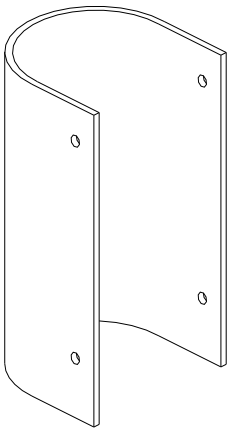
STANDARD LOWER HINGE GUARD
MATERIAL: POLYETHYLENE or EXTRUDED ALUMINUM



INDUSTRIAL LOWER HINGE GUARD
MATERIALS: POLYETHYLENE or EXTRUDED ALUMINUM



180° LOWER HINGE GUARD
MATERIAL: POLYETHYLENE



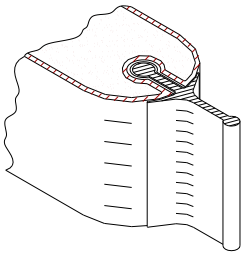
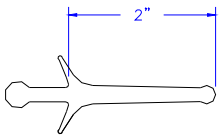
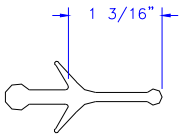
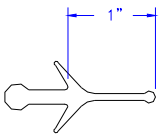
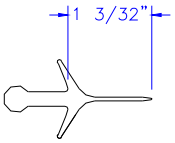
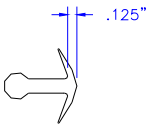
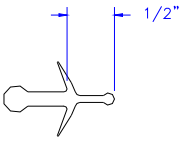
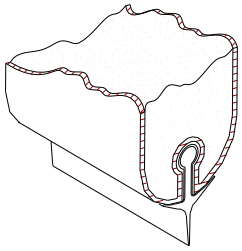
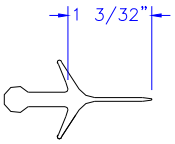
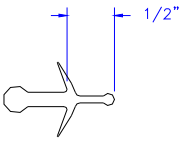
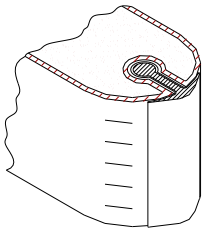
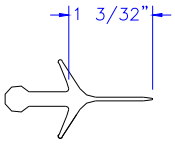
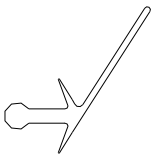
WRAPAROUND LOWER HINGE GUARD
MATERIAL: GALVANIZED STEEL

DURULITE DOOR HARDWARE FACTS SHEET

GASKETING

The Durulite Door comes equipped with replaceable gasketing along the leading, back and bottom edges. This gasketing is retained in the door by a molded-in aluminum keyway. Gaskets are secured in the door without the use of fasteners of any kind. Gaskets are made of 55-80 Durometer extruded black santoprene. All gaskets are made with winged sides which seal the rounded edges of the door.

By varying the leading edge gasket, nominal double door openings may be increased by up to two inches, or reduced by one inch. Nominal single doors can be increased by up to one inch, or reduced by 1/2". Fully gasketed doors come equipped with a blade type gasket on the leading edge. Back and bottom edges are normally sealed with the 1560 blade gasket. Back and bottom edges may also be equipped with a 1559 bullnose gasket (for use in partially gasketed applications), which does not seal the door along these edges.

			
	1535 GASKET	1558 GASKET	1545 GASKET
			
LEADING EDGE GASKET	1560 GASKET	1559 GASKET	1546 GASKET
			
BOTTOM GASKET	1560 GASKET	1559 GASKET	1546 GASKET
			
BACK GASKET	1560 GASKET	1559 GASKET	1561 GASKET

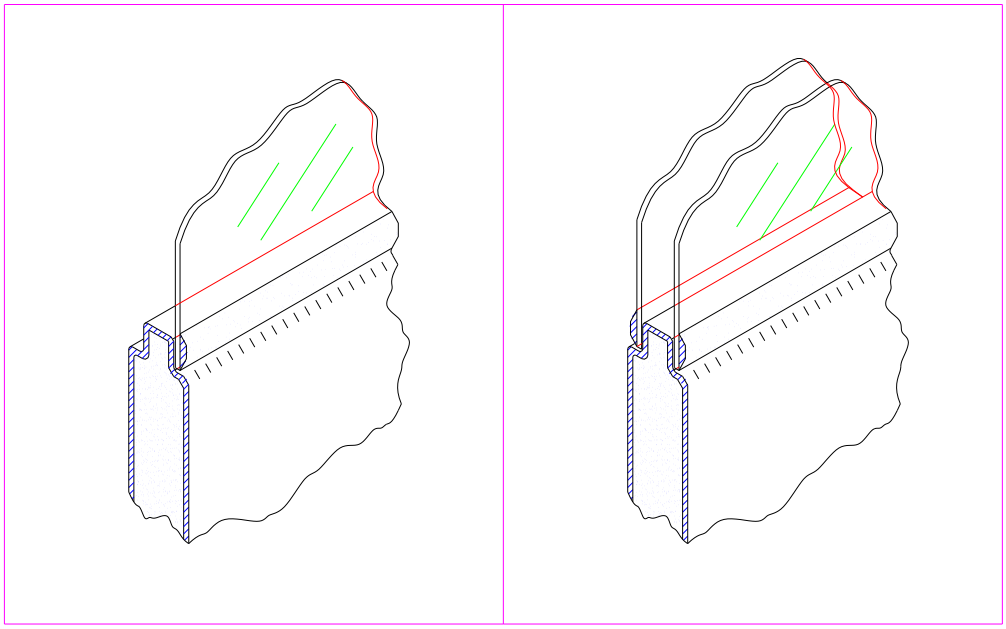
DURULITE DOOR HARDWARE FACTS SHEET

WINDOWS

Durulite Doors are equipped with molded-in window openings with a recessed area to accomodate the glazing and frame. Glazing in the door is 1/8" polycarbonate. Durulite Doors are available with single or double glazing. Black aluminum frames are available for either single or double glazing.

The window bottom is typically located 45" above the bottom of the door. Window widths vary with panel widths.

PANEL SIZE	**WINDOW SIZE** (Width and Height)
24" & 27"	10-1/2" X 22-1/2"
30"	14-1/2" X 22-1/2"
32"	16-1/2" X 22-1/2"
34"	18-1/2" X 22-1/2"
36", 39-1/2", 42" & 48"	20-1/2" X 22-1/2"
54" & 60"	22-1/2" X 22-1/2"



SINGLE PANE WINDOW **DOUBLE PANE WINDOW**

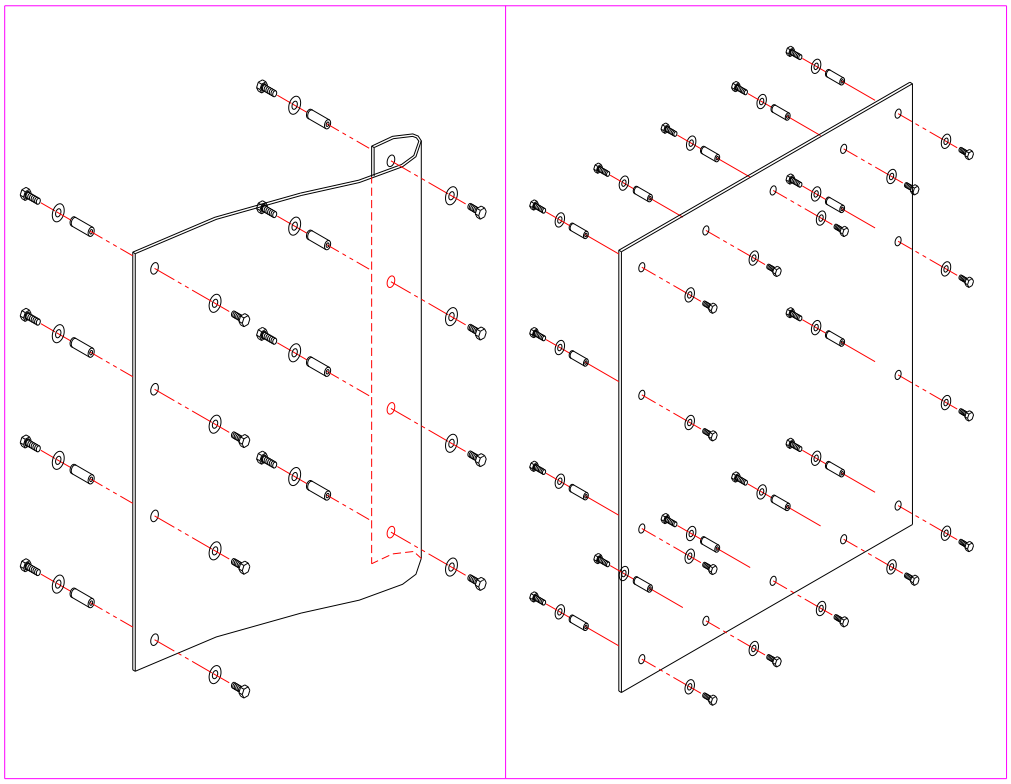
DURULITE DOOR HARDWARE FACTS SHEET

BUMPERS

Durulite Doors are available with 1/4" thickness crosslink polyethylene teardrop Bumpers. Standard and industrial versions are available. Standard Bumpers provide a 3" projection at the curl, and are available on panel sizes ranging from 24" to 39-1/2". Industrial Bumpers provide a 4" projection at the curl, and are available on all panel sizes. Bumpers are available in nominal heights of 6", 12", 18", 24", 36", 38, and 42", and should be ordered to accomodate the application. Bumper widths vary with panel width. Bumpers are recommended for any application with cart or vehicular traffic. Bumpers are bolted to the door into threaded inserts. Bumpers are available in the same color choices as the door.

KICKPLATES

Durulite Doors are available with 1/4" thickness polyethylene or 18 GA. stainless steel Kickplates. Polyethylene Kickplates are available in nominal heights of 6", 12", 18", 24", 30", 36", and 42". Stainless steel Kickplates are available in nominal heights of 6", 12", 18", 24", 36" and 42". Kickplate widths vary with panel width. Kickplates are primarily designed to protect the surface of the door from wear do to pedestrian traffic. Kickplates are bolted to the door into threaded inserts. Polyethylene Kickplates are available in the same color choices as the door.



BUMPER ASSEMBLY
MATERIAL: POLYETHYLENE

KICKPLATE ASSEMBLY
MATERIAL: POLYETHYLENE/
STAINLESS STEEL

DURULITE DOOR BUMPER SIZES

STANDARD BUMPERS

(Dimensions shown have a tolerance of ± 1/4". Dimensions in width are from outside of curl to opposite edge.)

NOMINAL SIZE *HT. X DOOR WIDTH*	**ACTUAL SIZE** *HT. X BUMPER WIDTH*
6 X 24	7-3/4" X 18-1/4"
6 X 27	7-3/4" X 21-1/4"
6 X 30	7-3/4" X 24-1/4"
6 X 32	7-3/4" X 26-1/4"
6 X 34	7-3/4" X 27-1/4"
6 X 36	7-3/4" X 30-1/2"
12 X 24	13" X 18-1/4"
12 X 27	13" X 21-1/4"
12 X 30	13" X 24-1/4"
12 X 32	13" X 26-1/4"
12 X 34	13" X 27-1/4"
12 X 36	13" X 30-1/2"
18 X 24	18-5/8" X 18-1/4"
18 X 27	18-5/8" X 21-1/4"
18 X 30	18-5/8" X 24-1/4"
18 X 32	18-5/8" X 26-1/4"
18 X 34	18-5/8" X 27-1/4"
18 X 36	18-5/8" X 30-1/2"
24 X 24	24-3/8" X 18-1/4"
24 X 27	24-3/8" X 21-1/4"
24 X 30	24-3/8" X 24-1/4"
24 X 32	24-3/8" X 26-1/4"
24 X 34	24-3/8" X 27-1/4"
24 X 36	24-3/8" X 30-1/2"
36 X 24	36" X 18-1/4"
36 X 27	36" X 21-1/4"
36 X 30	36" X 24-1/4"
36 X 32	36" X 26-1/4"
36 X 34	36" X 27-1/4"
36 X 36	36" X 30-1/2"
42 X 24	42" X 18-1/4"
42 X 27	42" X 21-1/4"
42 X 30	42" X 24-1/4"
42 X 32	42" X 26-1/4"
42 X 34	42" X 27-1/4"
42 X 36	42" X 30-1/2"
48 X 24	48" X 18-1/4"
48 X 27	48" X 21-1/4"
48 X 30	48" X 24-1/4"
48 X 32	48" X 26-1/4"
48 X 34	48" X 27-1/4"
48 X 36	48" X 30-1/2"

INDUSTRIAL BUMPERS

(Dimensions shown have a tolerance of ± 1/4". Dimensions in width are from outside of curl to opposite edge.)

NOMINAL SIZE *HT. X DOOR WIDTH*	**ACTUAL SIZE** *HT. X BUMPER WIDTH*
6 X 36	7-3/4" X 31"
6 X 39.5*/42	7-3/4" X 35"
6 X 48/54/60	7-3/4" X 41"
12 X 36	13" X 31"
12 X 39.5*/42	13" X 35"
12 X 48/54/60	13" X 41"
18 X 36	18-5/8" X 31"
18 X 39.5*/42	18-5/8" X 35"
18 X 48/54/60	18-5/8" X 41"
24 X 36	24-3/8" X 31"
24 X 39.5*/42	24-3/8" X 35"
24 X 48/54/60	24-3/8" X 41"
36 X 36	36" X 31"
36 X 39.5*/42	36" X 35"
36 X 48/54/60	36" X 41"
38 X 36	38" X 31"
38 X 39.5*/42	38" X 35"
38 X 48	38" X 41"
42 X 36	42" X 31"
42 X 39.5*/42	42" X 35"
42 X 48/54/60	42" X 41"
48 X 36	48" X 31"
48 X 39.5*/42	48" X 35"
48 X 48/54/60	48" X 41"

* *39.5" DOORS MATCHED WITH 36" DOORS RECEIVE 36" DOOR SIZE BUMPERS.*

DURULITE DOOR KICKPLATE SIZES

POLYETHYLENE KICKPLATES

(Dimensions shown have a tolerance of ± 1/4".)

NOMINAL SIZE *HT. X DOOR WIDTH*	ACTUAL SIZE *HT. X KICKPLATE WIDTH*
6 X 24	8-3/4" X 16-3/4"
6 X 27	8-3/4" X 18-3/4"
6 X 30	8-3/4" X 23-1/4"
6 X 32/34	8-3/4" X 25-1/4"
6 X 36	8-3/4" X 29-3/4"
6 X 42	8-3/4" X 31-3/4"
6 X 48/54/60	8-3/4" X 38-3/8"
12 X 24	15-1/2" X 16-3/4"
12 X 27	15-1/2" X 18-3/4"
12 X 30	15-1/2" X 23-1/4"
12 X 32/34	15-1/2" X 25-1/4"
12 X 36	15-1/2" X 29-3/4"
12 X 42	15-1/2" X 31-3/4"
12 X 48/54/60	15-1/2" X 38-3/8"
18 X 24	22-1/4" X 16-3/4"
18 X 27	22-1/4" X 18-3/4"
18 X 30	22-1/4" X 23-1/4"
18 X 32/34	22-1/4" X 25-1/4"
18 X 36	22-1/4" X 29-3/4"
18 X 42	22-1/4" X 31-3/4"
18 X 48/54/60	22-1/4" X 38-3/8"
24/30 X 24	29" X 16-3/4"
24/30 X 27	29" X 18-3/4"
24/30 X 30	29" X 23-1/4"
24/30 X 32/34	29" X 25-1/4"
24/30 X 36	29" X 29-3/4"
24/30 X 42	29" X 31-3/4"
24/30 X 48/54/60	29" X 38-3/8"
36 X 24	35-3/4" X 16-3/4"
36 X 27	35-3/4" X 18-3/4"
36 X 30	35-3/4" X 23-1/4"
36 X 32/34	35-3/4" X 25-1/4"
36 X 36	35-3/4" X 29-3/4"
36 X 42	35-3/4" X 31-3/4"
36 X 48/54/60	35-3/4" X 38-3/8"
42 X 24	42-1/2" X 16-3/4"
42 X 27	42-1/2" X 18-3/4"
42 X 30	42-1/2" X 23-1/4"
42 X 32/34	42-1/2" X 25-1/4"
42 X 36	42-1/2" X 29-3/4"
42 X 42	42-1/2" X 31-3/4"
42 X 48/54/60	42-1/2" X 38-3/8"

STAINLESS STEEL KICKPLATES

NOMINAL SIZE *HT. X DOOR WIDTH*	ACTUAL SIZE *HT. X KICKPLATE WIDTH*
12 X 24	15" X 15-3/4"
12 X 27	15" X 16-3/4"
12 X 30	15" X 22-3/8"
12 X 32/34	15" X 23-3/8"
12 X 36	15" X 29"
12 X 39.5/42	15" X 30"
12 X 48	15" X 36-5/8"
12 X 54	15" X 43-1/4"
12 X 60	15" X 49-7/8"
18 X 24	21-3/4" X 15-3/4"
18 X 27	21-3/4" X 16-3/4"
18 X 30	21-3/4" X 22-3/8"
18 X 32/34	21-3/4" X 23-3/8"
18 X 36	21-3/4" X 29"
18 X 39.5/42	21-3/4" X 30"
18 X 48	21-3/4" X 36-5/8"
18 X 54	21-3/4" X 43-1/4"
18 X 60	21-3/4" X 49-7/8"
24 X 24	28-1/2" X 15-3/4"
24 X 27	28-1/2" X 16-3/4"
24 X 30	28-1/2" X 22-3/8"
24 X 32/34	28-1/2" X 23-3/8"
24 X 36	28-1/2" X 29"
24 X 39.5/42	28-1/2" X 30"
24 X 48	28-1/2" X 36-5/8"
24 X 54	28-1/2" X 43-1/4"
24 X 60	28-1/2" X 49-7/8"
36 X 24	35-1/4" X 15-3/4"
36 X 27	35-1/4" X 16-3/4"
36 X 30	35-1/4" X 22-3/8"
36 X 32/34	35-1/4" X 23-3/8"
36 X 36	35-1/4" X 29"
36 X 39.5/42	35-1/4" X 30"
36 X 48	35-1/4" X 36-5/8"
36 X 54	35-1/4-" X 43-1/4"
36 X 60	35-1/4" X 49-7/8"
42 X 24	42" X 15-3/4"
42 X 27	42" X 16-3/4"
42 X 30	42" X 22-3/8"
42 X 32/34	42" X 23-3/8"
42 X 36	42" X 29"
42 X 39.5/42	42" X 30"
42 X 48	42" X 36-5/8"
42 X 54	42" X 43-1/4"
42 X 60	42" X 49-7/8"

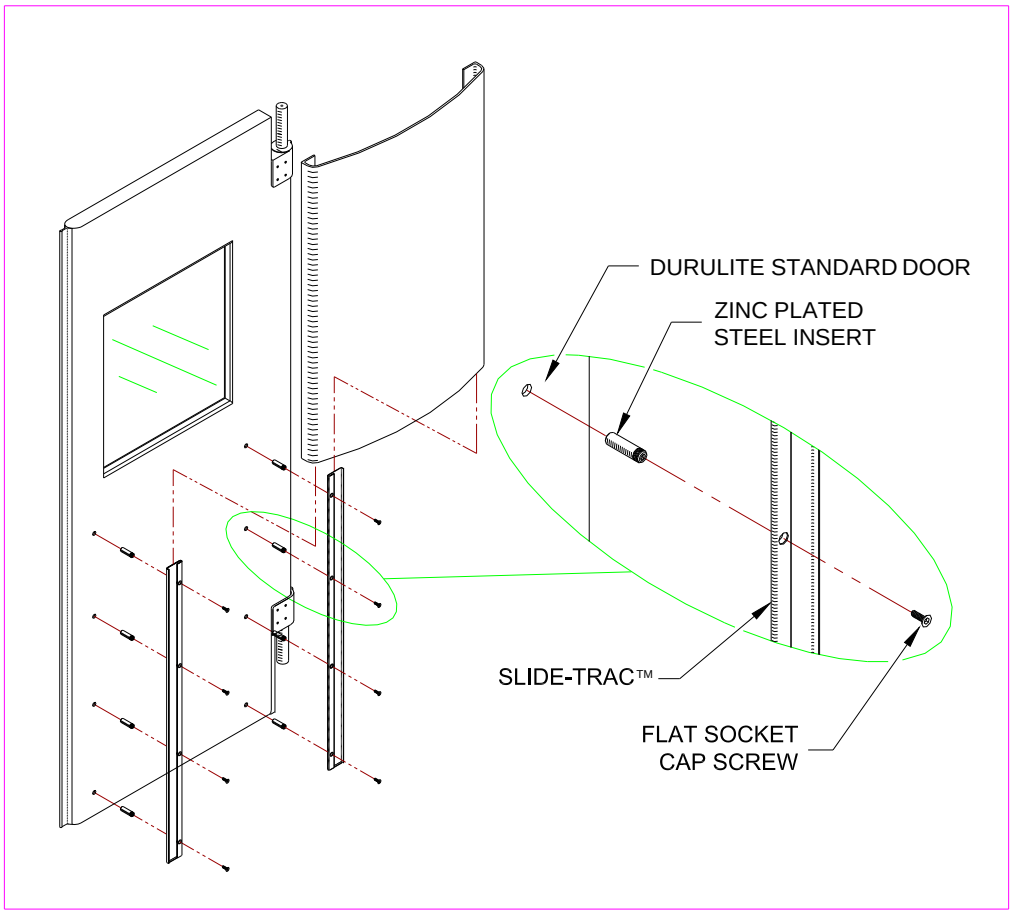
DURULITE DOOR HARDWARE FACTS SHEET

THE REVOLUTIONARY SLIDE-TRAC™ BUMPER

Durulite Standard Doors (see NOTE below) may be equipped with the Slide-Trac™ Bumper. This unique bumper not only protects your door but is a great place to show your logo or other graphics. Graphics are applied using a molded in process which actually pulls the graphic into the polyethylene material of the bumper. This creates an extremely strong and durable graphic that won't peel or fade.

The Slide-Trac™ Bumper is mounted to the door using a stainless steel track system. The track is bolted to steel inserts which are pressed into the door. There is one track on the leading edge and one track on the back edge of each side of the door. You then slide the bumper down to the bottom of the tracks. This allows a customer to swap bumpers to show seasonal specials, advertisements, and even show off products or services.

NOTE: The Slide-Trac™ Bumper is ***NOT*** intended for use in industrial applications and should ***NOT*** be mounted on a Durulite Industrial Door.



SLIDE-TRAC™ BUMPER ASSEMBLY
MATERIAL: POLYETHYLENE
WITH STAINLESS STEEL TRACKS

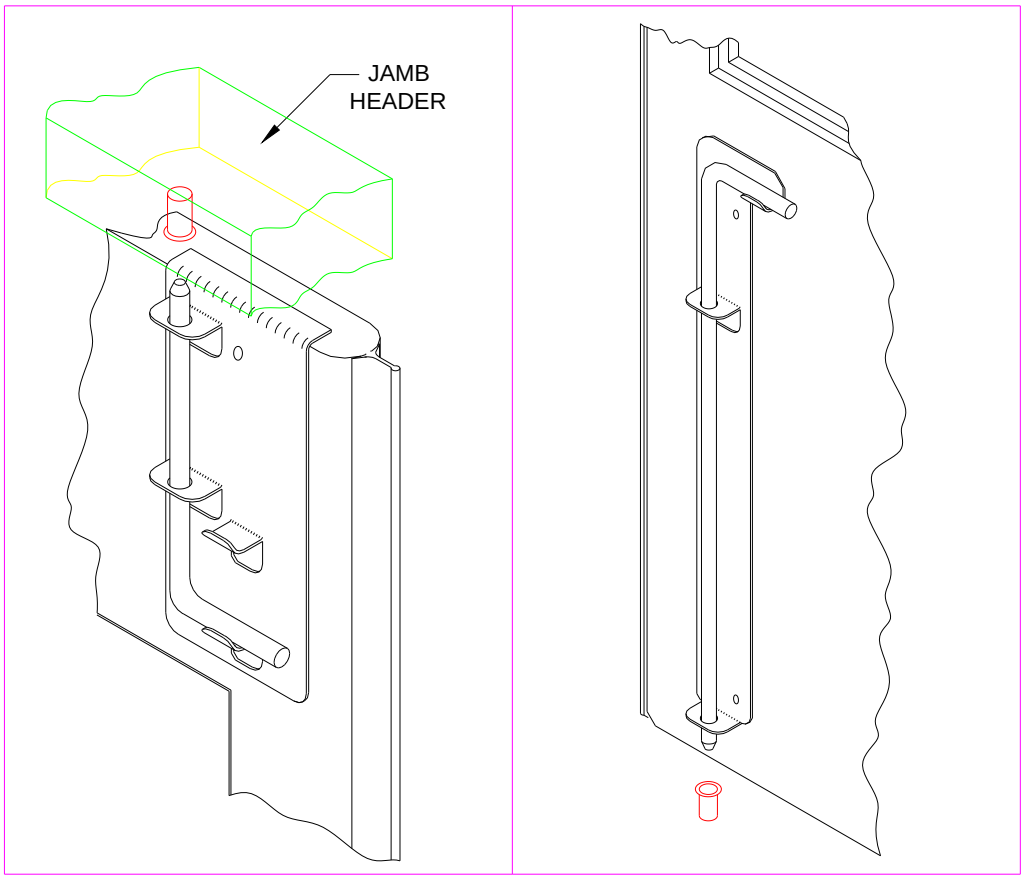
DURULITE DOOR HARDWARE FACTS SHEET

CANE BOLTS

Upper and Lower Steel Cane Bolts are available on the Durulite Door. Cane Bolts act to secure the door, making it accessible from one side only. Cane Bolts in the closed position are recessed into holes or keepers in the frame header and the floor.

Upper Cane Bolts are recommended for use on door heights up to a maximum of 96". 12" Upper Cane Bolts are specified on door heights of 78" through 84", 18" Cane Bolts are specified on 90" and 96" door heights. Cane Bolts are not recommended on taller doors due to difficulty in reaching them. The Upper Cane Bolt cannot be used when the gap between the top of the door and the jamb header exceeds 2".

Lower Cane Bolts are designed to operate behind Bumpers. Lower Cane Bolts are available in lengths of 12", 18", 24", 36", and 42". The length of the Cane Bolt ordered should match the height of the Bumper. Use of Lower Cane Bolts without Bumpers is not recommended due to the possibility of personal injury.



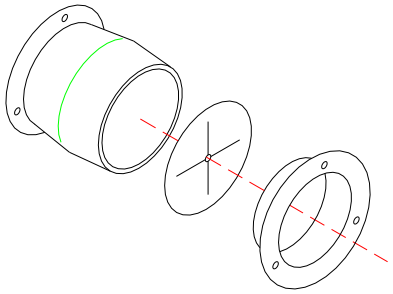
UPPER CANE BOLT **LOWER CANE BOLT**

DURULITE DOOR HARDWARE FACTS SHEET

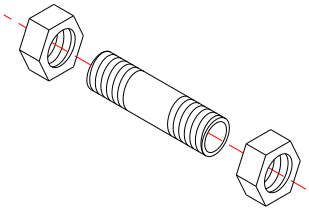
LOCKING DEVICES

2" LOCK SLEEVE

A 2" inside diameter stainless steel Lock Sleeve is available on the Durulite Door. It is intended primarily for use with double doors. The 2" Lock Sleeve provides its own inner seal and is fastened on each side of the door with three stainless steel screws. It is placed approximately 42" above the bottom of the door and 4" in from the leading edge. It is designed for use with a cable or chain type lock. The 2" Lock Sleeve is required on all 200 Series doors. This lock cannot be used on doors equipped with 42" Bumpers.



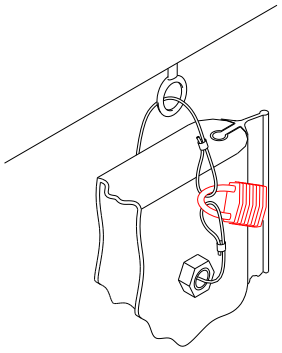
2" LOCKING DEVICE ASSEMBLY



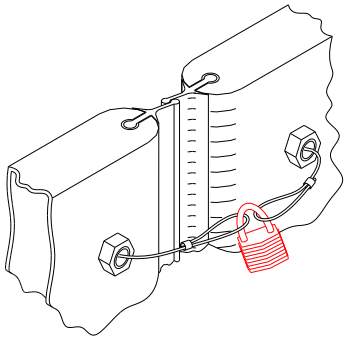
1/2" LOCKING DEVICE ASSEMBLY

1/2" LOCK SLEEVE

A 1/2" inside diameter galvanized Lock Sleeve with a wire rope is available on the Durulite Door. The 1/2" Lock Sleeve is threaded on both ends and finished with end caps. The 1/8" diameter wire rope cable is looped on both ends to accommodate a padlock. The Lock Sleeve is available on either single or double doors. The cable lock on single doors is 10-1/2" long, and on double doors is 21" long. The 1/2" Lock Sleeve is placed 2" down from the top of the door on single doors, and 17" down from the top on double doors. Both Sleeves are placed 3" in from the leading edge. No seal is provided on the 1/2" Lock Sleeve.



1/2" LOCKING DEVICE IN SINGLE DOOR

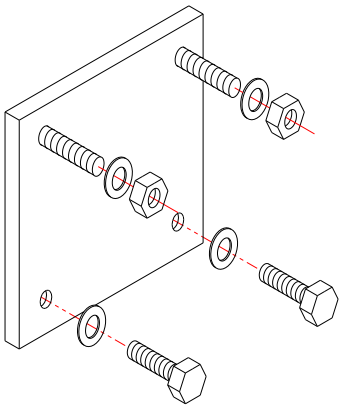


1/2" LOCKING DEVICE IN DOUBLE DOOR

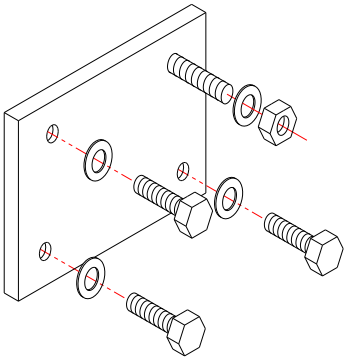
DURULITE DOOR HARDWARE FACTS SHEET

WELD PLATES

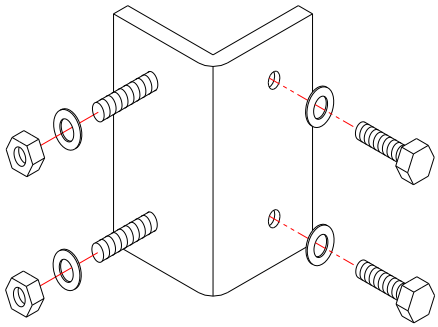
Weld Plates for 90° and 180° hardware are available on the Durulite Door. Weld Plates are designed for ease of installation and for applications where it is not possible or practical to drill and tap into the frame. Weld Plates are made of 1/4" mild steel plate, and are designed to be welded to metal frames. They are fabricated to fit behind the V-Cam and Pillow Block. Weld Plates are pre-drilled and pre-tapped for either tamper-pruf fasteners or grade 8 bolts. They come assembled with press-in studs to assist in the initial positioning of the hardware. The Weld Plate assembly comes complete with fasteners. Weld Plates have the effect of reducing the finished opening size 1/4" per panel.



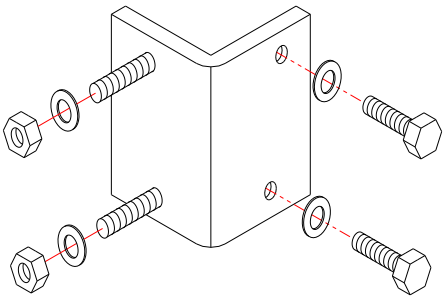
90° V-CAM WELD PLATE



90° PILLOW BLOCK WELD PLATE



180° V-CAM WELD PLATE



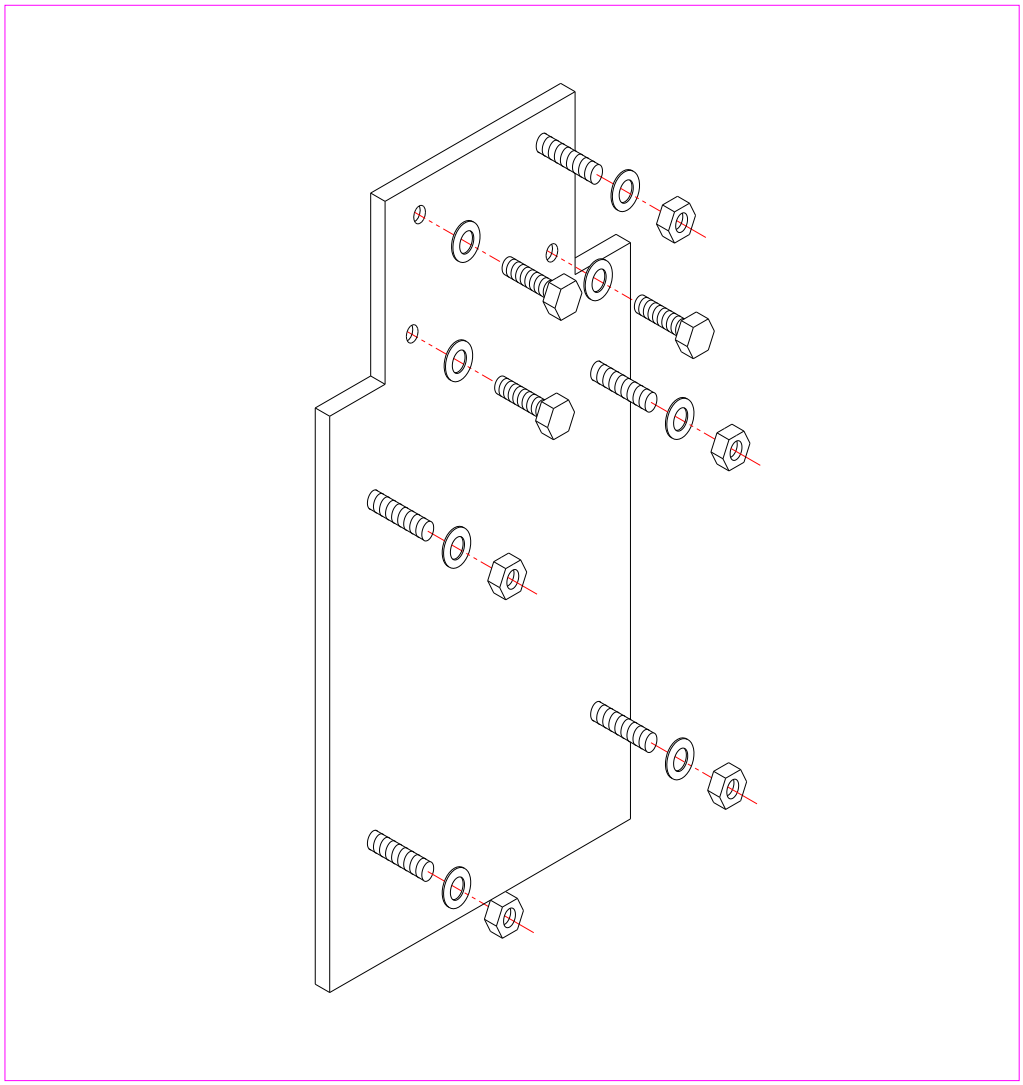
180° PILLOW BLOCK WELD PLATE

DURULITE DOOR HARDWARE FACTS SHEET

90° PILLOW BLOCK INDUSTRIAL WELD PLATE

The Pillow Block Industrial Weld Plate is made of 1/4" thick mild steel. It provides the same ease of installation as the standard Pillow Block Weld Plate and it is equipped with an additional four pressed in studs to mount the Industrial Lower Hinge Guard without drilling.

The Pillow Block Industrial Weld Plate **requires a minimum 5-1/2" jamb width** for installation.

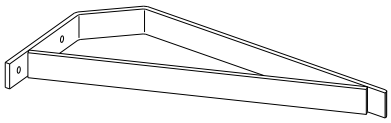


90° PILLOW BLOCK
INDUSTRIAL WELD PLATE

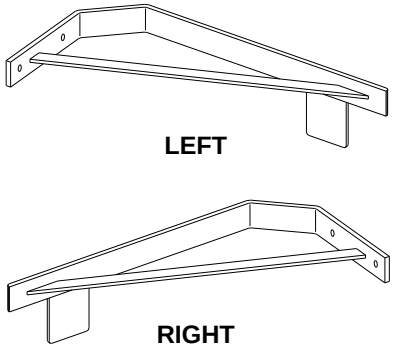
DURULITE DOOR HARDWARE FACTS SHEET

DOOR STOPS

Durus offers black steel Door Stops for the Durulite Door for applications where Limiting Posts are not practical or desirable. Door Stops are available for 90° hardware and are equipped with replaceable rubber contact pads. Door Stops with tabs may be used in applications where the Door Stop must be mounted above the door. Door Stops are suitable for any size door panel. Fasteners are not included due to variety of wall materials.



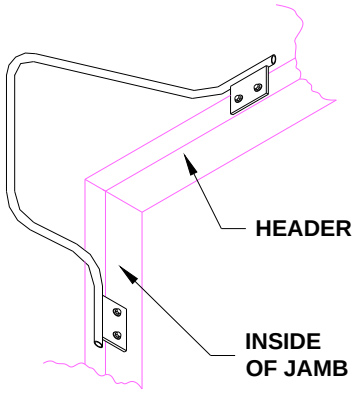
90° DOOR STOP



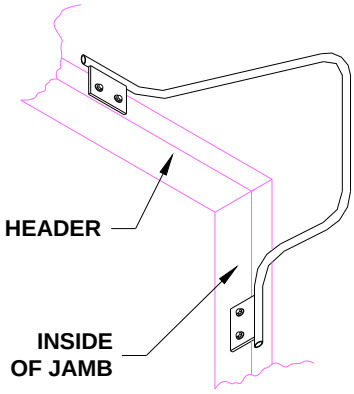
90° DOOR STOP
WITH TAB

WING DINGS

Wing Dings are a tubular steel Door Stop with a 1" I.D. and a 1-1/4" O.D. Wing Dings should be used on taller doors in a situation where head clearance from pedestrian traffic is not an issue.



WING DING (LEFT)

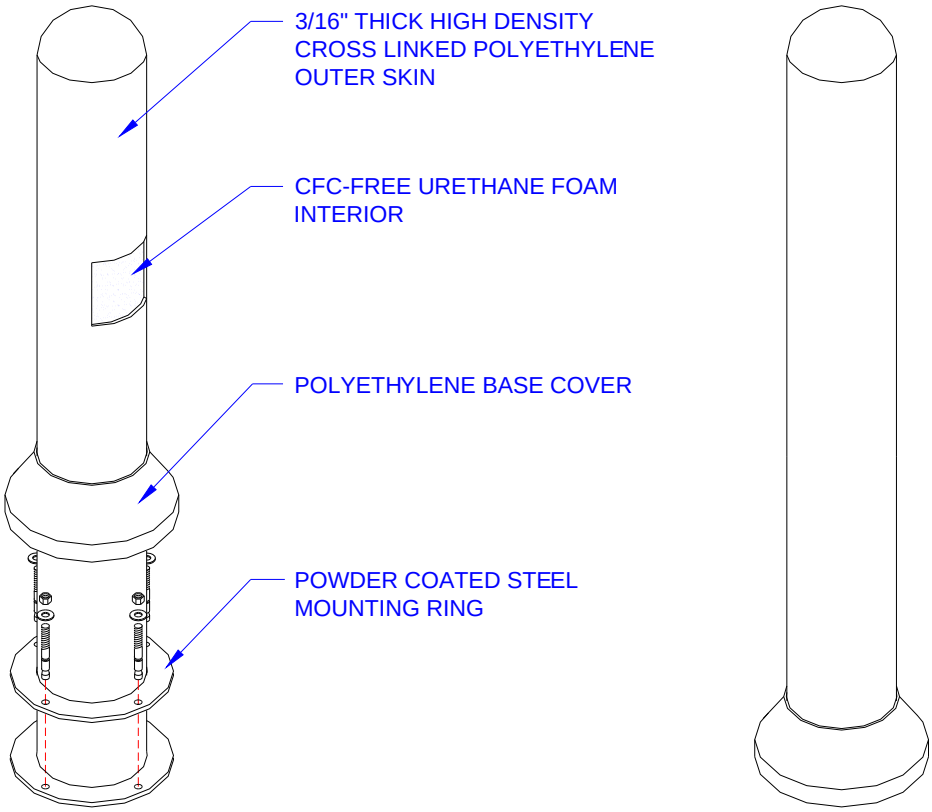


WING DING (RIGHT)

DURULITE DOOR HARDWARE FACTS SHEET

LIMITING POSTS

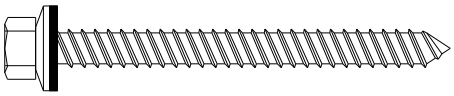
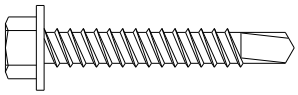
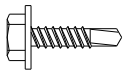
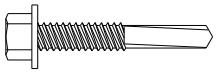
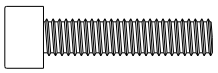
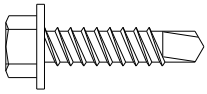
Polyethylene Limiting Posts may be used as door stops on Durulite Doors. The Durulite Limiting Post is 42" high and 5-1/4" in diameter. The outer skin of the Limiting Post is 3/16" thick. The inside of the Limiting post is filled with Non-CFC Urethane Foam. The bottom of the Limiting Post is flanged to a diameter of 7-3/4". The bottom flange and a powder coated steel ring provide the mounting surface for four 3/8" X 3" concrete wedge anchors. A 3-1/2" high, 8-1/4" diameter polyethylene base cover is provided to protect and conceal the mounting hardware.



LIMITING POSTS

DURULITE DOOR HARDWARE FACTS SHEET

FASTENERS

FASTENER TYPE	*USES*
FOR WOOD JAMBS 1/4" X 3" St. St. Hex Head Hardware Screw W/ 1/4" St. St. Washer & Neoprene Gasket. Drill Bit Size: 3/16" 	PILLOW BLOCK V-CAM
FOR STEEL JAMBS 1/4"-14 X 1-1/2" Hex Washer Head St. St. Tek Screw W/ Galv. Plating. Drill Bit Size: 1/8" For Steel Up To 3/8" Thick, 13/64" For Steel 3/8" Or Thicker. 	PILLOW BLOCK V-CAM
#10 X 1/2" Hex Washer Head Tek Screw. Drill Bit Size: 5/64" On Steel 1/4" Or Thicker 	UPPER HINGE SEAL
#14 X 1-1/2" Hex Washer Head Tek Screw. Drill Bit Size: 5/32" 	TOP SEAL
1/4" - 20 Tamper Pruf Fastener. Drill Bit Size: 13/64" Or #7 Tap: 1/4" - 20 	FOR SECURITY DOORS ONLY V-CAM PILLOW BLOCK LOWER HING GUARD
1/4" - 14 X 1" Hex Washer Head St. St. Tek Screw. Drill Bit Size: 1/8" Up To 3/8" Steel 13/64" For Steel 3/8" Or Thicker. 	DUTCH MIDDLE HINGE SEAL LOWER HINGE GUARD

DURULITE DOOR HARDWARE FACTS SHEET

U.S.P.S. SECURITY DOORS

The Durulite Postal Series door is an industrial (1/4" skin) type door. 200 Series specifications require the following options:

- **SET OF FOUR - 38" INDUSTRIAL BUMPERS**
- **ALUMINUM LOWER HINGE GUARDS**
- **LOCK SLEEVE**
- **TWO TOP CANE BOLTS (1 PER PANEL)**
- **TWO BOTTOM CANE BOLTS (1 PER PANEL)**
- **DOUBLE PANED WINDOWS**
- **SECURITY BARS IN WINDOWS**
- **TAMPER-PRUF FASTENERS**
- **ENTER AND DO NOT ENTER SIGNS**

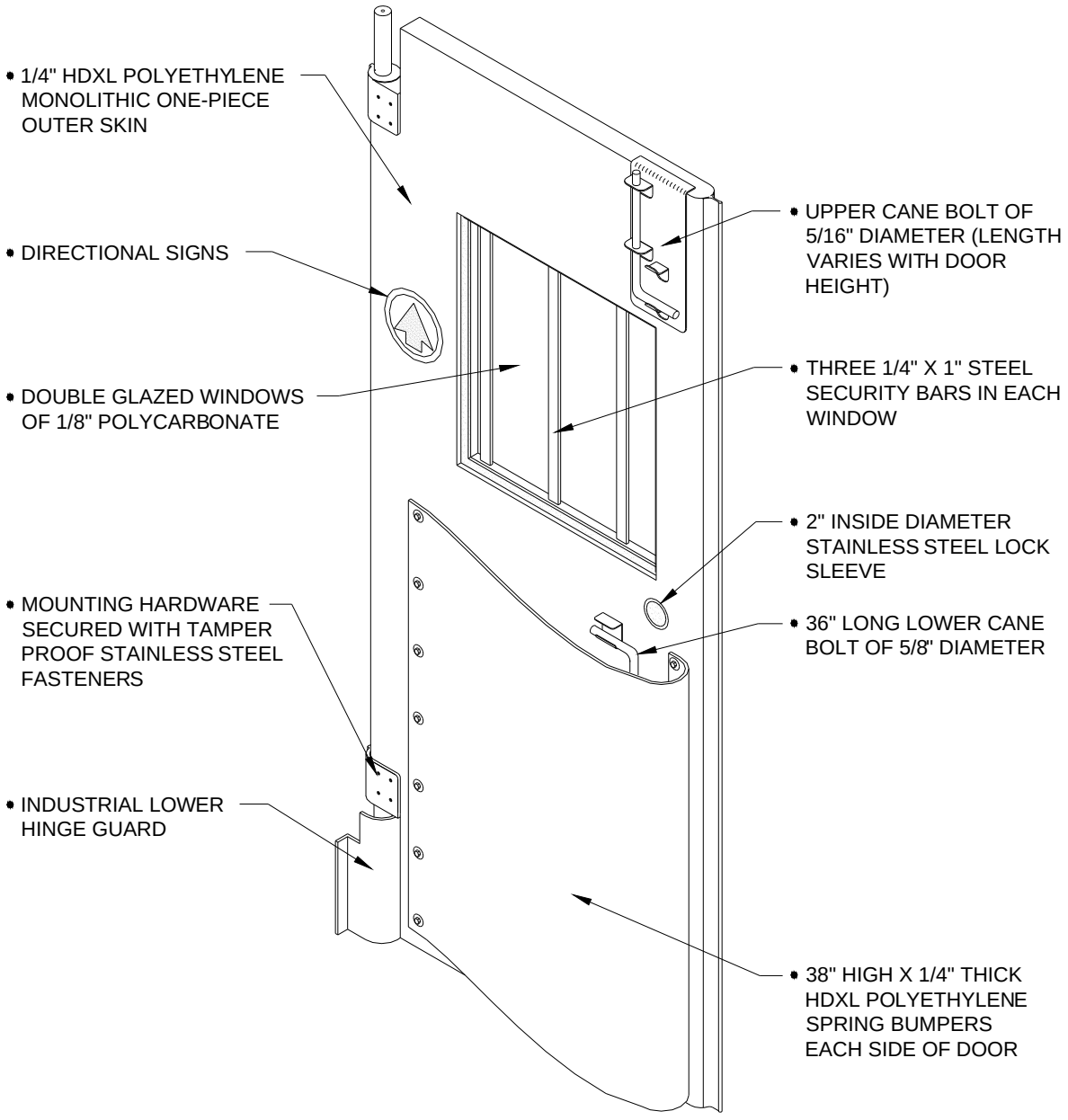
The following door heights and widths have been approved as part of the Durulite 200-Series by the U.S.P.S.. Single panes are not included in the 200-Series.

FINISHED OPENING WIDTHS: 48", 54", 60", 64", 68", 72", 79", 84"

FINISHED OPENING HEIGHTS: 84", 90", 96"

DURULITE DOOR HARDWARE FACTS SHEET

DURULITE POSTAL DOOR
EXCLUSIVE FEATURES
(TWO YEAR WARRANTY)



ASK FOR INFORMATION ON THESE OTHER QUALITY PRODUCTS FROM

Chase Doors

TRAFFIC DOORS

- ⇨ Durulite® Insulated Impact Traffic Doors
- ⇨ Proline™ Impact Traffic Doors
- ⇨ Airgard® Flexible Doors
- ⇨ Saino Fire & Service Doors
- ⇨ Pharmaceutical Doors
- ⇨ Corrosion-Resistant Doors

STRIP DOORS

Chase Doors offers the largest variety of vinyl strip products in the country.

- ○ Standard and USDA approved formulation
- ○ 4" to 48" widths
- ○ Loc-Rib for exterior/forklift applications
- ○ Color-View (black, blue)
- ○ Amber-Weld material
- ○ Safety orange material

DOCK SEALS

- ○ Forms a weather tight barrier between truck and building.
- ○ Custom engineered by the factory to fit most any application.
- ○ Wide variety of fabrics.

DOCK BUMPERS

- ○ Molded
- ○ Pressure laminated
- ○ Depths of 4 1/2", 6" and 9"
- ○ Lengths up to 96"

MAINTENANCE MANUAL

Chase Doors
2809 SW 13th Street • P.O. Box 577 • Redmond, OR 97756
(541) 923-8787 • 1-800-547-6856 • FAX 1-800-285-0126

Introduction

This manual has been prepared to assist you in maintaining your Durulite doors. It will provide information as to the identity and location of the parts involved in the door system. The major portion of this manual will deal with methods used to diagnose and repair the most common problems that might occur with years of use. We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program. Finally, armed with an increased familiarity of the Durulite door system and the part numbers involved, this manual will give information that will make it easier and faster to order replacement parts.

By consulting the manual when you have a problem, you should be able to determine which parts are necessary before calling the factory or your local sales representative. If a problem is encountered which is not covered in the manual or to which the solution is unclear, please call our sales department at (800) 547-6856.

Table of Contents

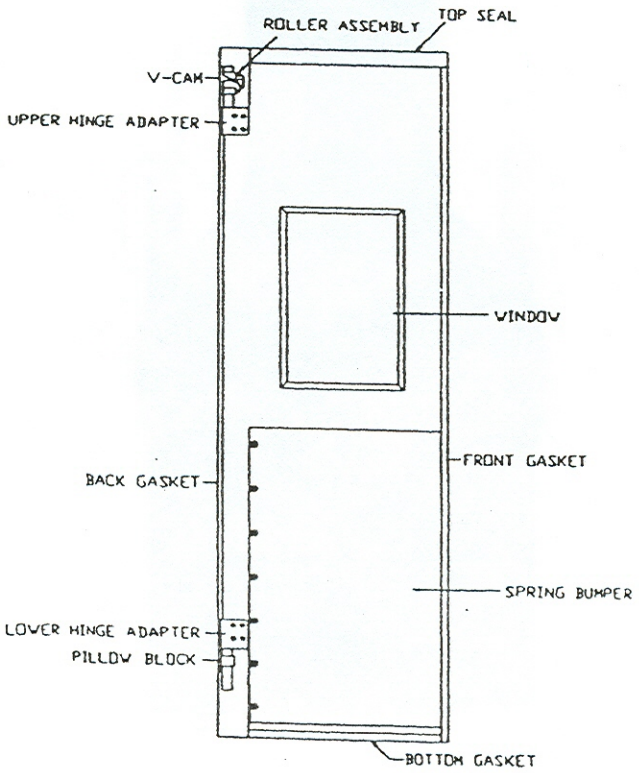
Parts List

(Most Part Numbers are noted on the part)

1) Roller Assembly	#5508-1
2) Standard V-Cam	#5561-1
St. Steel V-Cam	#5509-1
180 Degree V-Cam	
Left	#5573-1
Right	#5572-1
Low Rise V-Cam	#5587-1
3) Upper Hinge Adapter	#5510-1
4) Lower Hinge Adapter	#5510-3
Ind. Hinge Adapter	#5550-1
5) Pillow Block	#5531-1
180 Degree L & R	#5579-1
6) Lower Hinge Guards	
8-1/2" Std.	#5518
11" Ind.	#5567
11" w/base	#5576
180 Degree	——
7) Bumpers	——
Kickplates	——

8) Window	——
9) Gaskets	
Bulb	#1556
Bullnose	#1559
Weld Plate	#1560
180 Degree	#1561
1/2"	#1546
1"	#1545
1-1/4"	#1558
2"	#1535
10) Top Seal	
Standard	——
Extended	——
180 Degree	——
11) Hinge Seal	
Upper	#1542
Lower	#1536
180 Degree Upper	#1531
180 Degree Lower	#1554

Durus Door Nomenclature



Maintenance Program

A regular maintenance program is the easiest way to ensure trouble free operation of the Durulite door. Your program should include a regularly scheduled lubrication and cleaning procedure. While this is being done, the doors and seals can be inspected visually. Gaskets should be checked for cuts and tears. The top seal and hinge seals should be securely fastened and fre from worn spots or tears. The door should open and close freely. When closed the door should be centered in the opening. Double doors should also seal in the middle where gaskets touch. Bumpers or kickplates and hinge adapters can be examined for loose fasteners.

Our recommendation for lubrication and cleaning are as follows:

Hinge System

Apply light oil or all purpose grease to ramp of v-cam biannually.

Door Panel and Gaskets:

Wash door panel and gaskets with detergent, either sponged or sprayed on. Dishwashing detergent, mixed with water 1/50, works well. For dirtier areas, commercial cleaners can be used. On white, yellow, or sand colored doors, bleach can be used to remove difficult stains. In areas where greasy or extremely dirty conditions are encountered, it may be necessary to use a steam pressure wash (use detergent). Rinse thoroughly. Dry and apply a plastic treatment, such as ARMOR-ALL, to the panel and gaskets.

Window Cleaning

Wash the window area with a mild soap and dry with a soft cloth. **Do not use solvents, bleach or petroleum products on windows.**

Trouble Shooting and Repair

As with any product designed for impact, the Durulite door will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when needed.

Trouble Shooting Procedure

General Problems

I. Doors will not swing properly.

A. Lubricate top and bottom hinge adapter shafts.

B. If still a problem, loosen v-cam and pillow block fasteners on return and cycle doors 90 degrees in both directions to align hardware. Retighten fasteners.

II. Gaskets binding or rubbing.

A. Lower gasket binding?
Roller assembly may be loose. Adjust height and tighten both upper socket head cap screws (see roller assembly, page 4)

B. Back gasket binding?
Jamb may not be a flat surface between the v-cam and pillow block. Place 1/8" shims behind the v-cam and pillow block or split the back gasket vertically.

III. Doors do not seal at center.

A. Check alignment of doors with centerline of header.
If not aligned, readjust per directions for roller assembly (page 4).

B. Check plumb of hardware on both sides. Adjust pillow block to correct out of plumb and establish seal at center.

Roller Assembly

The roller assembly contains the only moving part of the entire Durulite door system. In combination with the v-cam and upper hinge adapter, the roller assembly carries the full weight of the door panel, is used to align the door in the centerline of the opening, and to adjust the height at which the door panel is hung. If the roller assembly is not lubricated well, wear will increase and ease of operation will decline. If the socket head cap screws are not as tight as possible, the roller assembly can slip on the hinge adapter shaft. In situations where the roller assembly continuously works loose, the roller assembly can be permanently fixed to the upper hinge adapter shaft by means of a split pin. All industrial doors and doors equipped with a spring assist are supplied with a pin for this purpose. If it becomes necessary to install a new roller assembly on a previously pinned hinge post, a new hole must be drilled approximately 3/8" higher and 15 degrees away from the previous hole. Refer to drilling and installing instructions.

If during inspection the door moves 1" or more (2" or more on large panels) before it begins to rise, you will need to order a complete new roller assembly, Part #5508-1.

Roller Assembly Replacement

Place the roller assembly over the hinge adapter shaft until **the end of the shaft is flush with the top of the roller assembly.** Align roller assembly center with door centerline. Tighten the upper socket head cap screw on the roller assembly with the allen wrench provided.

Aligning and Sealing

1. In and out (Swing) adjustment

a. Slip a 7/8" diameter pipe under the door. Loosen upper cap screw on roller assembly.
b. Align top of door panel with centerline of header.
c. Seat roller on roller assembly on lowest possible position on v-cam.
d. Retighten cap screw securely and remove the 7/8" diameter pipe.

2. Up and down adjustment.

Applies to full gasketed doors only.

3. Carefully open door and tighten lower cap screw as tight as possible.

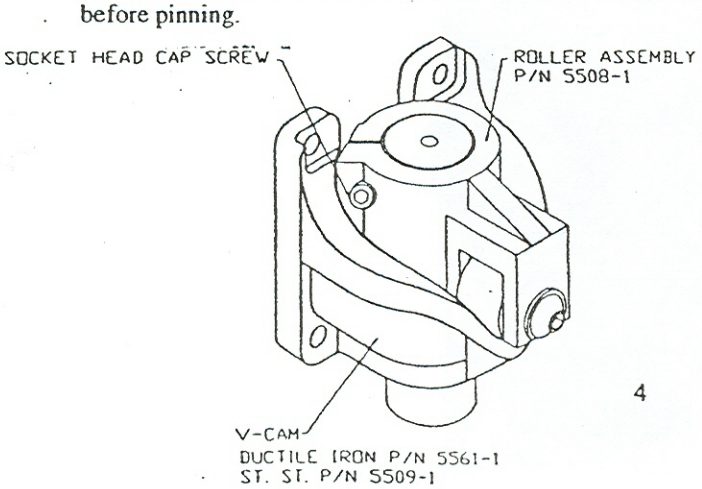
Without altering swing adjustment, loosen upper cap screw slightly and raise or lower door until bottom gasket just comes in contact with the finished floor. Tighten upper cap screw as tight as possible.

Pinning the Roller

Note: This procedure will permanently fix the doors in their operational arc, the doors must be in exact adjustment prior to drilling.

Drilling and Installing

1. At the punch mark on the roller casting drill a 5/16" diameter hole parallel to the socket head cap screws through the roller casting and the center of the hinge post.
2. Drive the 5/16" roll pin through the roller casting and hinge adapter shaft.
3. Clean all shavings and foreign material from the v-cam and roller assembly.
4. Check the alignment of the second (unpinned) door with the pinned door and make any necessary adjustments before pinning.



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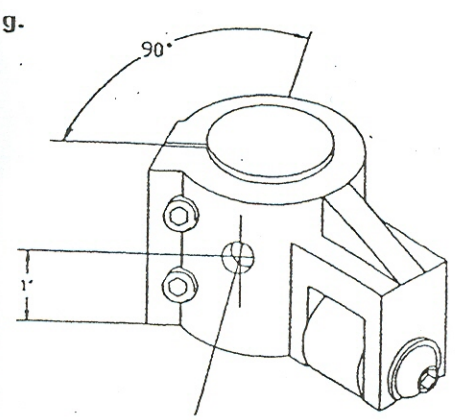


Gaskets

Gaskets are the most commonly damaged part of the Durulite door. Since they are located on the edge of the door, they may become cut, torn or otherwise damaged through normal use. Gaskets are also used to fit and seal doors in odd sized openings and can be changed for this purpose. When ordering a new gasket, it is necessary to have the overall height and width measurements of the door opening.

Gasket Replacement

1. Removal of old gasket.

Look under wing of gasket to find crimp marks in the aluminum extrusion. Use a large flat blade screwdriver to spread the extrusion slightly so gasket can be removed.

For back edge gaskets:

After spreading extrusion, grasp gasket in the middle of its length and pull straight out from door.

For leading edge and bottom gaskets:

After spreading extrusion, pry out one end of the gasket with a screwdriver. Grasp the gasket and pull out the full length of gasket.

Note:

To replace bottom gasket, door should be removed from opening as follows:

Remove hinge seal and lower hinge guard.

Remove (4) v-cam fasteners. Remove (3) pillow block fasteners. Loosen the remaining pillow block fastener and remove spring assist if one is installed. Remove door from pillow block and lay on flat surface to remove and replace gasket.

To re-hang door reverse procedure and realign panel.

2. Preparation of extrusion for new gasket.

Remove all crimp marks in extrusion using two wide flat tools such as chisels. This will spread the extrusion slightly. Lubricate the extrusion with WD-40 or a similar lubricant.

3. Insertion of new gasket.

Back edge gasket.

Measure the distance between the hinge adapters and add 1". Cut the new gasket to this length. Spray the ball and shank portion of the gasket with WD-40 on both sides for the full length. Push the ball into the aluminum extrusion starting at one hinge adapter. Compress the gasket lengthwise as you go.

When the gasket is fully inserted there should be wrinkles in the bulb portion of the gasket. These will disappear as the gasket relaxes with use.

Leading edge and bottom gaskets.

Lubricate the ball and shank portion of the new gasket with WD-40. Push the gasket ball first into the extrusion, leaving approximately 1" projecting out of the end of the door.

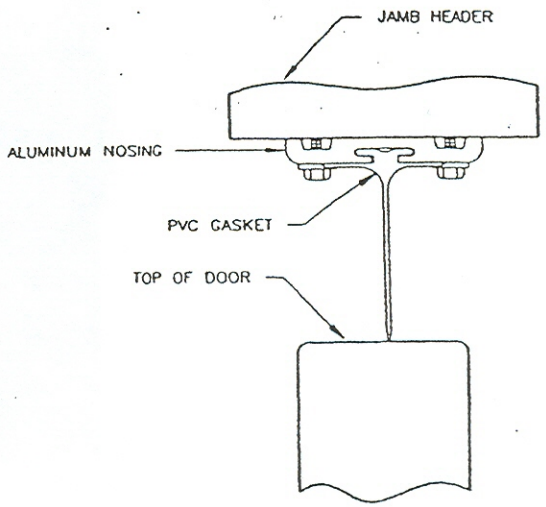
Compress the gasket lengthwise as you go until the gasket is fully inserted.

4. Re-crimping extrusion.

To lock the gasket in place, insert a screwdriver blade under the wing of the gasket by hitting the handle of the screw driver with a hammer. Do this at both ends of the extrusion and a few times in the middle on taller doors.

5. Trimming gaskets.

When bottom and leading edge gaskets are installed, use a razor knife or heavy scissors to cut off ends of the gaskets square and flush. Wipe all gaskets with Armor All or a similar vinyl coating.



Top Seals

Top seals are used to seal the gap between the Durulite door and the jamb header against air and dust infiltration. When ordering top seals it is necessary to know the opening size and the size of the gap between the top of the door and the header. It is also important to know the type of hardware the doors are equipped with. The 90 x 90 degree top seal consists of 2-1/4" wide aluminum nosing and an extruded PVC top seal gasket.

Hinge Seals

Hinge seals provide an improved seal and a more finished appearance at the hinge areas of the Durulite door. The most commonly used types of hinge seals on the Durulite door are:

1. **The 90 x 90 degree upper hinge seal** is made of flexible black PVC. It is attached to a steel backer plate that shares a hole pattern with and mounts behind the v-cam.

   Installation - Drawing A

   If you are replacing an old style hinge seal you will have to place a backer plate behind the v-cam. This is done as follows:

   Remove old hinge seal.
   On standard height openings, lift the door vertically until you can place a piece of 2" x 4' under the door. (1" thick wood on short openings.)
   Remove the (4) v-cam fasteners and slide the backer plate behind the v-cam so that the hole patterns match.
   Insert screws through the v-cam and backer plate and reattach v-cam to jamb.
   To attach hinge seal, peel paper from double face tape on hinge seal. With hinge seal position skirt side down and with top of seal flush with header, attach to backer plate with #10 x 1/2" tek fasteners.

2. **The 90 x 90 degree lower hinge seal** is made of flexible reinforced nylon inserted into two black aluminum mounting strips. A solid riser (part #1548) and a foam strip attached to the seal are used to provide a rigid structure and improved seal at the lower hinge notch.

   Installation - Drawing B

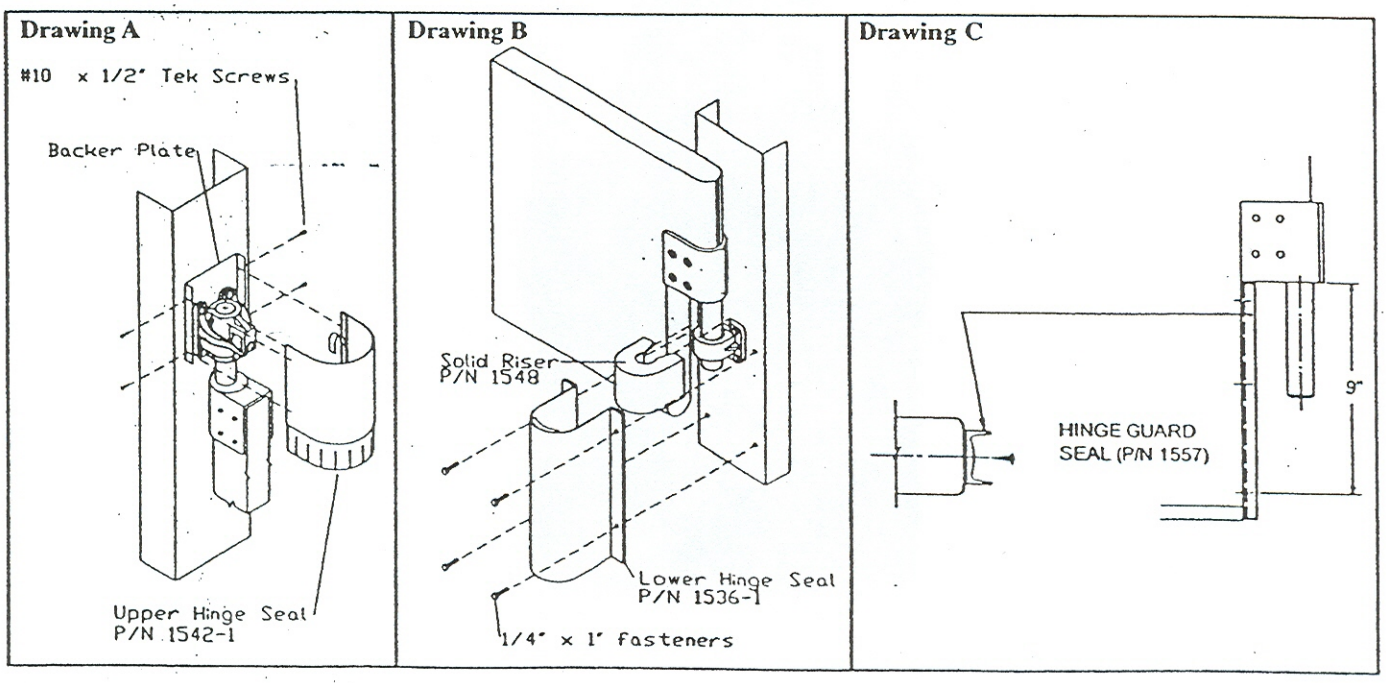
   Snap solid riser open side down onto hinge post between pillow block and hinge adapter. Slide seal between door and solid riser when door is closed. With bottom of seal approximately 1/4" above finished floor line, place seal around riser (do not pull tight) and attach to jamb with tape. Check door function in both directions. Drill pilot holes with 1/8" drill bit. Attach to jamb with 1/4" x 1" tek screws.

Lower Door Sweep

The lower door sweep attaches to the lower notch area of the door and provides a seal between the door and the lower hinge guard.

Installation - Drawing C

Position lower door sweep on notch area of door as shown. Install lower fastener 9" from top of sweep. Install additional fasteners as needed.



Spring Bumpers and Kickplates

The Durulite spring bumper is made in a teardrop shape of the same material as the door, crosslinked polyethylene. When the bumper is installed on the door it is compressed slightly from end to end. This causes the bumper to bow outward and act like a spring on impact. When the bumper is contacted by a load, the energy of impact is transferred into opening force, causing the doors to literally spring open.

Kickplates can be made of polyethylene or stainless steel and are applied flat to the surface of the door. They provide abrasion resistance and are used in situations where for reasons of space or style, Durulite spring bumpers cannot be used.

When ordering Durulite spring bumpers or kickplates, it is necessary to know the serial number of the door. In addition, the height of the bumpers or kickplates and the width of the opening must be measured. Do not measure the length of the bumper.

Durulite Bumper Installation

1. Check contents of package:
   - Bumpers
   - Threaded steel inserts (P/N 5521)
   - Bumper screws with washers
   - Template
   - Pipe adjuster
   - Hex key - 3/16"

2. Remove door from opening. Align the template with the bottom and leading edge of the door per the instructions on the template. Transfer the hole pattern to the door with an awl or center punch. **Do Not Allow The Template To Move While Transferring The Hole Pattern.**

3. Drill the mounting insert holes with a sharp 3 1/64" diameter drill bit. We recommend drilling the mounting insert holes in the door using a drill press. If the mounting insert holes are drilled with hand held tools, be sure to drill as perpendicular to the door centerline as possible.

4. Drive in the threaded steel mounting inserts smooth end first. The knurl on the other end will keep the insert from turning while installing screws.

5. Mount one bumper on the door, running the screws in **finger tight.** Insert the screws in the holes **under the rolled section first.** Working from one end to the other allows you to flex the bumper to line up the holes. To set the holes in the flat end or "tail" of the bumper so that they will line up with the inserts, it is necessary to bow the bumper away from the door slightly. One method of doing this is to insert one or more awls through the mounting holes in the bumper and into the inserts in the door. The awls can then be used as a lever to compress the bumper and align the holes.

6. Repeat step 5 on the far side of the door with the other bumper. After both bumpers are mounted, tighten all fasteners. Hex head screws require a 7/16" socket or open end wrench. Button head screws on kickplates require a 5/32" hex key.

Windows

There are several sizes of windows. As each panel has its own size, the width of the door opening must be known when ordering replacements. Replacement windows can, in most cases, be installed using a #1 square driver.

Window Installation

Make sure new window fits the opening. Peel backing from double face tape. Peel plastic or paper covering from the taped side of the window. **On double pane windows be careful not to get finger prints on the inside of the window.** Set the window in place and peel the covering from the exposed side. Fit trim pieces to the opening. If trim is too long, carefully cut one end at an exact 45 degree angle so that it fits easily, but firmly, in place.

After all four trim pieces fit, screw them in place with the screws provided. Setting the corners first, making sure they fit tightly together works best. Please note that it is **not necessary to pre-drill** the screw holes through the polycarbonate window.

Spring Assist

The spring assist is used to increase the amount of pressure required to open the doors. It is used where there is a wind condition or where a difference in pressure exists across the opening and the doors are not staying closed. It should be noted that the spring increases the load on and may shorten the life of the roller assembly. The spring assist is recommended only where absolutely necessary. If spring assists are used on your installation, it is recommended that the roller assemblies be inspected weekly.

Installation
(perform steps 1 and 2 before door is hung)

1. Insert threaded shaft into lower hinge adapter until jamb nut is bottomed out.
2. Give jamb nut a half turn to lock in place.

Hang Door

3. Slide washer over shaft.
4. Slide spring over shaft (it may be necessary to raise door panel to do this.)
5. Thread adjustment washer on threaded shaft and tighten until desired closing action is obtained.
   Spring coils must not touch when door is in the open position.
   Overtightening the spring assist will cause severe damage to your roller assembly.
6. Place open end wrenches on the threaded adjustment washer and the jamb nut. Turn one against the other to lock the adjustment washer in place.

Ordering

Determine what part you need by using the trouble shooting guide and repair instructions. Find the part number. The Durulite door is molded in a number of common sizes and then fitted to specific openings by varying the sizes of the gaskets and seals or combining panel sizes. For this reason we need to know the height and width of the opening to get you the proper parts.

If you are unsure of what is wrong, take these measurements before calling the factory:

Width of opening at top and bottom.
Height of opening at right and left jambs.
Squareness (top corners to opposite bottom corners).
Plumb jamb faces. Use a 6" level or a plumb bob.
Distance from top panels to header.
Overlap of leading edge gaskets.

The door serial number will assist us in processing your order.

To determine right and left hand panels, face the doors from the side the window trim is mounted on. From this view the door on your right is the right hand panel and the door on the left is the left hand panel. If you have double pane windows, face the side from which you can read the serial number.

Contact the Durus Division sales dept. to order parts and to determine shipping arrangements.

Chase Doors
World's Leading Manufacturer of Traffic Doors

Proline™ Doors
Maintenance Manual

Maintenance Program

This manual has been prepared to assist you in maintaining your Proline Doors. A regular maintenance program is the easiest way to ensure free operation of the Chase Doors. Your program should include a regularly scheduled lubrication and cleaning procedure.

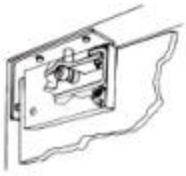
- The doors and seals should be inspected visually.
- Gaskets should be checked for cuts and tears.
- Hinges should be securely fastened.
- The door should open and close freely.
- When closed the door should be centered in the opening.
- Double doors with gasket should also seal in the middle where the gaskets touch
- Bumper, impact plates, kickplates and hinge adapters should be examined for loose fasteneres

Our recommendation for lubrication and cleaning are as follows:

Hinge System:

- E Hinge - Remove hinge covers and wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months

- V Cam - Lubricate upper and lower hinge shafts and cam roller area every 90 days with silicone spray, or similar lightweight oil



E-Hinge

V-Cam Hinge

Door Panel and Gaskets:

- Using a sponge or cloth wash door panel and gaskets with dishwashing detergent, mixed with water 1/50. DO NOT USE ANY TYPE OF SPRAY CLEANER, ACETONES, CHLORINATED SOLVENTS OR OTHER CHEMICALS OF THIS TYPE. Dry and apply a plastic treatment, such as ARMOR-ALL, to the gaskets.

Window Cleaning:

- Wash the window area with a mild soap or an all purpose glass cleaner and dry with a soft cloth. Do not use solvents, bleach or petroleum products on windows.

Trouble shooting procedure for general problems

As with any product designed for impact, Chase Doors will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when there is a need to call the factory.

- **Doors will not swing properly**
  1. Door will not swing close at all
     - ✪ E- Hinge or V-Cam
       - ➢ Lubricate hinge
       - ➢ Check that hinge is plumb
     - ✪ V-Cam Hinge Only
       - ➢ Check to see if bearing clamp needs to be tightened (see figure 3)
       - ➢ Check that bearing clamp is seated properly on lowest point of bearing race (see figure 2 and 3)

  2. Door is not returning to center
     - ✪ E- Hinge or V-Cam
       - ➢ Lubricate hinge
     - ✪ E- Hinge Only
       - ➢ Adjust cam for centering – remove cover, loosen two bolts, realign door, retighten the adjustment bolts and reinstall cover. (see figure 1)
     - ✪ V-Cam Only
       - ➢ Tighten bearing clamp (see figure 3)
       - ➢ Check that bearing clamp is seated properly on lowest point of bearing (see figure 2 and 3)
       - ➢ Check that the bearing clamp and door is aligned with center of the jamb (see figure 2 and 3)
       - ➢ Air flow affects closing, a spring assist option may be needed

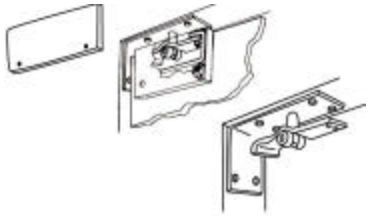


Figure 1

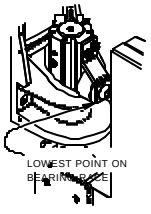


Figure 2

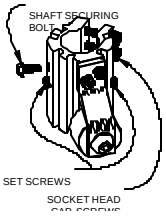


Figure 3

- **Gaskets bind or rub**
  1. Clean gasket and apply Armor-All

- **Edge capping**
  1. On doors with edge capping, inspect capping for damage that may cause personal injury. If damage is found call the factory to order replacement channel capping

We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program.

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ABS 5000 & SRP 5000 Doors
Maintenance Manual

Maintenance Program

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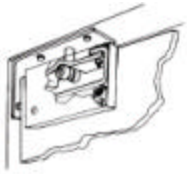
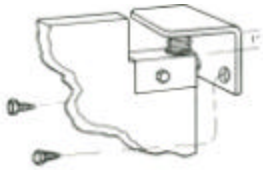
- E Hinge - Remove hinge covers and wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months

- Gate Hinge – Wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. NEVER LUBRICATE LOWER GATE HINGE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months.



E-Hinge



Gate Hinge

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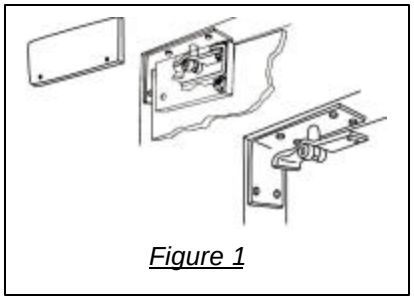
       - ➢ Check that hinge is plumb
     - ✪ Gate Hinge Only
       - ➢ Check to see if the return spring is broken on the top hinge, if yes, call the factory for a replacement part.

  2. Door is not returning to center
     - ✪ E- Hinge or Gate Hinge
       - ➢ Lubricate upper hinge - NEVER LUBRICATE LOWER GATE HINGE
     - ✪ E - Hinge Only
       - ➢ Adjust cam for centering – remove cover, loosen two bolts, realign door, retighten the adjustment bolts and reinstall cover. (see figure 1)
     - ✪ C - Hinge Only
       - ➢ Loosen two bolts, realign door and retighten the adjustment bolts (see figure 2)
     - ✪ Gate Hinge Only
       - ➢ Check that both top and bottom hinge are plumb
       - ➢ Check alignment – Align door panel as desired and lock in position by tightening adjustment screw on bottom hinge receptacle (use 1/8" hex wrench) (see figure 3)



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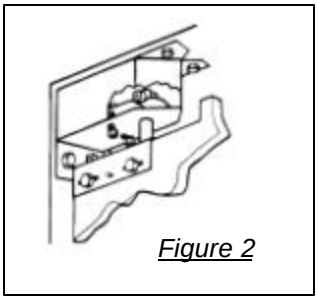
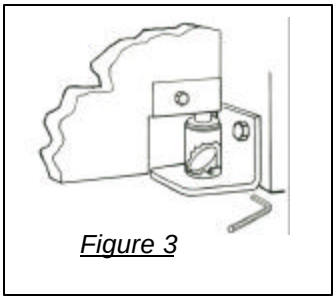


Figure 2



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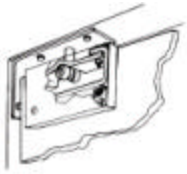

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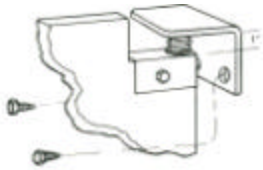

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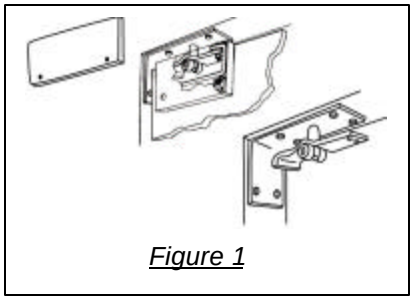

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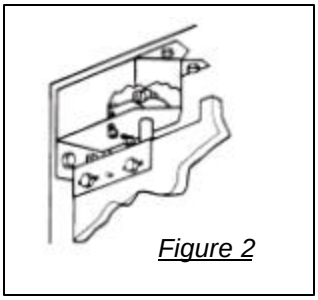
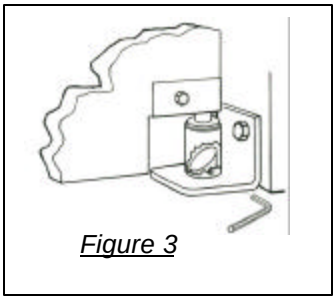


Figure 2



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www.chasedoors.com

Chase Doors
World's Leading Manufacturer of Traffic Doors

Chase™ 3000 Series, 2000 Series
ABS 5000 & SRP 5000 Doors
Maintenance Manual

Maintenance Program

This manual has been prepared to assist you in maintaining your Chase Doors. A regular maintenance program is the easiest way to ensure free operation of the Chase Doors. Your program should include a regularly scheduled lubrication and cleaning procedure.

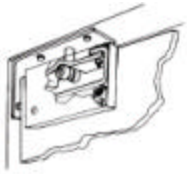
- The doors and seals should be inspected visually.
- Gaskets should be checked for cuts and tears.
- Hinges should be securely fastened.
- The door should open and close freely.
- When closed the door should be centered in the opening.
- Double doors with gasket should also seal in the middle where the gaskets touch
- Bumper, impact plates, kickplates and hinge should be examined for loose fasteneres

Our recommendation for lubrication and cleaning are as follows:

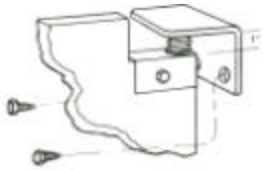
Hinge System:

- E Hinge - Remove hinge covers and wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months

- Gate Hinge – Wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. NEVER LUBRICATE LOWER GATE HINGE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months.



E-Hinge



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Door Panel and Gaskets:

- Using a sponge or cloth wash door panel and gaskets with dishwashing detergent, mixed with water 1/50. DO NOT USE ANY TYPE OF SPRAY CLEANER, ACETONES, CHLORINATED SOLVENTS OR OTHER CHEMICALS OF THIS TYPE. Dry and apply a plastic treatment, such as ARMOR-ALL, to the gaskets.

Window Cleaning:

- Wash the window area with a mild soap or an all purpose glass cleaner and dry with a soft cloth. Do not use solvents, bleach or petroleum products on windows.

Trouble shooting procedure for general problems

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- **Doors will not swing properly**
  1. Door will not swing close at all
     - ✪ E- Hinge or Gate Hinge
       - ➢ Lubricate upper hinge - NEVER LUBRICATE LOWER GATE HINGE
       - ➢ Check that hinge is plumb
     - ✪ Gate Hinge Only
       - ➢ Check to see if the return spring is broken on the top hinge, if yes, call the factory for a replacement part.

  2. Door is not returning to center
     - ✪ E- Hinge or Gate Hinge
       - ➢ Lubricate upper hinge - NEVER LUBRICATE LOWER GATE HINGE
     - ✪ E - Hinge Only
       - ➢ Adjust cam for centering – remove cover, loosen two bolts, realign door, retighten the adjustment bolts and reinstall cover. (see figure 1)
     - ✪ C - Hinge Only
       - ➢ Loosen two bolts, realign door and retighten the adjustment bolts (see figure 2)
     - ✪ Gate Hinge Only
       - ➢ Check that both top and bottom hinge are plumb
       - ➢ Check alignment – Align door panel as desired and lock in position by tightening adjustment screw on bottom hinge receptacle (use 1/8" hex wrench) (see figure 3)

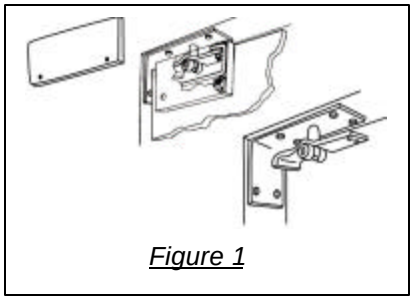

Figure 1

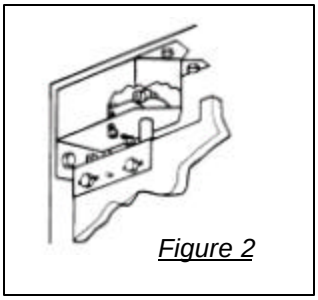

Figure 2

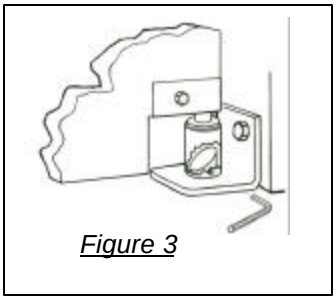

Figure 3

- **Gaskets bind or rub**
  1. Clean gasket and apply Armor-All

- **Edge capping**
  1. On doors with edge capping, inspect capping for damage that may cause personal injury. If damage is found call the factory to order replacement channel capping

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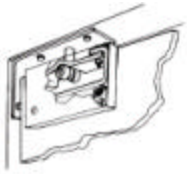

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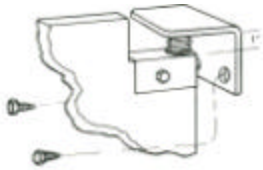

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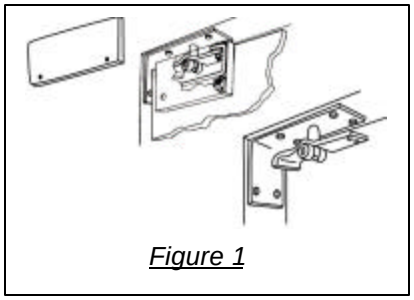

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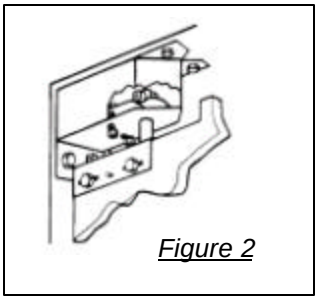

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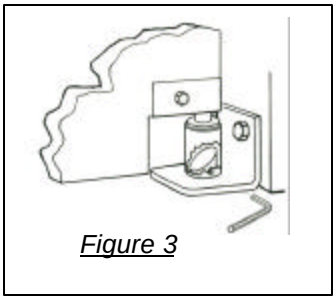

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Hinge System:

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- In water, wash-down applications, lubricate monthly or as required to prevent bearing failure.

Door Panel:

- Wash door panel with dishwashing detergent, mixed with water 1/50. DO NOT USE ANY TYPE OF SPRAY CLEANER, ACETONES, CHLORINATED SOLVENTS OR OTHER CHEMICALS OF THIS TYPE. This door can be wash-down with a power sprayer or with a sponge or cloth.

Window Cleaning:

- Wash the window area with a mild soap or an all purpose glass cleaner and dry with a soft cloth. Do not use solvents, bleach or petroleum products on windows.

Trouble shooting procedure for general problems

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     a. Lubricate hinge bracket
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  2. Doors do not seal at center
     a. Check bracket alignment, if it is not aligned it can be shimmed at jamb to assist centering.

  3. Door panels sag or hang down in the center of the opening.
     a. Check hinge bearings. If worn out, replace and shim hinges as required.
     b. The hinge arms should be parallel to the header of the door so that the panels hang down straight. Shim as required to insure that the arms are straight.

  4. Inspect panel for tears or puncture in fabric. If found, call factory for repair kit.

  5. Inspect window for cracks or if it is coming loose from the panel. If a problem exists, call the factory for a repair kit.

  6. Panel may have loose nylon reinforcement threads along edge, these may be removed with a soldering iron or small propane torch. THIS SHOULD BE DONE WITH EXTREME CAUTION. THE THREADS BURN AWAY VERY EASILY SO DO NOT LEAVE IN ONE SPOT TOO LONG.

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  5. Panel may have loose nylon reinforcement threads along edge, these may be removed with a soldering iron or small propane torch. THIS SHOULD BE DONE WITH EXTREME CAUTION. THE THREADS BURN AWAY VERY EASILY SO DO NOT LEAVE IN ONE SPOT TOO LONG.

We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program.

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World's Leading Manufacturer of Traffic Doors

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www.chasedoors.com

Chase Doors
World's Leading Manufacturer of Traffic Doors

Chase™ 3000 Series, 2000 Series
ABS 5000 & SRP 5000 Doors
Maintenance Manual

Maintenance Program

This manual has been prepared to assist you in maintaining your Chase Doors. A regular maintenance program is the easiest way to ensure free operation of the Chase Doors. Your program should include a regularly scheduled lubrication and cleaning procedure.

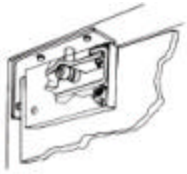
- The doors and seals should be inspected visually.
- Gaskets should be checked for cuts and tears.
- Hinges should be securely fastened.
- The door should open and close freely.
- When closed the door should be centered in the opening.
- Double doors with gasket should also seal in the middle where the gaskets touch
- Bumper, impact plates, kickplates and hinge should be examined for loose fasteneres

Our recommendation for lubrication and cleaning are as follows:

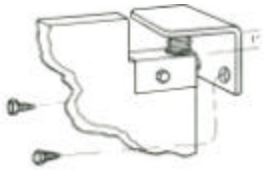
Hinge System:

- E Hinge - Remove hinge covers and wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months

- Gate Hinge – Wipe off old grease and apply new grease (wheel bearing type grease). DO NOT OVER GREASE. NEVER LUBRICATE LOWER GATE HINGE. Inspect for loose fasteners and reinstall hinge cover. Repeat every six months.



E-Hinge



Gate Hinge

Door Panel and Gaskets:

- Using a sponge or cloth wash door panel and gaskets with dishwashing detergent, mixed with water 1/50. DO NOT USE ANY TYPE OF SPRAY CLEANER, ACETONES, CHLORINATED SOLVENTS OR OTHER CHEMICALS OF THIS TYPE. Dry and apply a plastic treatment, such as ARMOR-ALL, to the gaskets.

Window Cleaning:

- Wash the window area with a mild soap or an all purpose glass cleaner and dry with a soft cloth. Do not use solvents, bleach or petroleum products on windows.

Trouble shooting procedure for general problems

As with any product designed for impact, Chase Doors will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when there is a need to call the factory.

- **Doors will not swing properly**
  1. Door will not swing close at all
     - ✪ E- Hinge or Gate Hinge
       - ➢ Lubricate upper hinge - NEVER LUBRICATE LOWER GATE HINGE
       - ➢ Check that hinge is plumb
     - ✪ Gate Hinge Only
       - ➢ Check to see if the return spring is broken on the top hinge, if yes, call the factory for a replacement part.

  2. Door is not returning to center
     - ✪ E- Hinge or Gate Hinge
       - ➢ Lubricate upper hinge - NEVER LUBRICATE LOWER GATE HINGE
     - ✪ E - Hinge Only
       - ➢ Adjust cam for centering – remove cover, loosen two bolts, realign door, retighten the adjustment bolts and reinstall cover. (see figure 1)
     - ✪ C - Hinge Only
       - ➢ Loosen two bolts, realign door and retighten the adjustment bolts (see figure 2)
     - ✪ Gate Hinge Only
       - ➢ Check that both top and bottom hinge are plumb
       - ➢ Check alignment – Align door panel as desired and lock in position by tightening adjustment screw on bottom hinge receptacle (use 1/8" hex wrench) (see figure 3)

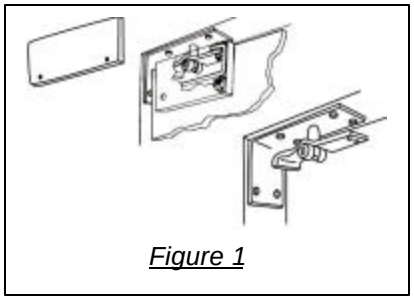


Figure 1

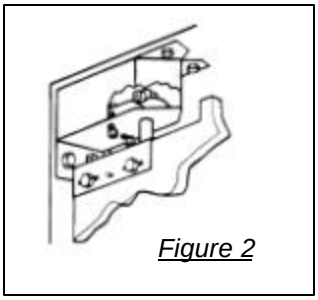


Figure 2

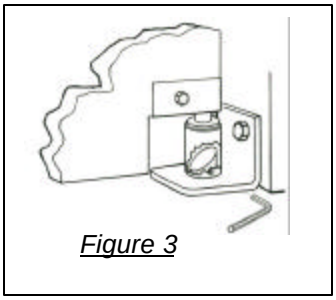


Figure 3

- **Gaskets bind or rub**
  1. Clean gasket and apply Armor-All

- **Edge capping**
  1. On doors with edge capping, inspect capping for damage that may cause personal injury. If damage is found call the factory to order replacement channel capping

We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program.

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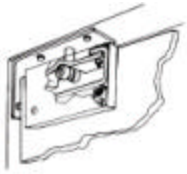
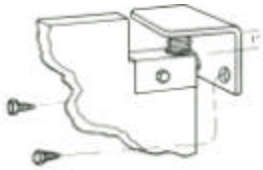


E-Hinge



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- Using a sponge or cloth wash door panel and gaskets with dishwashing detergent, mixed with water 1/50. DO NOT USE ANY TYPE OF SPRAY CLEANER, ACETONES, CHLORINATED SOLVENTS OR OTHER CHEMICALS OF THIS TYPE. Dry and apply a plastic treatment, such as ARMOR-ALL, to the gaskets.

Window Cleaning:

- Wash the window area with a mild soap or an all purpose glass cleaner and dry with a soft cloth. Do not use solvents, bleach or petroleum products on windows.

Trouble shooting procedure for general problems

As with any product designed for impact, Chase Doors will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when there is a need to call the factory.

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     - ✪ E - Hinge Only
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       - ➢ Check that both top and bottom hinge are plumb
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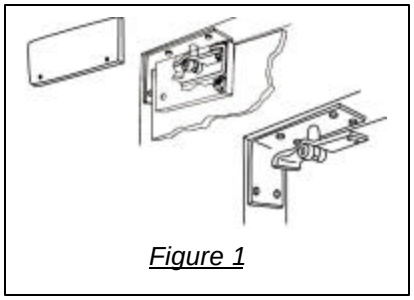

Figure 1

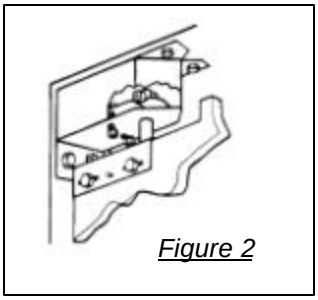

Figure 2

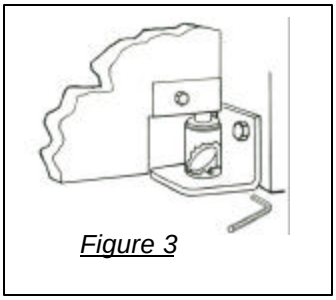

Figure 3

- **Gaskets bind or rub**
  1. Clean gasket and apply Armor-All

- **Edge capping**
  1. On doors with edge capping, inspect capping for damage that may cause personal injury. If damage is found call the factory to order replacement channel capping

We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program.

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Flexible AirGard™, Uni-Flex™
and EconoClear™ Doors
Maintenance Manual

Maintenance Program

This manual has been prepared to assist you in maintaining your Flexible Doors. A regular maintenance program is the easiest way to ensure free operation of the Chase Doors. Your program should include a regularly scheduled lubrication and cleaning procedure.

- The doors and seals should be inspected visually.
- Panel should be checked for cuts and tears.
- Hinges should be securely fastened.
- The door should open and close freely.
- When closed the door should be centered in the opening.
- Double doors should seal in the middle
- Impact plates, kickplates and hinge should be examined for loose fasteneres

Our recommendation for lubrication and cleaning are as follows:

Hinge System:

- On bracket with grease fittings, it is necessary to lubricate every three months with a light all purpose grease. DO NOT OVER GREASE. Inspect for loose fasteners.

- In water, wash-down applications, lubricate monthly or as required to prevent bearing failure.

Door Panel:

- Wash door panel with dishwashing detergent, mixed with water 1/50. DO NOT USE ANY TYPE OF SPRAY CLEANER, ACETONES, CHLORINATED SOLVENTS OR OTHER CHEMICALS OF THIS TYPE. This door can be wash-down with a power sprayer or with a sponge or cloth.

Window Cleaning:

- Wash the window area with a mild soap or an all purpose glass cleaner and dry with a soft cloth. Do not use solvents, bleach or petroleum products on windows.

Trouble shooting procedure for general problems

As with any product designed for impact, Chase Doors will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when there is a need to call the factory.

- **General Problems**
  1. Door will not swing properly
     a. Lubricate hinge bracket
     b. Assure that hinge bracket is plumb

  2. Doors do not seal at center
     a. Check bracket alignment, if it is not aligned it can be shimmed at jamb to assist centering.

  3. Door panels sag or hang down in the center of the opening.
     a. Check hinge bearings. If worn out, replace and shim hinges as required.
     b. The hinge arms should be parallel to the header of the door so that the panels hang down straight. Shim as required to insure that the arms are straight.

  4. Inspect panel for tears or puncture in fabric. If found, call factory for repair kit.

  5. Inspect window for cracks or if it is coming loose from the panel. If a problem exists, call the factory for a repair kit.

  6. Panel may have loose nylon reinforcement threads along edge, these may be removed with a soldering iron or small propane torch. THIS SHOULD BE DONE WITH EXTREME CAUTION. THE THREADS BURN AWAY VERY EASILY SO DO NOT LEAVE IN ONE SPOT TOO LONG.

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F1900-PLC Operator
3RD Generation
Installation & Owner Manual

Attention:

Please read this manual prior to installing and operating your door.

Recheck your work before operation.

Notice to Installer: This manual must be left with the End User. Personally deliver to the End User's attention.

Chase Doors

TEL: (800) 543-4455 FAX: (800) 978-6570

www.chasedoors.com

11/30/2016

Contents

1 Introduction

Addressee/Applicability

This manual and the information therein is the sole property of Chase Industries Inc., and is given solely to individuals who purchase the F1900–PLC operator. Its intent is to instruct the purchaser on the operation of the F1900–PLC operator. Use of this information without purchasing the F1900–PLC operator product or the consent of Chase Industries Inc. is strictly forbidden. Copying of this manual in any way is forbidden without the express consent of Chase Industries Inc.

Training in the use of this door product is ultimately the responsibility of the end user. Chase Industry approved installers will instruct and provide the end user's supervisor with the manual. It will then become the responsibility of the end user to further instruct each individual in his company using this door with the specifics of its operations.

Explanation of Symbols

In these instructions, we have denoted all positions that concern your safety with this symbol.

This symbol warns of electrical voltage.

This symbol marks all positions that are significant for proper operation of the system. Non–adherence can cause material damage.

This symbol denotes optional components. Check order to see what components have been ordered for your particular door system.

2 Safety

2.1 General Safety and Accident Prevention Instruction

Prior to commissioning of the door system or before doing any repair or maintenance work, the operating instructions of the door system, operator, and the following safety directions should be studied with great care and followed closely.

In any case, please pay attention to the specially marked notes within this document (see chapter 1 for an explanation of symbols).

Use for Intended Purpose

The F1900–PLC operator has been designed and constructed according to the current state of technology and the recognized safety related rules. The F1900–PLC operator is listed under UL 924.

Any other use, or any use exceeding this aim, is determined to be not for its intended purpose and may cause personal injuries to the user or a third party. The manufacturer will not be liable for damages resulting from such uses; the risk will be borne entirely by the operator of the door system.

Relevant Regulations

All wiring and electrical work shall conform with the NEC (National Electrical Code) and any other applicable local, state, and federal codes.

The operating, maintenance and service conditions are to be maintained as directed by the manufacturer. The persons performing maintenance and service must be acquainted with the system and must have been informed of any possible danger.

Unauthorized modifications to the system exempt the manufacturer from any liability.

Requirements Concerning Installation Personnel

The installation on site may only be performed by professionals who have adequate knowledge in the discipline of power operated doors based on their vocational training and experience and who are acquainted with the applicable national worker's protection rules, accident prevention instructions, guidelines and generally recognized rules of the technology to such an extent that they can appraise the safe working condition of power operated doors.

It is a prerequisite that these people should be trained/experienced in metal working and fastening techniques.

2 Safety - continued

2.2 Safety Considerations - continued

Basic Safety Measures - Appropriate Behaviour

Use system only in a technically sound condition. Ensure that faults, which could diminish safety, are eliminated at once.

Keep fingers away from any moving components. Special caution is required in the region of the sprockets or pulleys.

Use tools suitable for the respective work sequence. Ensure that the tools are in a sound condition.

WARNING: No work should be undertaken of any sort while the power supply is on. Always switch the Disconnect provided in the control box, OFF while working on the control panel or connecting cables.

HIGH VOLTAGE: Electric shock can cause serious injury or death. Always check the manual Disconnect Switch to be sure it is in the OFF position during wiring or mechanical work on the door. When uncertain if power is disconnected, always check with a voltmeter.

All electrical wiring must be done by qualified electricians. Wiring must meet all local, state, and federal codes.

Before powering door system please perform the following steps:

1. To avoid runaway operation when setting up the operator, turn both open and close speed potentiometers to full counter–clockwise positions. Then turn both 1/4 turn clockwise.

2. Insure door "stops" have been installed to avoid over travel.

3. Place the door in mid travel position.

3 F1900-PLC Control Installation

3.1 Installation/Field Connections

For illustration of connections, please refer to diagrams on pages 10–13

Motor Connection

1. Connect the motor leads to terminals A1 and A2.

NOTE: Reversing the motor leads will change motor rotation.
NOTE: The green wire is the ground wire that needs to be attached to terminal GND.

Vent Plug

2. Install the enclosed vent plug on the gear head. Replace the plug colored yellow with the vent plug. The vent plug is enclosed in the conduit box.

Proximity Switches

3. Install proximity (limit) switches as shown on pages 22–23 and as shown in the door installation manual. (For most chain drive operators, the proximity switches are factory mounted to the drive system) For chain drive operators, color coded identification stickers have been placed on the drive system to show general location of the switches. Location of the proximity switches should be adjusted from these starting locations. For belt drive systems, see door installation manual.

NOTE: 17, 18, & 19 are jumpered so that they are the same terminal.

Refer to page 10:
- Connect the full closed proximity switch to terminals 10 and 11.
- Connect the full opened proximity switch to terminals 25 and 26.
- Connect the slow close proximity switch to terminals 24 and 26.
- Connect the slow open proximity switch to terminals 15 and 17.

Partial Open Proximity Switch

4. Connect the partial open proximity switch (if applicable) to terminals 16 and 17.

Magnet

5. Check to make sure the magnet is attached to the carrier as shown on the proximity switch detail. Check to make sure the "S" marking on the magnet is facing the proximity switches.

Setting Memory of Proximity Switches

6. Manually set the "memory" of the proximity switches as explained on page 23.

3 F1900-PLC Control Installation - continued

3.1 Installation/Field Connections - continued

For illustration of connections, please refer to diagrams on pages 10–12

IMPORTANT NOTES:
MOTOR ROTATION MUST BE CONFIRMED BEFORE THE CONNECTION OF ANY ACTIVATORS AND BATTERY MUST BE FULLY CHARGED TO PROCEED

Test Motor Rotation

7. Put door in mid position and then connect the BATTERY terminals. Connect red wire to the positive (+) BATTERY terminal and black wire to negative (–) BATTERY terminal. The door should then begin to move to the closed position. If the door begins to open, disconnect the BATTERY terminals and reverse the motor leads as described in item 1, page 6. DO NOT REVERSE THE BATTERY LEADS OR INTERNAL WIRING! Retest to verify that motor rotation is correct. Make sure the doors stops at the full close proximity switch. Once the door closes, momentarily touch jumper to 6 and 9 to verify that door moves in the open direction. If door does not start to move in the open direction, please see troubleshooting, page 27. After motor rotation has been correctly set, disconnect BATTERY at this point so that it will not run the door during setup.

120 Volt AC Connection

8. Connect the 120 volt AC to terminals L1 and L2. Connect the ground wire to terminal GND. Please note: If the motor is 1/2 HP, a 10 amp circuit is required. If the motor is 3/4 HP, a 15 amp circuit is required.

Initial Speed Adjustment

9. Turn both open and close speed potentiometers to full counter–clockwise positions. Then turn both 1/4 turn clockwise. See component layout on page 19 to locate these potentiometers. These potentiometers are clearly marked in the control panel.

Test Closed Position

10. Reconnect the red wire to the positive (+) BATTERY terminal and the black wire to the negative (–) BATTERY terminal. . Put ON/OFF switch to ON position. The door should remain closed. (If the door opens, something is connected to tell the door to open; disconnect whatever is telling door to open)

Test Open Cycle

11. Touch jumper to terminals 13 and 19 to signal the door to fully open. Adjust speed of door to desired speed using the open potentiometer. Check to make sure door slows down at the slow open proximity switch and stops at the full open proximity switch. If not, check proximity switches.

Test Closed Cycle

12. After opening door by jumping 13 and 19, allow timer to close door. Adjust speed of door to desired speed using the close potentiometer. Check to make sure door slows down at slow close proximity switch and stops at full close proximity switch. If not, check proximity switches.

3 F1900-PLC Control Installation - continued

3.1 Installation/Field Connections - continued

For illustration of connections, please refer to diagrams on pages 10–12

Prepare Control Panel to Connect activators and Devices

13. After verifying that door operates properly, slows at slow down proximity switches, and stops at the full open and full close proximity switches, put ON/OFF switch to OFF position and disconnect BATTERY terminals. After verification, proceed with connecting activators and other devices.

Reversing Edge

NOTE: TEST REVERSING EDGE OPERATION DAILY

14. Connect the reversing edge switch. For air switches connect the bell box with the air diaphragm switch to the door as shown in the door installation instructions. Connect terminals 1 and 2 of the air diaphragm switch to terminals 4 and 5 in the control panel. Refer to page 24 for air diaphragm instructions. TEST OPERATION DAILY.

15. Connect the activators. Please see page 10 thru 13.

195 Degree Heat Detectors

16. Wire the 195 degree, normally open heat detectors to terminals 2 and 3. See page 21 for placement of detectors.

NOTE: The 195 degree heat detectors MUST BE WIRED IN PARALLEL. See page 21 for placement of heat detectors.

135 Degree Heat Detectors

17. Remove the jumper from terminals 26 and 27. And replace with provided normally closed 135 degree heat detectors.

NOTE: The 135 degree heat detectors MUST BE WIRED IN SERIES. See page 21 for placement of heat detectors.

Thru-Beams (OPTIONAL) see page 28 for connection and calibration

18. On doors supplied with Thru–Beams, connect the Thru–Beam cables directly to the Thru–Beam module in the main control box. Connection of cables are indicated on the module. Also see the connection diagram on page 28.

NOTE: It is best to disconnect the Thru–Beam module contact to the PLC input (terminal #4 on blue and white Thru–Beam module) prior to initial start up. AFTER INSTALLATION IS COMPLETE, RECONNECT AND CALIBRATE THE THRU–BEAMS AND TEST THEIR OPERATION. See the instructions on page 28.

NOTE: AS STATED IN THE INSTALLATION MANUAL THE THRU–BEAM OPERATION MUST BE TESTED DAILY BEFORE USE.

19. SPECIAL NOTE: If the cables on the Thru–Beams are not long enough the Thru–Beam module may be relocated by the installer remotely from the main control panel in an enclosure, where the Thru–Beam cables will be long enough, and then wired back to the main control panel. See the connection diagram on page 28.

DO NOT EXTEND THE THRU–BEAM CABLES.
Consult factory with questions.

3 F1900-PLC Control Installation - continued

3.2 Activator Connections

For illustration of connections, please refer to diagrams on pages 10–12

PLEASE NOTE: several terminals are jumpered so that they are the same potential. Pay attention when connections are made.

Non-Powered activators such as Buttons or Pull Cords

NON–POWERED ACTIVATORS

1. Connect activator for FULL OPEN/TIME DELAY TO CLOSE to terminals 7 and 9.

2. Connect activator for FULL/PARTIAL OPEN/STEP CONTROL to terminals 7 and 8.

3. For 3 button station connection see page 13.

POWERED ACTIVATORS SUCH AS SENSORS OR FLOOR LOOPS

For FULL OPEN powered activators, connect sensor or floor loop to terminals 13 and either 17, 18 or 19.

Powered activators such as Sensors or Floor Loops

SPECIAL NOTE: Powered activators such as sensors and floor loops do not function in BATTERY mode. A non–powered activator such as a push button or pull cord is required on each side of the opening so that door can be opened in BATTERY mode. These buttons should be connected to terminals 7 and 9 or 7 and 8 in order to function in BATTERY mode.

INTERLOCKS (IF APPLICABLE)

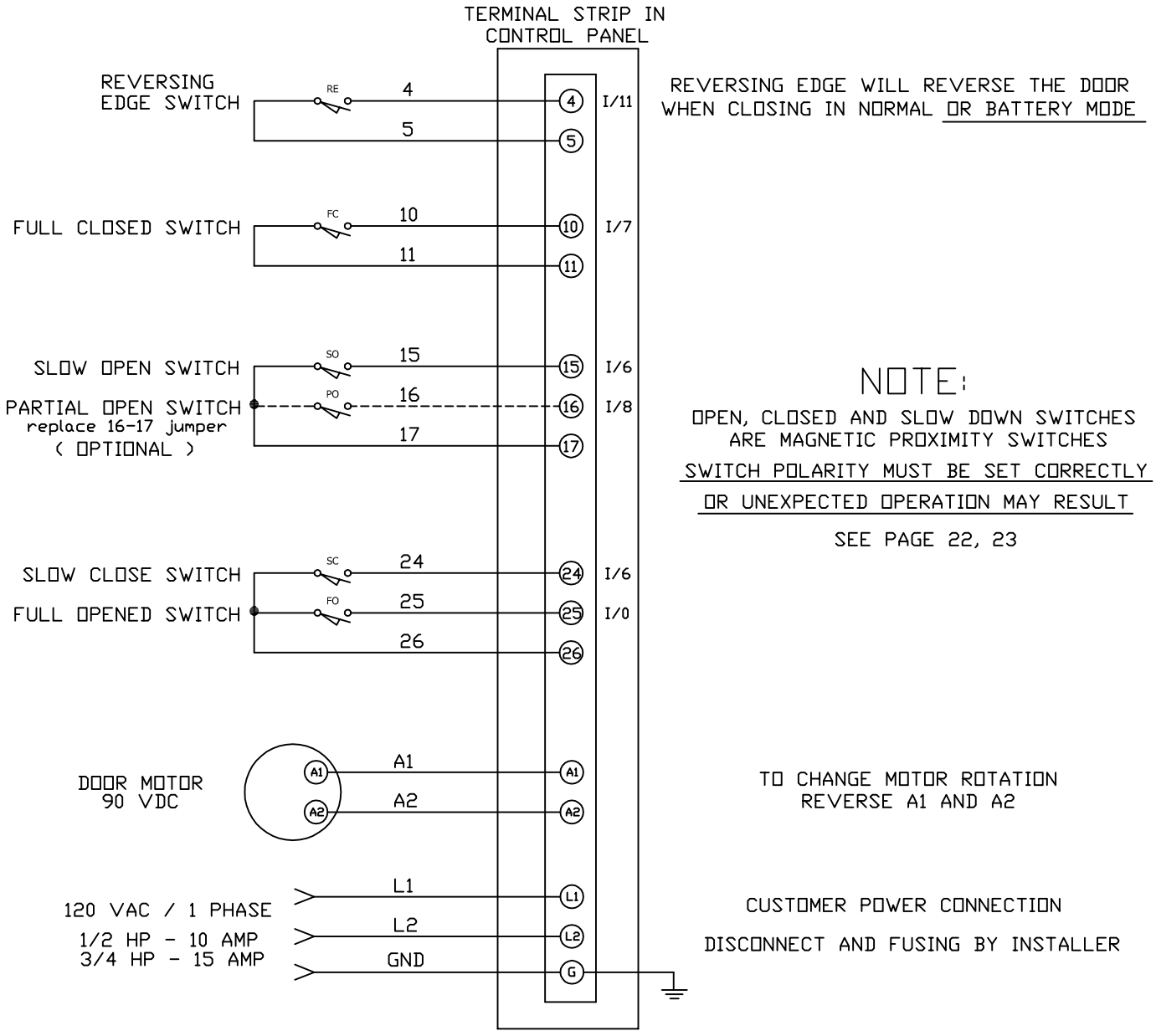
Interlocks (If Applicable)

1. The interlock input is located on terminals 19 and 20. The contact for the interlock input should be normally closed. The control panel is shipped with a jumper on 19 and 20. If an interlock is required, make connections for interlock at terminal 19 and 20 and REMOVE JUMPER. When this contact is open, the door is disabled.

2. The interlock output is located on terminals 21 and 22. The output is a dry contact and is closed only when door is in the full closed position.

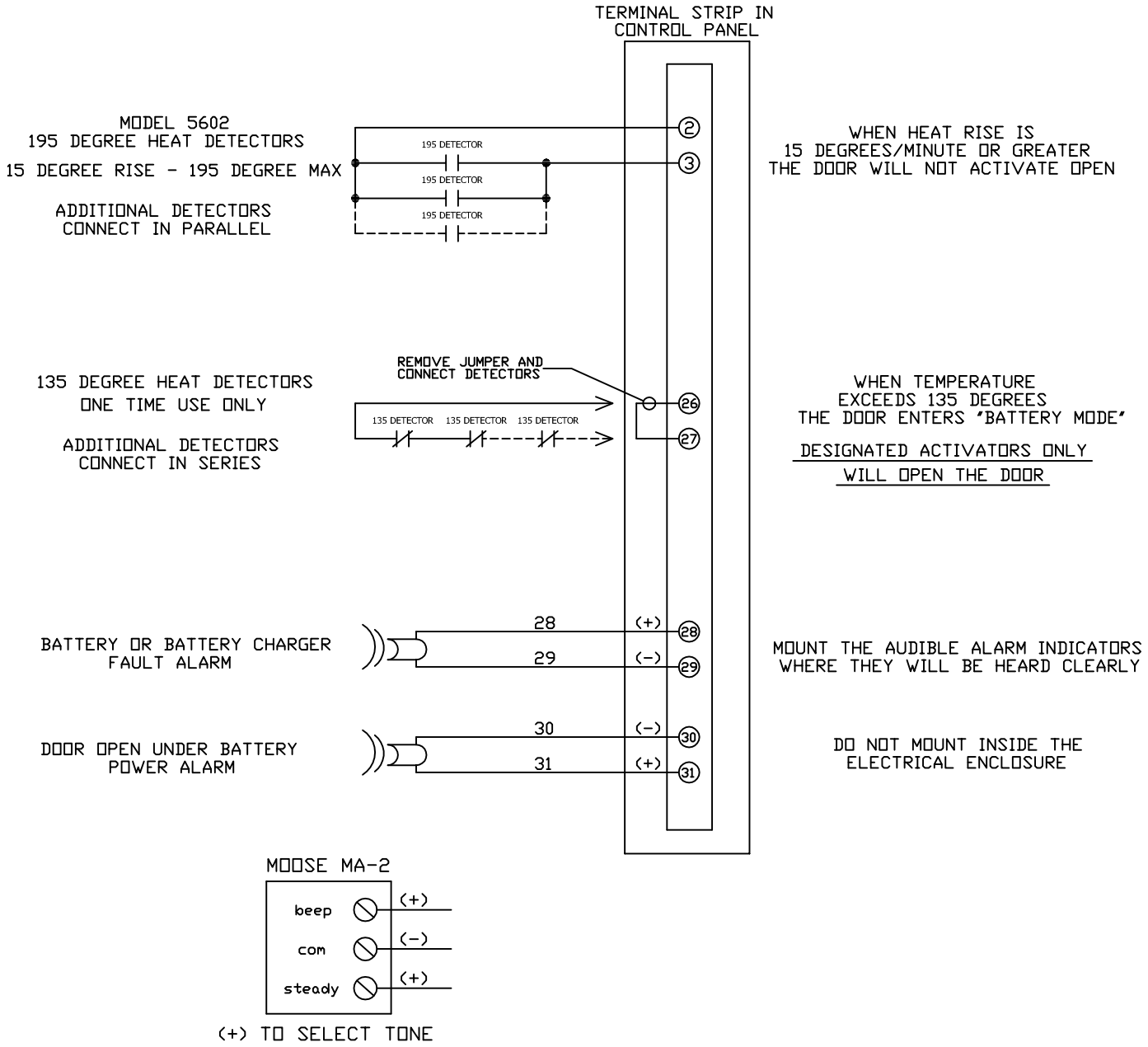
3 F1900-PLC Control Installation - continued

3.3 activator Connections-
STANDARD DOOR COMPONENT CONNECTIONS



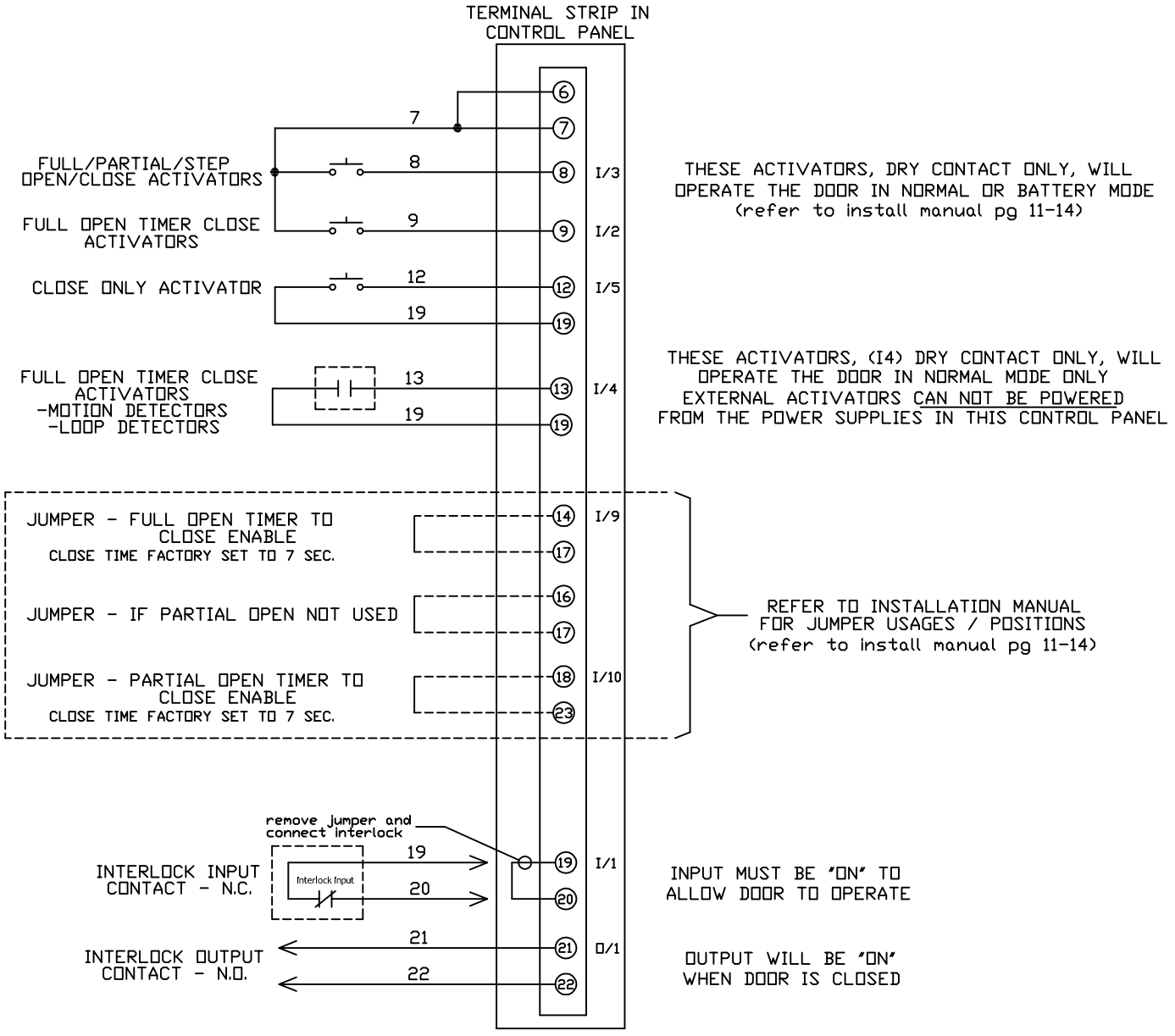
3 F1900-PLC Control Installation - continued

3.4 activator Connections-
FIRE DETECTION COMPONENT CONNECTIONS



3 F1900-PLC Control Installation - continued

3.5 activator Connections-
ACTIVATOR CONNECTIONS

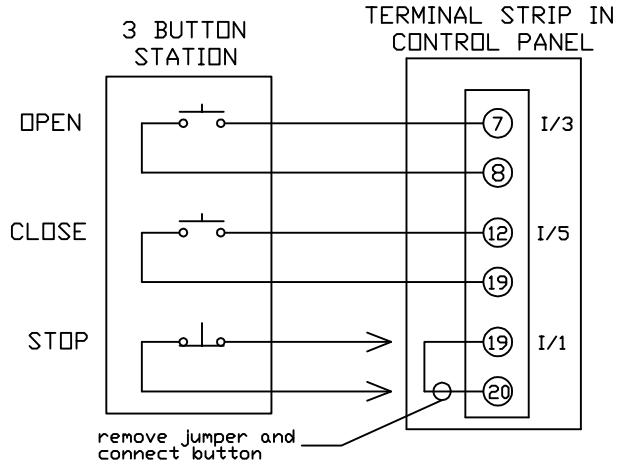


3 F1900-PLC Control Installation - continued

3.3 activator Connections-
OPTIONAL ACTIVATOR CONNECTIONS

3 BUTTON STATION

REFER TO PAGE 17 FOR
PROGRAMMING ACTIVATOR TERMINAL 8
FOR OPEN ONLY

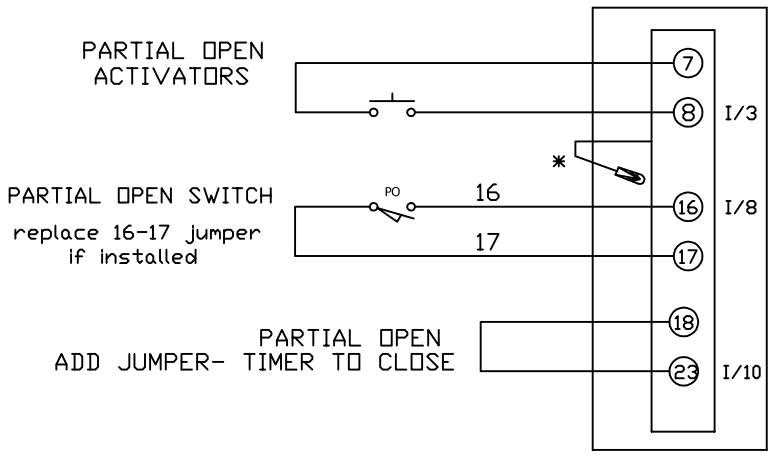


PARTIAL OPEN

If PARTIAL OPEN is required, the pushbutton on terminals 7 and 8 may be used to connect a PARTIAL OPEN activator.

perform the following steps to set up PARTIAL OPEN:

1. Remove jumper wire from terminal 16 and cap it with a wire nut * .
2. Connect PARTIAL OPEN proximity switch to terminals 16 and 17.
3. Connect activator for partial open to terminals 8 and 7.
4. For most applications, partial open works with a TIME DELAY TO CLOSE. Connect a jumper from terminal 18 to terminal 23 for TIME DELAY TO CLOSE on partial open. To set timer, follow procedure given on page 14.



3 F1900-PLC Control Installation - continued

3.7 Setting Time Delay to Close

Timer for Activator Terminal 9 (terminal 9 & 7)

ADJUSTING TIME DELAY TO CLOSE FOR ACTIVATOR TERMINAL 9:

1. If not already installed, Install a jumper in terminals 14 and 17.

2. Hold timer switch in "FOOC" position. Door will open.

3. When the door reaches the full open position, continue to hold the timer switch in the "FOOC" position for a minimum of 5 seconds. The length of time the switch is held after the door reaches the full open position will then be the new time delay.

Example:
- Switch held for 5 seconds = 5 second delay.
- Switch held for 10 seconds = 10 second delay.
- Switch held for 30 seconds = 30 second delay.

Timer for Activator Terminal 8 (terminal 8 & 7)

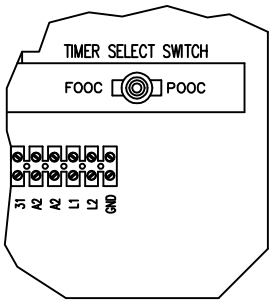
ADJUSTING TIME DELAY TO CLOSE FOR ACTIVATOR TERMINAL 8:

1. If not already installed, Install a jumper in terminals 18 and 23.

2. Hold timer switch in "POOC" position. Door will open.

3. When the door reaches the open position, continue to hold the timer switch in the "POOC" position for a minimum of 5 seconds. The length of time the switch is held after the door reaches the open position will then be the new time delay.

Example:
- Switch held for 5 seconds = 5 second delay.
- Switch held for 10 seconds = 10 second delay.
- Switch held for 30 seconds = 30 second delay.



Timer select switch is located in the bottom right hand corner of the control panel just above the terminal strip.

3 F1900-PLC Control Installation - continued

3.8 Final Adjustments

For illustration of connections, please refer to diagrams on pages 10–12

Adjustment of Door Stopping Position

1. Adjust the location of the proximity switches so the door will slow down and stop at the desired locations.

Audible Alerts

2. Connect one of the audible alerts supplied to terminals 28 and 29. This audible alert is to warn if there is a BATTERY or charger malfunction.

3. Connect the second audible alert supplied to terminals 30 and 31. This audible alert will sound when the door is open and the operator is in BATTERY mode.

SPECIAL NOTE: Mount the audible alerts in a location where they can be heard clearly. DO NOT mount alerts inside control box enclosure or above ceiling.

BATTERY Connection

4. Connect the RED wire to the positive (+) BATTERY terminal and the BLACK wire to the negative (–) BATTERY terminal.

SPECIAL NOTE: When BATTERY is low the operator will go in and out of BATTERY mode and an alarm will sound. This indicates that there is a BATTERY or BATTERY charger malfunction and that the control panel should be serviced immediately. See 9.2, page 27 for more information.

3 F1900-PLC Control Installation - continued

3.8 Final adjustments - continued

Please refer to diagram on page 19 for illustration of components.

Final Speed Adjustments

Opening and closing speeds may be adjusted by means of the potentiometers marked "OPEN" and "CLOSE". Turn the potentiometers clockwise to increase speed and counter–clockwise to decrease speed.

Velocity for Fire Doors

VELOCITY FOR FIRE DOORS

The average closing speed of a FIRE DOOR must comply with NFPA 80, Section 8.4.1.2.1 which states "The average closing speed of a FIRE DOOR shall be not less than 6 in./second (152mm/second), not including any initial delay time". And also Section 8.4.1.2.2 which states "In buildings where access by the general public is not restricted, the average closing speed for doors used shall be not more than 24 in./sec. (610mm/sec.)"

3 F1900-PLC Control Installation - continued

3.9 Programming for Optional Functions

☞ SPECIAL NOTE: Programming steps provided below are to be used only when functions other than those provided with the FACTORY DEFAULT settings are required. Please read and understand thoroughly before proceeding. Proceed with CAUTION!
If you do not understand the steps provided below, please contact our engineering department at 800–543–4455.

☞ GENERAL NOTES:
The control panel comes factory set to have activator terminal 9 programmed for FULL OPEN with TIME DELAY TO CLOSE and activator terminal 8 programmed for FULL OPEN ONLY for use with the open button on a three button station.
These buttons may be programmed to perform other functions. The procedure for programming these buttons is provided below.

ACTIVATOR TERMINAL 9
(terminals 9 and 7)

PROGRAMMING ACTIVATOR TERMINAL 9:

- Works in BATTERY MODE and normal operation.
- Activator Terminal 9 refers to activators connected to terminals 9 and 7.
- Activator Terminal 9 corresponds to input I/2 on PLC.
- Activator Terminal 9 may be programmed for one of three functions.

1. STEP CONTROL: Remove jumper from terminal 14 and 17.

2. OPEN ONLY: Remove jumper from terminal 14 and 17. With door in the closed position, hold timer switch to the FO position for 5 seconds minimum.

3. TIME DELAY TO CLOSE: Connect jumper from terminal 14 to terminal 17. To set timer, follow procedure given on page 14.

3 F1900-PLC Control Installation - continued

3.9 Programming for Optional Functions - continued

ACTIVCATOR TERMINAL 8
(terminals 8 and 7)

PROGRAMMING BUTTON 8:

– Works in BATTERY MODE and normal operation.
– Activator Terminal 8 refers to activators connected to terminals 8 and 7.
– Activator Terminal 8 corresponds to input I/3 on PLC.
– Activator Terminal 8 may be programmed for one of three functions.

1. STEP CONTROL: Remove jumper from terminal 18 and 23.

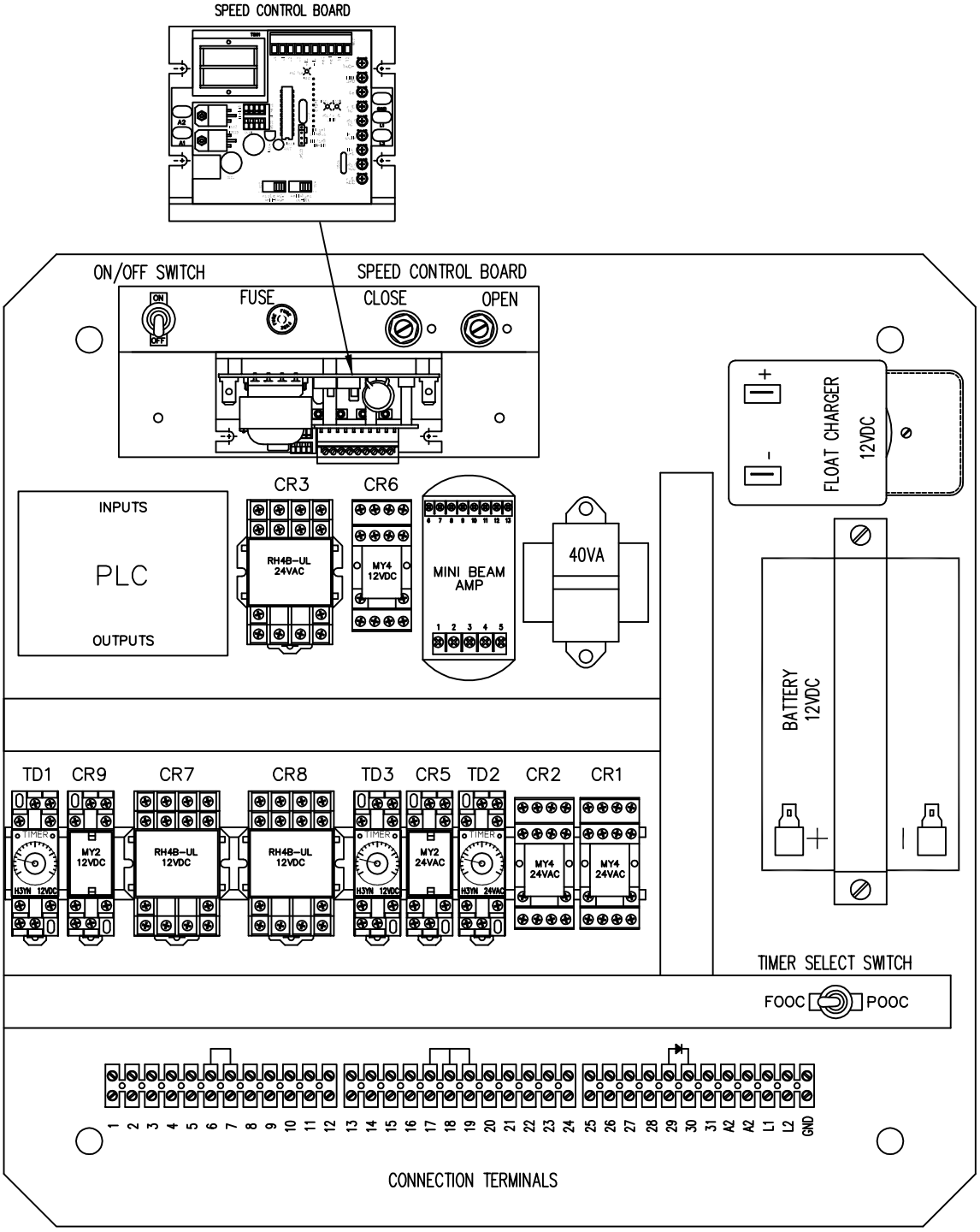
2. OPEN ONLY: Remove jumper from terminal 18 and 23. With door in the closed position, hold timer switch to the PO position for 5 seconds minimum.

3. TIME DELAY TO CLOSE: Connect jumper from terminal 18 terminal 23. To set timer, follow procedure given on page 14.

SPECIAL NOTE: Button 8 may be used for PARTIAL OPEN, see sheet 13.

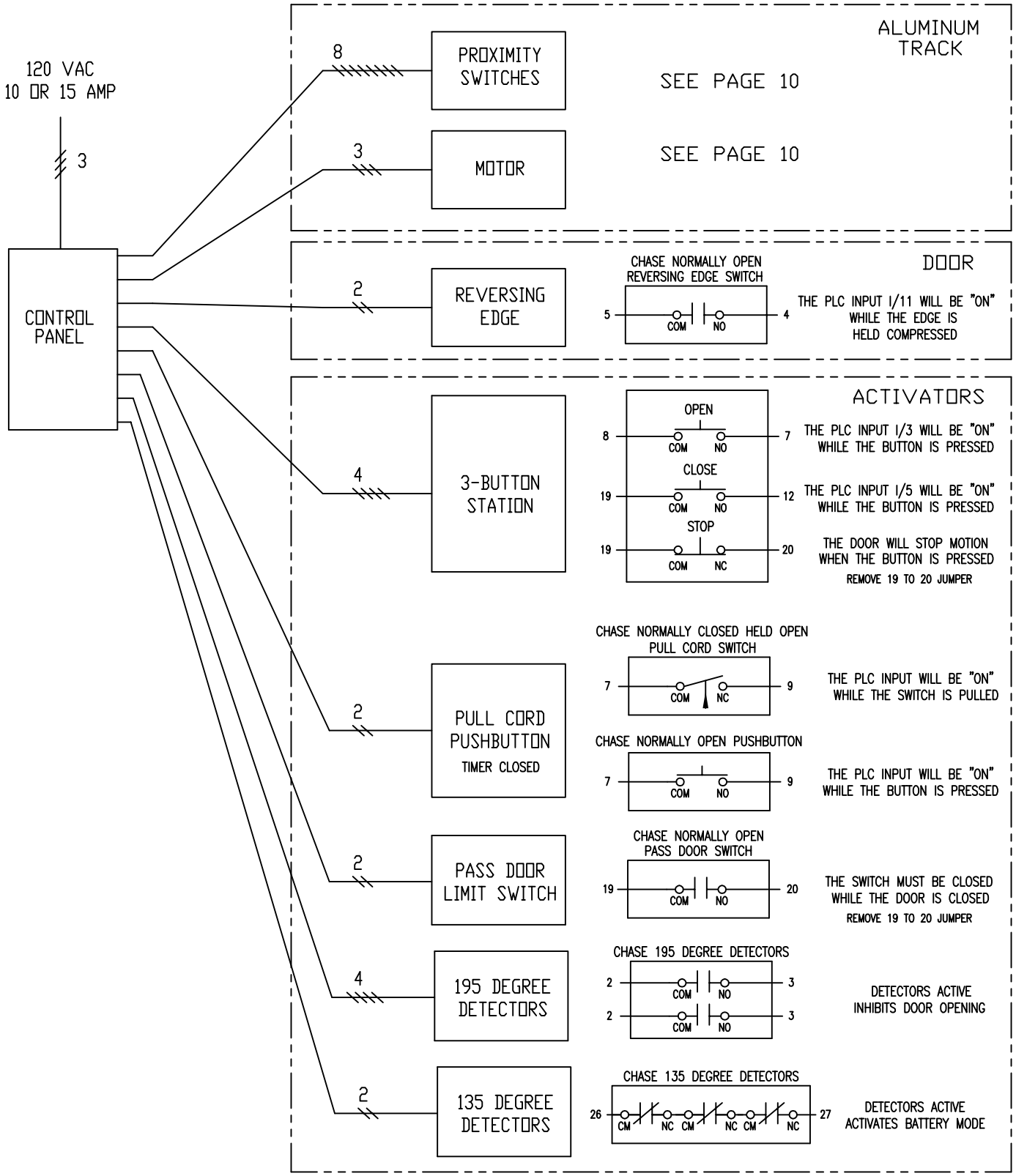
4 F1900-PLC Control Diagrams

4.1 Control Component Layout

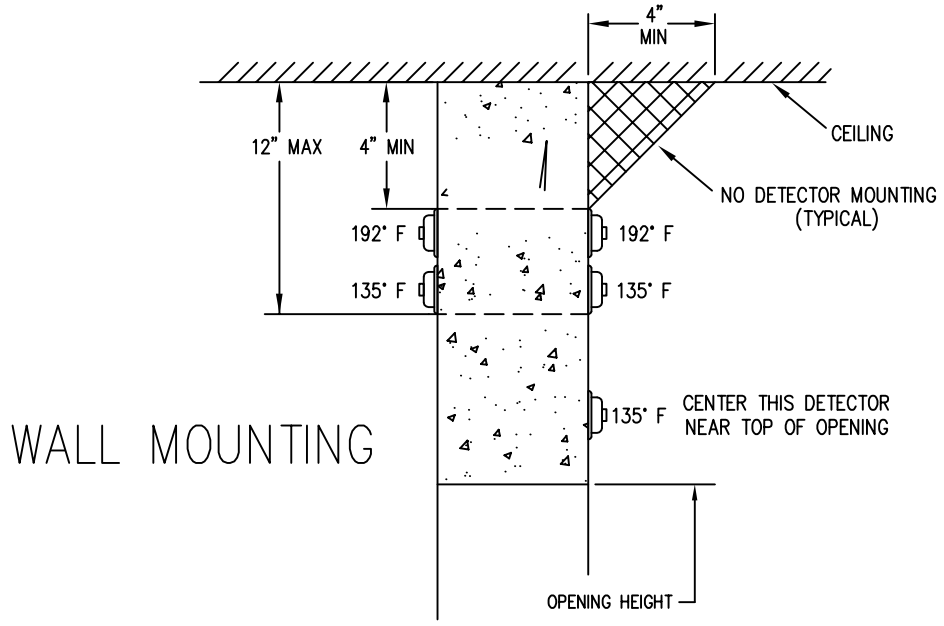


4 F1900-PLC Control Diagrams - continued

4.2 Field Wiring Requirements



5 Heat Detectors



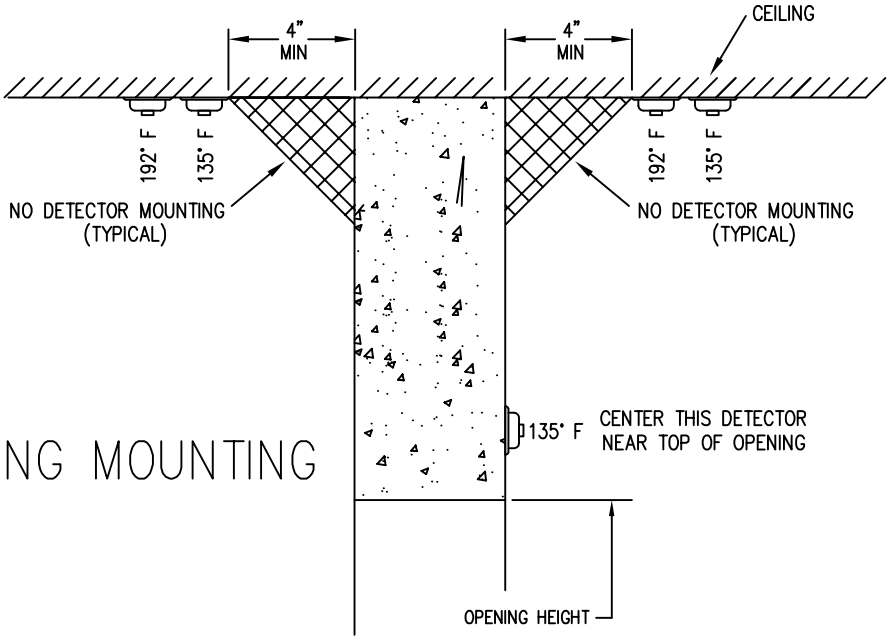
WALL MOUNTING

SUGGESTED PLACEMENT OF DETECTORS

THESE DETAILS SHOW RECOMMENDED DETECTOR PLACEMENT. ALL DETECTORS SHOULD BE CENTERED OVER THE OPENING, WHERE POSSIBLE, HORIZONTALLY LOCAL AUTHORITIES HAVE FINAL PLACEMENT JURISDICTION

SPECIAL CONSIDERATIONS

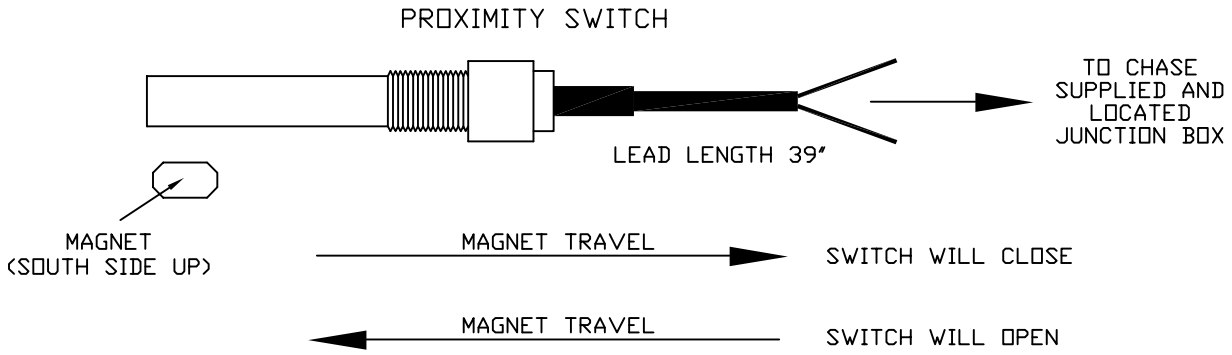
APPROVED DETECTORS (SUCH AS THOSE USED IN AN EXISTING ALARM SYSTEM) MAY BE SUBSTITUTED FOR THE 135° HEAT DETECTORS FURNISHED BY CHASE. THE 195° HEAT DETECTORS CANNOT BE SUBSTITUTED.



CEILING MOUNTING

IF YOU ARE UNSURE CONSULT YOUR LOCAL AUTHORITY HAVING JURISDICTION OVER PLACEMENT

6 Proximity Switch



1. For chain drive systems, the proximity switches are factory installed and pre wired to the Prox Switch Junction Boxes on the aluminum chain drive. For belt drive systems, instructions are provided with the door system for locating and mounting the proximity switches.

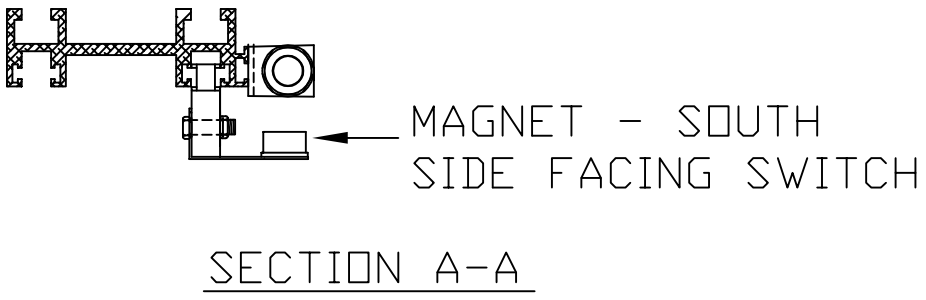
NOTE: Placing the proximity switches in the proper direction is important. See page 23.

2. If not factory wired, Terminate the wires from the proximity switches into the Prox Switch Junction Boxes. Connect the Prox Switch Junction Box wiring to the main control panel and connect as described in section 3.1, item #3.

3. The magnet should be mounted to the carrier and as close to the proximity switch as possible. The magnet is polarized; therefore, it is very important that the south side of the magnet be close to the proximity switches. South is marked "S". See diagram below.

NOTE: Use only the magnet sent with the operator to insure proper operation.

4. The proximity switch is a dry contact (contact rating 60 V – 1 amp) that is positioned in the door system in a normally open position. The only time that the switch should be closed is when the door is in the corresponding position. (Ex. When the door is open the slow open and full open switch will be closed.)



6 Proximity Switch

5. The proximity switches will maintain an open or closed position. The switches are activated by the magnet; therefore, it is necessary to "set" the switches before operating the door.

☞ NOTE: Switches must be manually "set".

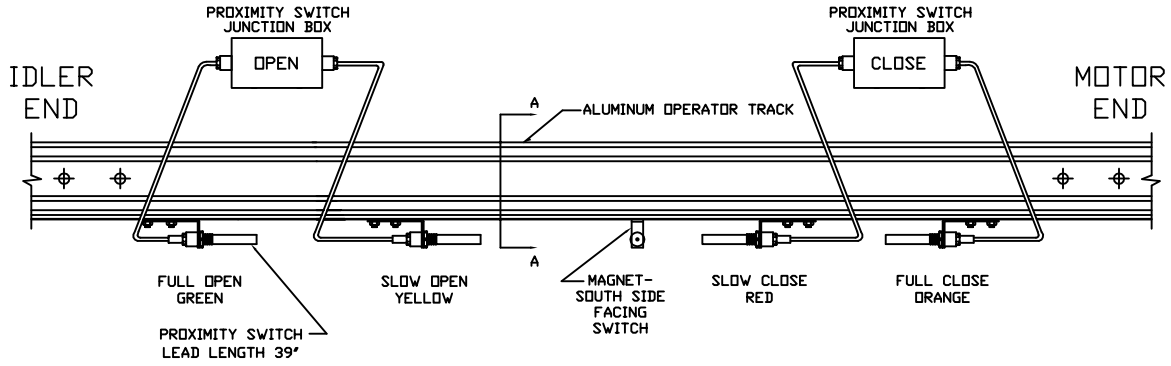
To set the switches, make sure the door is mounted to the drive chain and the magnet is attached to carrier with the south side closest to the proximity switches. With the power off, move the door to the full close position, then open the door to be full open position, then close the door to the halfway position. This procedure will "set" the proximity switches in the proper positions.

ADJUSTMENT:

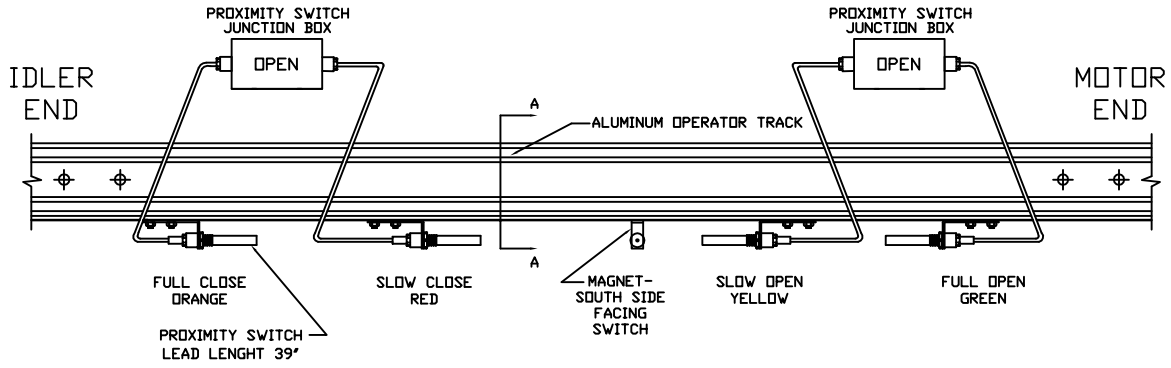
6. The proximity switches are used to sense the position of the door. Their signals tell the control box when to slow down and stop the door. They have been factory located on the aluminum chain guide, but some field adjustment may be required. Simply loosen the mounting bracket and slide the switch along the chain guide. Do not attempt to adjust the proximity switches until the door has been cycled by the operator and it is obvious that the switches are misplaced. Damage to the operator due to the door over–travel may result if the proximity switches are placed out of range.

7. Be sure that the wiring and/or conduit is clear of the chain and sprockets.

JUNCTION BOXES SHOWN ARE FACTORY LOCATED AND PRE WIRED



CENTER PARTING



RH TOP VIEW SHOWN LH OPPOSITE

7 Reversing Edge Air Switch

1. The leading edge of the door has a rubber nose called a "reversing edge". The top of the reversing edge is fitted with a plastic tube that connects to an air switch. The air switch is located in a bell box that you will need to mount on the door. The box is usually mounted to the face of the door or rear edge of the door. The holes in the door are factory predrilled to accept the box.

2. Attach (2) wires from the SJO cord to air switch wires using wire nuts. The other end of the cord will fasten to terminals 4 and 5 in the control box. Panduit clamps have been provided for field installation. Take care not to crimp wires.

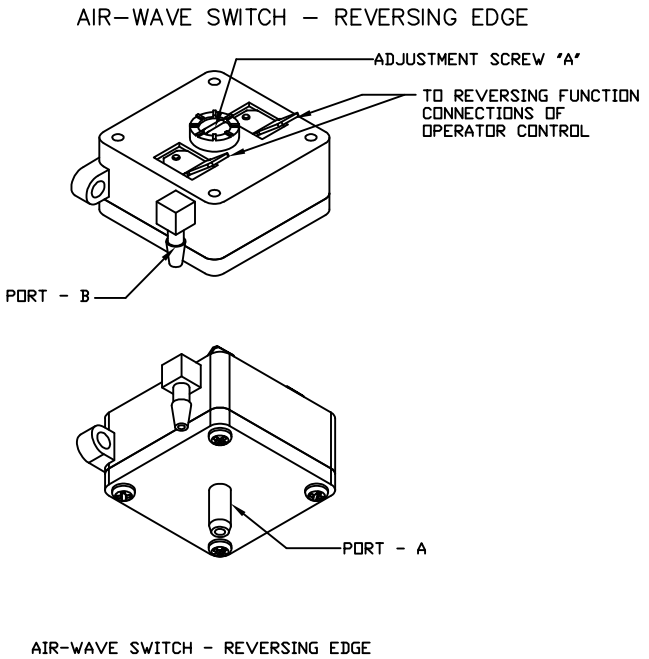
3. For Reversing Edges, connect the air tube from the reversing edge profile to air switch Port–A as shown below. Port–A is located in the middle of the air switch. Panduit clamps may be used to attach air tube to door. Take care not to crush or crimp the air tube.

4. The air switch comes pre–set from the factory as a <u>normally open</u> switch. To adjust the sensitivity of the switch, you will find an adjustment screw located on the opposite side of the normally open feed tube.

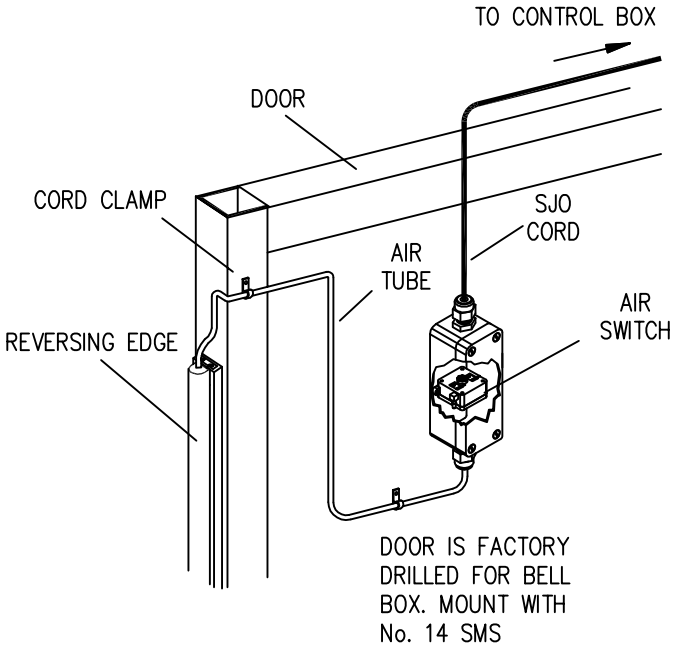
<u>Normally Open:</u>

In order to make the switch more sensitive, turn the adjustment screw clock–wise. This will move the screw closer to the diaphragm inside the switch. Shake the switch when adjusting to ensure it doesn't activate prematurely with the standard door travel. Incorporating the use of an audible electric meter is very helpful in achieving the desired sensitivity prior to connecting the switch to the edge. A normally open switch pushes the diaphragm towards the adjustment crew.

NOTE: The sensitivity of the air diaphragm switch can be so sensitive that the door may not close or the door may begin to close and instantly reverse and go open.



AIR–WAVE SWITCH – REVERSING EDGE



8 Speed Control Board

8.1 Specifications

Model	Armature Current Range (ADC)	Armature Horsepower	Voltage Range (VDC)
RG60U	5.0*	1/8 - 1/2*	0 - 90
	5.0**	1/4 - 1**	0 - 180

* Max. Armature Current = 10 ADC and Max.Horsepower = 1 when mounted to heat sink kit.
** Max. Armature Current = 10 ADC and Max. Horsepower = 2 when mounted to heat sink kit.

AC Line Voltage	115 VAC/230 VAC, ±10%, 50/60 Hz, single phase
Acceleration Time Range	0.5 - 10 seconds
Deceleration Time Range	0.5 - 10 seconds
Analog Input Voltage Range (signal must be isolated; S0 to S2)	0-10 VDC
Load Regulation	
with Armature Feedback	2% base speed
with Tachogenerator Feedback	0.5% base speed
Ambient Temperature Range	10°C - 55°C

8.2 Speed Control Board and Motor Troubleshooting

1. Check incoming drive voltage at L1–L2. Should be 120 VAC =/– 10%. If not in range shut off main power until corrected.

2. Check that the speed pots for open and closed are not turned off. (turned fully CCW).
Turn pot CW to increase speed while door is energized. Refer to page 16 for direction on setting the speeds to comply with current regulations.

3. Check that the correct PLC output is on for desired direction. O4 will be on for open and O5 will be on for close. If not, it may be an input condition not allowing the drive to run. Review your inputs to be sure the door is being activated correctly.

4. If outputs are on correctly, check motor voltage at A1 and A2. Will be 1–90 VDC while running. If there is voltage without movement inspect the door for mechanical issues preventing movement and inspect the motor for improper connection, thermal switch (if so equipped), worn brushes or open armature windings.

5. Check ref. voltage on the drive. Check from S0–S2 . It should be VDC based on the enabled direction and pot setting. If not remove wires from those drive terminals and recheck. If no voltage is present the drive or pot is bad. Pots can be disconnected and checked with a meter.

6. The drive board has been been set up at the factory. There are no user adjustments on the drive board. ANY changes to ANY item on the drive board can result in unexpected operation and will void the warranty on the drive.

1924 / F1900 PLC OPERATOR

DOOR TROUBLESHOOTING WITH PLC INDICATOR LIGHTS

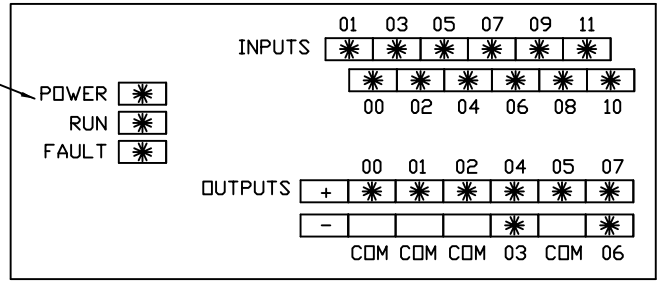
STATUS INDICATORS

POWER ON INDICATOR
If Off:
1.- Check POWER ON SELECTOR
2.- Check MAIN FUSES
3.- Check Transformer Fuses

PLC RUN INDICATOR
If Off:
1.- Call CHASE DOORS REPRESENTATIVE

PLC FAULT INDICATOR
If On / Flashing:
1.- Call CHASE DOORS REPRESENTATIVE

NOTE: INPUT OR OUTPUT IS "ON" IF LIT



INPUTS		NORMAL INPUT STATE	TROUBLESHOOTING
I/0	FULL OPEN PROX. SWITCH	ON IF DOOR IS FULLY OPENED	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/1	INTERLOCK INPUT	ON TO ALLOW DOOR TO OPEN	IF NOT INTERLOCKED, JUMPER FROM 19-20 MUST BE IN PLACE
I/2	FULL OPEN/CLOSE ACTIVATORS	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF, MOMENTARY
I/3	FULL/PARTIAL/STEP ACTIVATORS	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF, MOMENTARY
I/4	FULL OPEN TIMER CLOSE ACTIV.	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF
I/5	CLOSE ONLY ACTIVATORS	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF, MAINTAINED
I/6	SLOW CLOSE PROX. SWITCH	ON FOR DOOR SLOW TO CLOSE ACTIVE	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/6	SLOW OPEN PROX. SWITCH	ON FOR DOOR SLOW TO OPEN ACTIVE	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/7	FULL CLOSED PROX. SWITCH	ON IF DOOR IS FULLY CLOSED	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/8	PARTIAL OPEN PROX. SWITCH	ON IF DOOR IS IN PARTIAL OPEN POS.	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/9	FULL OPEN TIMER SELECT	ON IF FULL TIMER TO CLOSE SELECTED	IF NOT ON, CHECK JUMPER FROM 14-19
I/10	PARTIAL OPEN TIMER SELECT	ON IF PARTIAL TIMER TO CLOSE SELECTED	
I/11	REVERSING ACTIVATORS	OFF IF REVERSING DEVICE IS NOT ACTIVE	REVERSING DEVICE MUST CHANGE STATE TO ON AND OFF

OUTPUTS		NORMAL OUTPUT STATE	TROUBLESHOOTING
O/0	STOP COMMAND TO DRIVE	ON IF DRIVE STOPPED	IF ON AND DOOR NOT STOPPED CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/1	DOOR INTERLOCK OUTPUT	ON IF DOOR CLOSED	IF INCORRECT, CHECK CLOSED PROX. SWITCH ADJUSTMENT AND POLARITY
O/2	SPARE		
O/3	BATTERY CHARGER (OPTION)	CYCLES BATTERY CHARGER ON/OFF	IF HORN SOUNDS CHECK BATTERY CHARGER OUTPUT AND BATTERY VOLTAGE
O/4	DOOR OPEN TO DRIVE	ON WHILE DOOR OPENING	IF ON AND DOOR NOT OPENING CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/5	DOOR CLOSE TO DRIVE	ON WHILE DOOR CLOSING	IF ON AND DOOR NOT CLOSING CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/6	SLOW DOWN SPEED SELECT	ON WHILE DOOR CLOSING SLOW SPEED	IF ON AND DOOR NOT SLOWING CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/7	DRIVE REFERENCE	ON FOR SPEED REFERENCE	FUNCTION CANNOT BE ALTERED

9 Troubleshooting - continued

9.2 Troubleshooting

Problem: Door cycles between BATTERY mode and normal operation. (Seems to be intermittent)
Cause: When BATTERY is low the operator will go in and out of BATTERY mode and an alarm will sound. This indicates that there is a BATTERY or BATTERY charger malfunction and that the control panel should be serviced immediately.

Corrective Action:
1. Unplug the BATTERY. When both charger lights are on, check the voltage output. It should read approximately 13 Volts. If this voltage is less than 13 volts when both lights are on, the charger is malfunctioning and should be replaced.

2. Check the BATTERY voltage. If the voltage from the BATTERY is less than 12 volts then allow the charger to charge the BATTERY for approximately 8 hours. After 8 hours, recheck the BATTERY voltage. If no significant increase in voltage has occurred, then replace the BATTERY.

Problem: Motor rotation seems to be incorrect.
Cause: Possible causes include malfunctioning activators or safety devices or motor leads incorrectly connected.

Corrective Action:
1. Turn main power off at ON/OFF switch and disconnect activators from terminals 8 and 9, reversing edge from terminals 4 and 5, and mini beam amp contact, treminal 5.

2. Connect BATTERY terminals. Connect red wire to positive (+) terminal and black wire to negative (–) terminal. Door should begin to close. If door tries to open, then reverse motor leads. (Do not reverse BATTERY leads) When door reaches the close proximity switch, the motor should turn off. If motor continues to run, then there is a problem with the full close proximity switch. Review pages 22 and 23 and correct proximity switch problem.

3. Touch jumper to 7 and 9. Verify that door opens while jumper is held on terminals 7 and 9 and closes when jumper is released.

4. Reconnect reversing edge to terminals on 4 and 5. If door begins to open and reversing edge rubber is not being pressed, then the reversing edge switch sensitivity should be adjusted as shown on page 24.

5. Reconnect activators to terminals 8 and 9, one at a time, and check each activator for proper operation. If the door malfunctions after connecting an activator, correct the problem with the activator and re–test.

6. Turn main power ON/OFF switch to the ON position. Test door to verify proper operation.

9 Troubleshooting - continued

9.3 Troubleshooting - continued

1. After initial sensor connection if the green and red lights are flashing press and hold the Programming button until both lights are on steady. This will calibrate the sensors.

Test to be sure that PLC input I/11 goes on and off as sensor sets are blocked/unblocked.

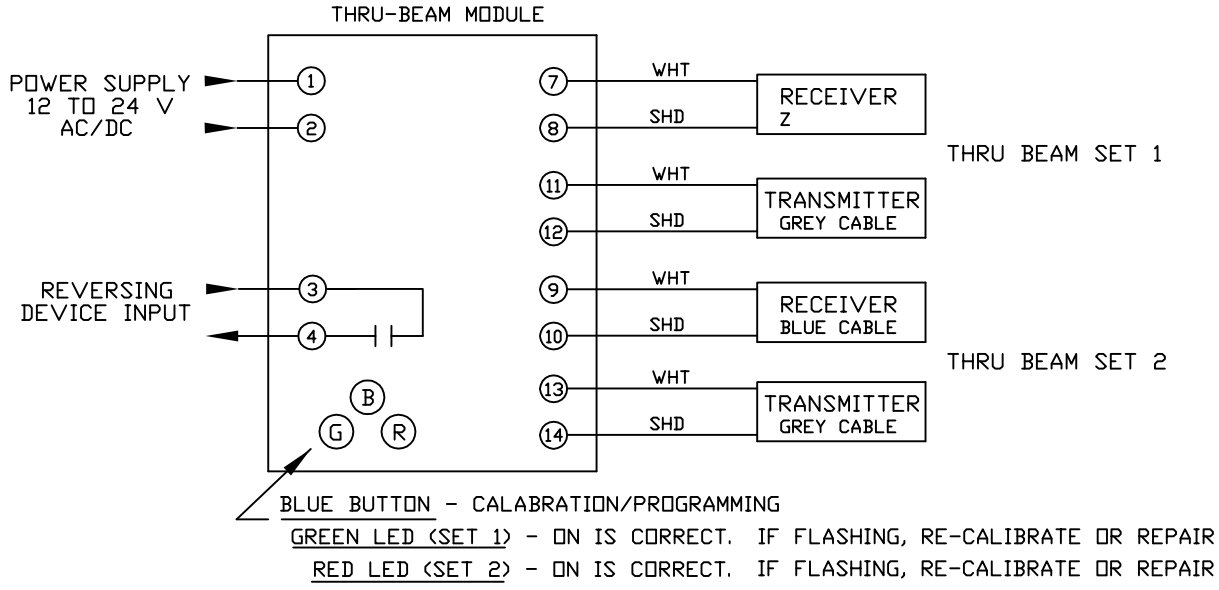
If the lights will not stay on steady OR the PLC input does not function properly the Thru-Beam Module may need to be programmed.

TO PROGRAM THE Thru-Beam Module:

Press and hold the programming button until the red light flashes and release it. Press the programming button one time. The red light will flash in a pattern of 2 flashes, off, 2 flashes off. Press and hold the programming button until both red and green lights are steady. Note that during programming if there is no input for 10 seconds the Thru-Beam Module will reset to default and the process must be restarted.

Re-test to be sure that the PLC input I/11 operates properly.

NOTE: AS STATED ELSEWHERE IN THE INSTALLATION MANUAL THE THRU-BEAM SWITCH OPERATION MUST BE TESTED DAILY BEFORE USE.



9 Troubleshooting - continued

9.3 Troubleshooting - continued

2. If the Thru–Beams are not operating correctly possible causes may include dirty lenses, an obstruction in the door opening, mis–aligned sensors, damaged wiring, or incorrect wiring to the Thru–Beam module in the control panel.

Sensors should always be re–calibrated after any change or repair is made. In some cases re–programming of the Thru–Beam Module may be neccessary. Refer to page 21.

Check wiring to eyes and make sure the wiring is not damaged. If any insulation is damaged, replace the damaged wire. Also check connections of wires to the module in the control box. Make sure wires are connected per the connection diagram.

Clean lenses on transmitter and receiver. Make sure no dirt is clouding the lenses. A scratched face of the sensor may result in no operation and replacement would be required.

Make sure there are no obstructions blocking the path of the Thru–Beams

Check alignment of eyes and mounting brackets. When eyes are aligned, the correct channel light on the Thru–Beam module should come on.

NOTE: AS STATED ELSEWHERE IN THE INSTALLATION MANUAL THE THRU–BEAM SWITCH OPERATION MUST BE TESTED DAILY BEFORE USE.

F1900-PLC Operator
3RD Generation
Installation & Owner Manual

Attention:

Please read this manual prior to installing and operating your door.

Recheck your work before operation.

Notice to Installer: This manual must be left with the End User. Personally deliver to the End User's attention.

Chase Doors

TEL: (800) 543-4455 FAX: (800) 978-6570

www.chasedoors.com

11/30/2016

Contents

1 Introduction

Addressee/Applicability

This manual and the information therein is the sole property of Chase Industries Inc., and is given solely to individuals who purchase the F1900–PLC operator. Its intent is to instruct the purchaser on the operation of the F1900–PLC operator. Use of this information without purchasing the F1900–PLC operator product or the consent of Chase Industries Inc. is strictly forbidden. Copying of this manual in any way is forbidden without the express consent of Chase Industries Inc.

Training in the use of this door product is ultimately the responsibility of the end user. Chase Industry approved installers will instruct and provide the end user's supervisor with the manual. It will then become the responsibility of the end user to further instruct each individual in his company using this door with the specifics of its operations.

Explanation of Symbols

In these instructions, we have denoted all positions that concern your safety with this symbol.

This symbol warns of electrical voltage.

This symbol marks all positions that are significant for proper operation of the system. Non–adherence can cause material damage.

This symbol denotes optional components. Check order to see what components have been ordered for your particular door system.

2 Safety

2.1 General Safety and Accident Prevention Instruction

Prior to commissioning of the door system or before doing any repair or maintenance work, the operating instructions of the door system, operator, and the following safety directions should be studied with great care and followed closely.

In any case, please pay attention to the specially marked notes within this document (see chapter 1 for an explanation of symbols).

Use for Intended Purpose

The F1900–PLC operator has been designed and constructed according to the current state of technology and the recognized safety related rules. The F1900–PLC operator is listed under UL 924.

Any other use, or any use exceeding this aim, is determined to be not for its intended purpose and may cause personal injuries to the user or a third party. The manufacturer will not be liable for damages resulting from such uses; the risk will be borne entirely by the operator of the door system.

Relevant Regulations

All wiring and electrical work shall conform with the NEC (National Electrical Code) and any other applicable local, state, and federal codes.

The operating, maintenance and service conditions are to be maintained as directed by the manufacturer. The persons performing maintenance and service must be acquainted with the system and must have been informed of any possible danger.

Unauthorized modifications to the system exempt the manufacturer from any liability.

Requirements Concerning Installation Personnel

The installation on site may only be performed by professionals who have adequate knowledge in the discipline of power operated doors based on their vocational training and experience and who are acquainted with the applicable national worker's protection rules, accident prevention instructions, guidelines and generally recognized rules of the technology to such an extent that they can appraise the safe working condition of power operated doors.

It is a prerequisite that these people should be trained/experienced in metal working and fastening techniques.

2 Safety - continued

2.2 Safety Considerations - continued

Basic Safety Measures - Appropriate Behaviour

Use system only in a technically sound condition. Ensure that faults, which could diminish safety, are eliminated at once.

Keep fingers away from any moving components. Special caution is required in the region of the sprockets or pulleys.

Use tools suitable for the respective work sequence. Ensure that the tools are in a sound condition.

WARNING: No work should be undertaken of any sort while the power supply is on. Always switch the Disconnect provided in the control box, OFF while working on the control panel or connecting cables.

HIGH VOLTAGE: Electric shock can cause serious injury or death. Always check the manual Disconnect Switch to be sure it is in the OFF position during wiring or mechanical work on the door. When uncertain if power is disconnected, always check with a voltmeter.

All electrical wiring must be done by qualified electricians. Wiring must meet all local, state, and federal codes.

Before powering door system please perform the following steps:

1. To avoid runaway operation when setting up the operator, turn both open and close speed potentiometers to full counter–clockwise positions. Then turn both 1/4 turn clockwise.

2. Insure door "stops" have been installed to avoid over travel.

3. Place the door in mid travel position.

3 F1900-PLC Control Installation

3.1 Installation/Field Connections

For illustration of connections, please refer to diagrams on pages 10–13

Motor Connection

1. Connect the motor leads to terminals A1 and A2.

NOTE: Reversing the motor leads will change motor rotation.
NOTE: The green wire is the ground wire that needs to be attached to terminal GND.

Vent Plug

2. Install the enclosed vent plug on the gear head. Replace the plug colored yellow with the vent plug. The vent plug is enclosed in the conduit box.

Proximity Switches

3. Install proximity (limit) switches as shown on pages 22–23 and as shown in the door installation manual. (For most chain drive operators, the proximity switches are factory mounted to the drive system) For chain drive operators, color coded identification stickers have been placed on the drive system to show general location of the switches. Location of the proximity switches should be adjusted from these starting locations. For belt drive systems, see door installation manual.

NOTE: 17, 18, & 19 are jumpered so that they are the same terminal.

Refer to page 10:
- Connect the full closed proximity switch to terminals 10 and 11.
- Connect the full opened proximity switch to terminals 25 and 26.
- Connect the slow close proximity switch to terminals 24 and 26.
- Connect the slow open proximity switch to terminals 15 and 17.

Partial Open Proximity Switch

4. Connect the partial open proximity switch (if applicable) to terminals 16 and 17.

Magnet

5. Check to make sure the magnet is attached to the carrier as shown on the proximity switch detail. Check to make sure the "S" marking on the magnet is facing the proximity switches.

Setting Memory of Proximity Switches

6. Manually set the "memory" of the proximity switches as explained on page 23.

3 F1900-PLC Control Installation - continued

3.1 Installation/Field Connections - continued

For illustration of connections, please refer to diagrams on pages 10–12

IMPORTANT NOTES:
MOTOR ROTATION MUST BE CONFIRMED BEFORE THE CONNECTION OF ANY ACTIVATORS AND BATTERY MUST BE FULLY CHARGED TO PROCEED

Test Motor Rotation

7. Put door in mid position and then connect the BATTERY terminals. Connect red wire to the positive (+) BATTERY terminal and black wire to negative (–) BATTERY terminal. The door should then begin to move to the closed position. If the door begins to open, disconnect the BATTERY terminals and reverse the motor leads as described in item 1, page 6. DO NOT REVERSE THE BATTERY LEADS OR INTERNAL WIRING! Retest to verify that motor rotation is correct. Make sure the doors stops at the full close proximity switch. Once the door closes, momentarily touch jumper to 6 and 9 to verify that door moves in the open direction. If door does not start to move in the open direction, please see troubleshooting, page 27. After motor rotation has been correctly set, disconnect BATTERY at this point so that it will not run the door during setup.

120 Volt AC Connection

8. Connect the 120 volt AC to terminals L1 and L2. Connect the ground wire to terminal GND. Please note: If the motor is 1/2 HP, a 10 amp circuit is required. If the motor is 3/4 HP, a 15 amp circuit is required.

Initial Speed Adjustment

9. Turn both open and close speed potentiometers to full counter–clockwise positions. Then turn both 1/4 turn clockwise. See component layout on page 19 to locate these potentiometers. These potentiometers are clearly marked in the control panel.

Test Closed Position

10. Reconnect the red wire to the positive (+) BATTERY terminal and the black wire to the negative (–) BATTERY terminal. . Put ON/OFF switch to ON position. The door should remain closed. (If the door opens, something is connected to tell the door to open; disconnect whatever is telling door to open)

Test Open Cycle

11. Touch jumper to terminals 13 and 19 to signal the door to fully open. Adjust speed of door to desired speed using the open potentiometer. Check to make sure door slows down at the slow open proximity switch and stops at the full open proximity switch. If not, check proximity switches.

Test Closed Cycle

12. After opening door by jumping 13 and 19, allow timer to close door. Adjust speed of door to desired speed using the close potentiometer. Check to make sure door slows down at slow close proximity switch and stops at full close proximity switch. If not, check proximity switches.

3 F1900-PLC Control Installation - continued

3.1 Installation/Field Connections - continued

For illustration of connections, please refer to diagrams on pages 10–12

Prepare Control Panel to Connect activators and Devices

13. After verifying that door operates properly, slows at slow down proximity switches, and stops at the full open and full close proximity switches, put ON/OFF switch to OFF position and disconnect BATTERY terminals. After verification, proceed with connecting activators and other devices.

Reversing Edge

NOTE: TEST REVERSING EDGE OPERATION DAILY

14. Connect the reversing edge switch. For air switches connect the bell box with the air diaphragm switch to the door as shown in the door installation instructions. Connect terminals 1 and 2 of the air diaphragm switch to terminals 4 and 5 in the control panel. Refer to page 24 for air diaphragm instructions. TEST OPERATION DAILY.

15. Connect the activators. Please see page 10 thru 13.

195 Degree Heat Detectors

16. Wire the 195 degree, normally open heat detectors to terminals 2 and 3. See page 21 for placement of detectors.

NOTE: The 195 degree heat detectors MUST BE WIRED IN PARALLEL. See page 21 for placement of heat detectors.

135 Degree Heat Detectors

17. Remove the jumper from terminals 26 and 27. And replace with provided normally closed 135 degree heat detectors.

NOTE: The 135 degree heat detectors MUST BE WIRED IN SERIES. See page 21 for placement of heat detectors.

Thru-Beams (OPTIONAL) see page 28 for connection and calibration

18. On doors supplied with Thru–Beams, connect the Thru–Beam cables directly to the Thru–Beam module in the main control box. Connection of cables are indicated on the module. Also see the connection diagram on page 28.

NOTE: It is best to disconnect the Thru–Beam module contact to the PLC input (terminal #4 on blue and white Thru–Beam module) prior to initial start up. AFTER INSTALLATION IS COMPLETE, RECONNECT AND CALIBRATE THE THRU–BEAMS AND TEST THEIR OPERATION. See the instructions on page 28.

NOTE: AS STATED IN THE INSTALLATION MANUAL THE THRU–BEAM OPERATION MUST BE TESTED DAILY BEFORE USE.

19. SPECIAL NOTE: If the cables on the Thru–Beams are not long enough the Thru–Beam module may be relocated by the installer remotely from the main control panel in an enclosure, where the Thru–Beam cables will be long enough, and then wired back to the main control panel. See the connection diagram on page 28.

DO NOT EXTEND THE THRU–BEAM CABLES.
Consult factory with questions.

3 F1900-PLC Control Installation - continued

3.2 Activator Connections

For illustration of connections, please refer to diagrams on pages 10–12

PLEASE NOTE: several terminals are jumpered so that they are the same potential. Pay attention when connections are made.

Non-Powered activators such as Buttons or Pull Cords

NON–POWERED ACTIVATORS

1. Connect activator for FULL OPEN/TIME DELAY TO CLOSE to terminals 7 and 9.

2. Connect activator for FULL/PARTIAL OPEN/STEP CONTROL to terminals 7 and 8.

3. For 3 button station connection see page 13.

POWERED ACTIVATORS SUCH AS SENSORS OR FLOOR LOOPS

For FULL OPEN powered activators, connect sensor or floor loop to terminals 13 and either 17, 18 or 19.

Powered activators such as Sensors or Floor Loops

SPECIAL NOTE: Powered activators such as sensors and floor loops do not function in BATTERY mode. A non–powered activator such as a push button or pull cord is required on each side of the opening so that door can be opened in BATTERY mode. These buttons should be connected to terminals 7 and 9 or 7 and 8 in order to function in BATTERY mode.

INTERLOCKS (IF APPLICABLE)

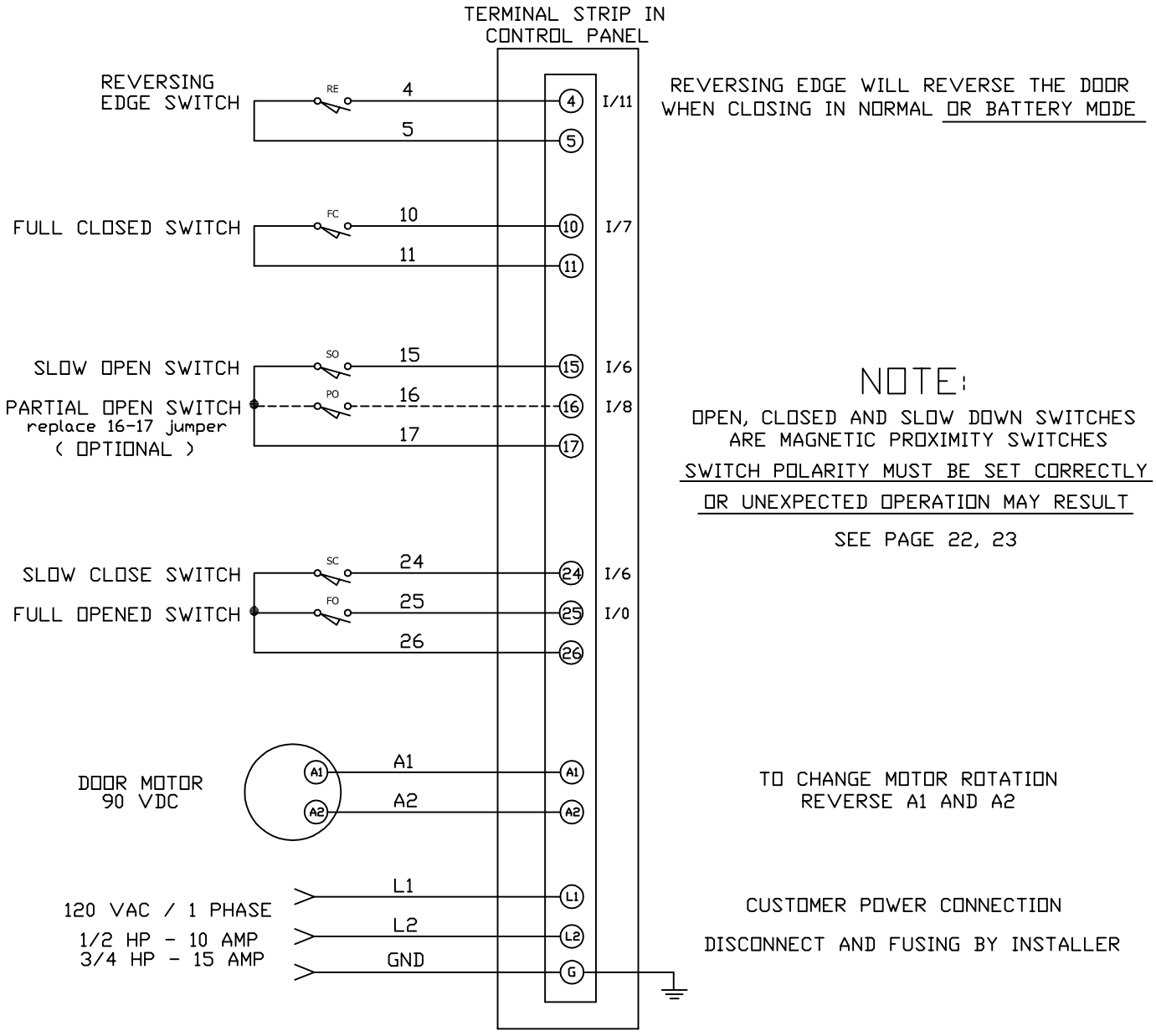
Interlocks (If Applicable)

1. The interlock input is located on terminals 19 and 20. The contact for the interlock input should be normally closed. The control panel is shipped with a jumper on 19 and 20. If an interlock is required, make connections for interlock at terminal 19 and 20 and REMOVE JUMPER. When this contact is open, the door is disabled.

2. The interlock output is located on terminals 21 and 22. The output is a dry contact and is closed only when door is in the full closed position.

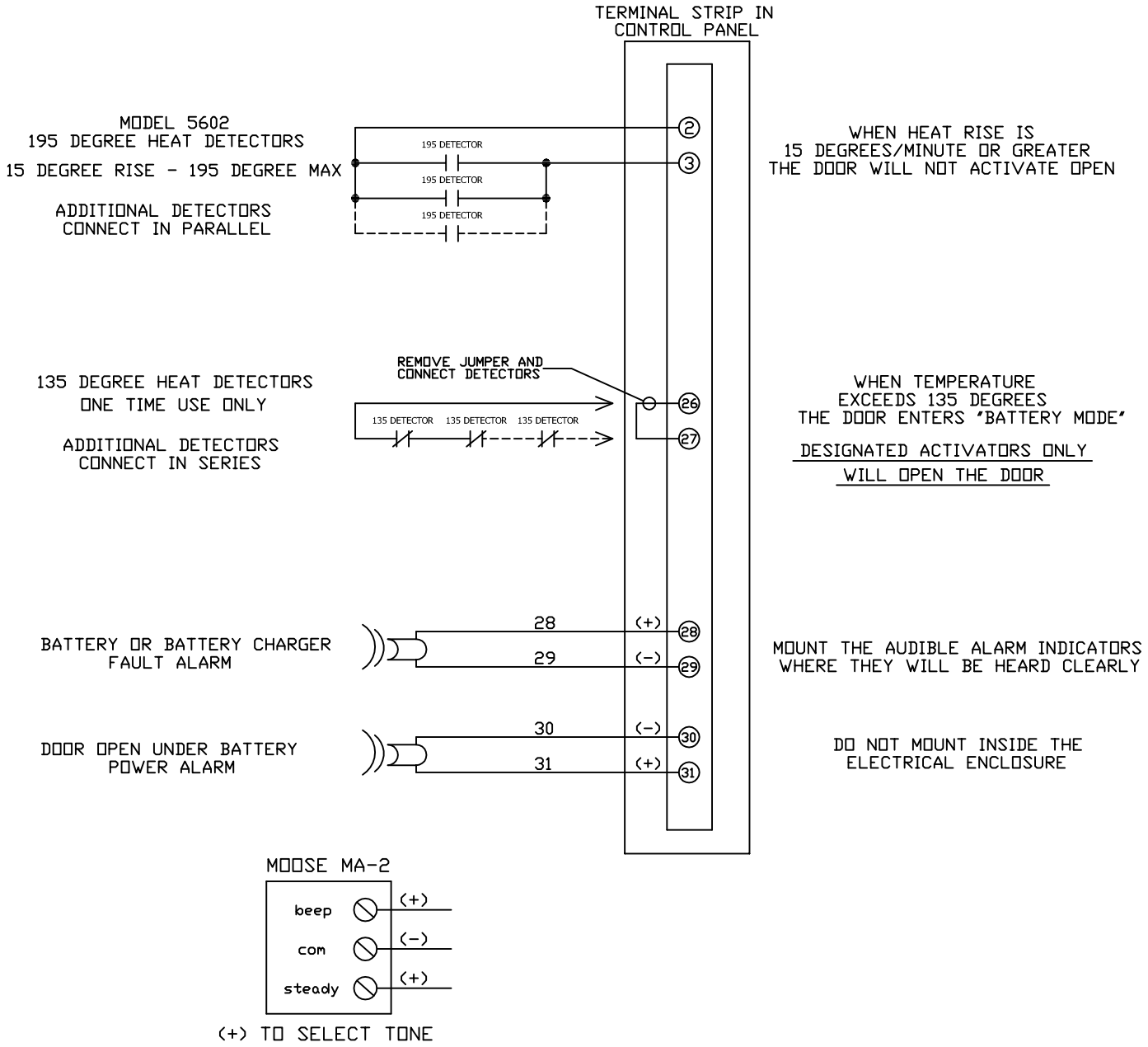
3 F1900-PLC Control Installation - continued

3.3 activator Connections-
STANDARD DOOR COMPONENT CONNECTIONS



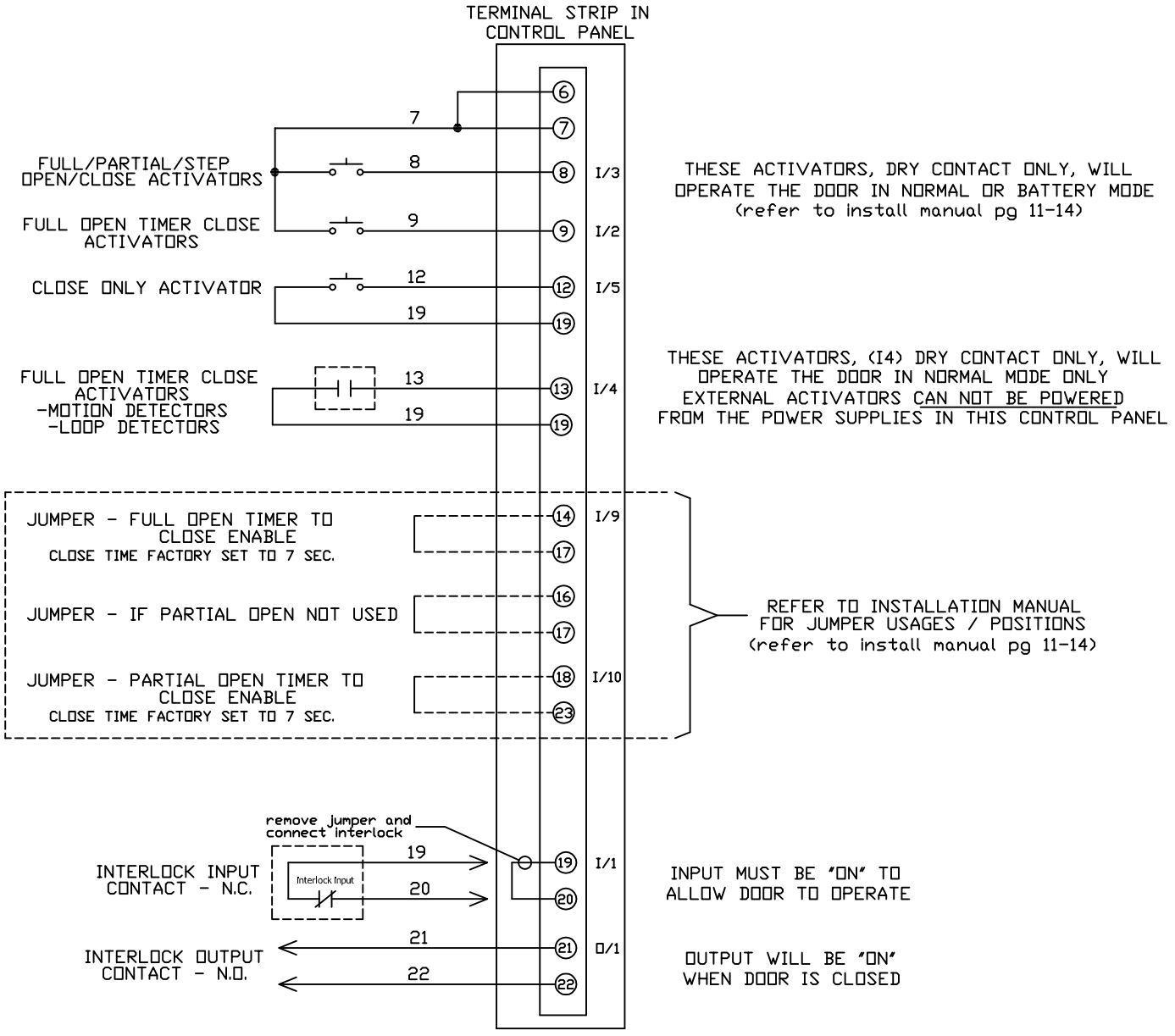
3 F1900-PLC Control Installation - continued

3.4 activator Connections-
FIRE DETECTION COMPONENT CONNECTIONS



3 F1900-PLC Control Installation - continued

3.5 activator Connections-
ACTIVATOR CONNECTIONS

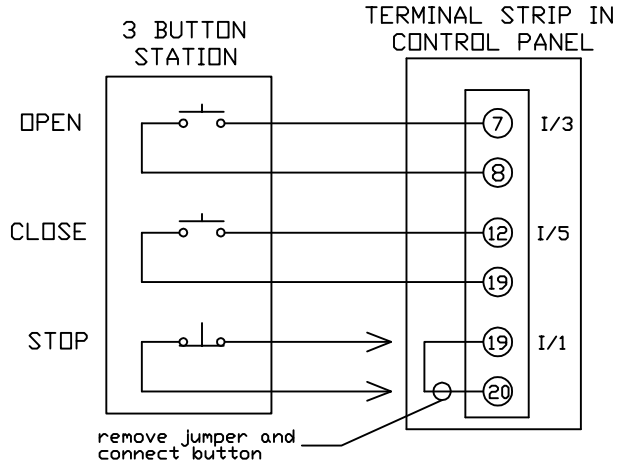


3 F1900-PLC Control Installation - continued

3.3 activator Connections-
OPTIONAL ACTIVATOR CONNECTIONS

3 BUTTON STATION

REFER TO PAGE 17 FOR
PROGRAMMING ACTIVATOR TERMINAL 8
FOR OPEN ONLY

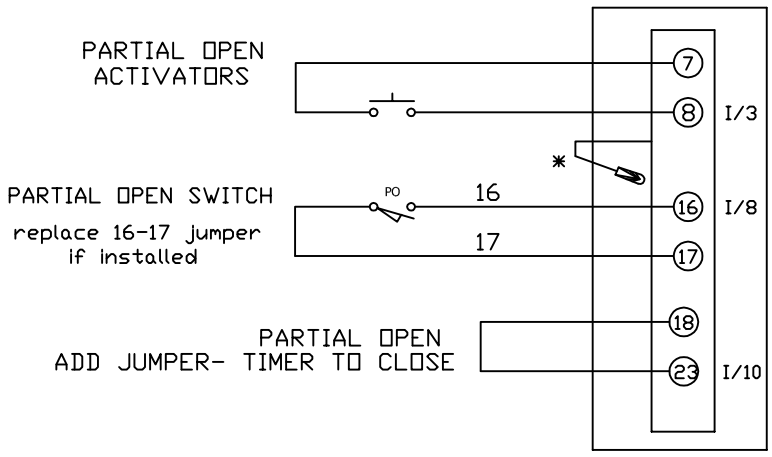


PARTIAL OPEN

If PARTIAL OPEN is required, the pushbutton on terminals 7 and 8 may be used to connect a PARTIAL OPEN activator.

perform the following steps to set up PARTIAL OPEN:

1. Remove jumper wire from terminal 16 and cap it with a wire nut * .
2. Connect PARTIAL OPEN proximity switch to terminals 16 and 17.
3. Connect activator for partial open to terminals 8 and 7.
4. For most applications, partial open works with a TIME DELAY TO CLOSE. Connect a jumper from terminal 18 to terminal 23 for TIME DELAY TO CLOSE on partial open. To set timer, follow procedure given on page 14.



3 F1900-PLC Control Installation - continued

3.7 Setting Time Delay to Close

Timer for Activator Terminal 9 (terminal 9 & 7)

ADJUSTING TIME DELAY TO CLOSE FOR ACTIVATOR TERMINAL 9:

1. If not already installed, Install a jumper in terminals 14 and 17.

2. Hold timer switch in "FOOC" position. Door will open.

3. When the door reaches the full open position, continue to hold the timer switch in the "FOOC" position for a minimum of 5 seconds. The length of time the switch is held after the door reaches the full open position will then be the new time delay.

Example:
- Switch held for 5 seconds = 5 second delay.
- Switch held for 10 seconds = 10 second delay.
- Switch held for 30 seconds = 30 second delay.

Timer for Activator Terminal 8 (terminal 8 & 7)

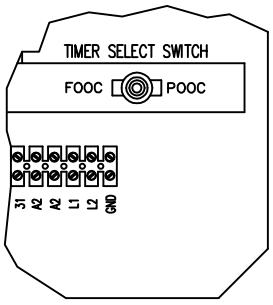
ADJUSTING TIME DELAY TO CLOSE FOR ACTIVATOR TERMINAL 8:

1. If not already installed, Install a jumper in terminals 18 and 23.

2. Hold timer switch in "POOC" position. Door will open.

3. When the door reaches the open position, continue to hold the timer switch in the "POOC" position for a minimum of 5 seconds. The length of time the switch is held after the door reaches the open position will then be the new time delay.

Example:
- Switch held for 5 seconds = 5 second delay.
- Switch held for 10 seconds = 10 second delay.
- Switch held for 30 seconds = 30 second delay.



Timer select switch is located in the bottom right hand corner of the control panel just above the terminal strip.

3 F1900-PLC Control Installation - continued

3.8 Final Adjustments

For illustration of connections, please refer to diagrams on pages 10–12

Adjustment of Door Stopping Position

1. Adjust the location of the proximity switches so the door will slow down and stop at the desired locations.

Audible Alerts

2. Connect one of the audible alerts supplied to terminals 28 and 29. This audible alert is to warn if there is a BATTERY or charger malfunction.

3. Connect the second audible alert supplied to terminals 30 and 31. This audible alert will sound when the door is open and the operator is in BATTERY mode.

SPECIAL NOTE: Mount the audible alerts in a location where they can be heard clearly. DO NOT mount alerts inside control box enclosure or above ceiling.

BATTERY Connection

4. Connect the RED wire to the positive (+) BATTERY terminal and the BLACK wire to the negative (–) BATTERY terminal.

SPECIAL NOTE: When BATTERY is low the operator will go in and out of BATTERY mode and an alarm will sound. This indicates that there is a BATTERY or BATTERY charger malfunction and that the control panel should be serviced immediately. See 9.2, page 27 for more information.

3 F1900-PLC Control Installation - continued

3.8 Final adjustments - continued

Please refer to diagram on page 19 for illustration of components.

Final Speed Adjustments

Opening and closing speeds may be adjusted by means of the potentiometers marked "OPEN" and "CLOSE". Turn the potentiometers clockwise to increase speed and counter–clockwise to decrease speed.

Velocity for Fire Doors

VELOCITY FOR FIRE DOORS

The average closing speed of a FIRE DOOR must comply with NFPA 80, Section 8.4.1.2.1 which states "The average closing speed of a FIRE DOOR shall be not less than 6 in./second (152mm/second), not including any initial delay time". And also Section 8.4.1.2.2 which states "In buildings where access by the general public is not restricted, the average closing speed for doors used shall be not more than 24 in./sec. (610mm/sec.)"

3 F1900-PLC Control Installation - continued

3.9 Programming for Optional Functions

☞ SPECIAL NOTE: Programming steps provided below are to be used only when functions other than those provided with the FACTORY DEFAULT settings are required. Please read and understand thoroughly before proceeding. Proceed with CAUTION!
If you do not understand the steps provided below, please contact our engineering department at 800–543–4455.

☞ GENERAL NOTES:
The control panel comes factory set to have activator terminal 9 programmed for FULL OPEN with TIME DELAY TO CLOSE and activator terminal 8 programmed for FULL OPEN ONLY for use with the open button on a three button station.
These buttons may be programmed to perform other functions. The procedure for programming these buttons is provided below.

ACTIVATOR TERMINAL 9
(terminals 9 and 7)

PROGRAMMING ACTIVATOR TERMINAL 9:

- Works in BATTERY MODE and normal operation.
- Activator Terminal 9 refers to activators connected to terminals 9 and 7.
- Activator Terminal 9 corresponds to input I/2 on PLC.
- Activator Terminal 9 may be programmed for one of three functions.

1. STEP CONTROL: Remove jumper from terminal 14 and 17.

2. OPEN ONLY: Remove jumper from terminal 14 and 17. With door in the closed position, hold timer switch to the FO position for 5 seconds minimum.

3. TIME DELAY TO CLOSE: Connect jumper from terminal 14 to terminal 17. To set timer, follow procedure given on page 14.

3 F1900-PLC Control Installation - continued

3.9 Programming for Optional Functions - continued

ACTIVCATOR TERMINAL 8
(terminals 8 and 7)

PROGRAMMING BUTTON 8:

– Works in BATTERY MODE and normal operation.
– Activator Terminal 8 refers to activators connected to terminals 8 and 7.
– Activator Terminal 8 corresponds to input I/3 on PLC.
– Activator Terminal 8 may be programmed for one of three functions.

1. STEP CONTROL: Remove jumper from terminal 18 and 23.

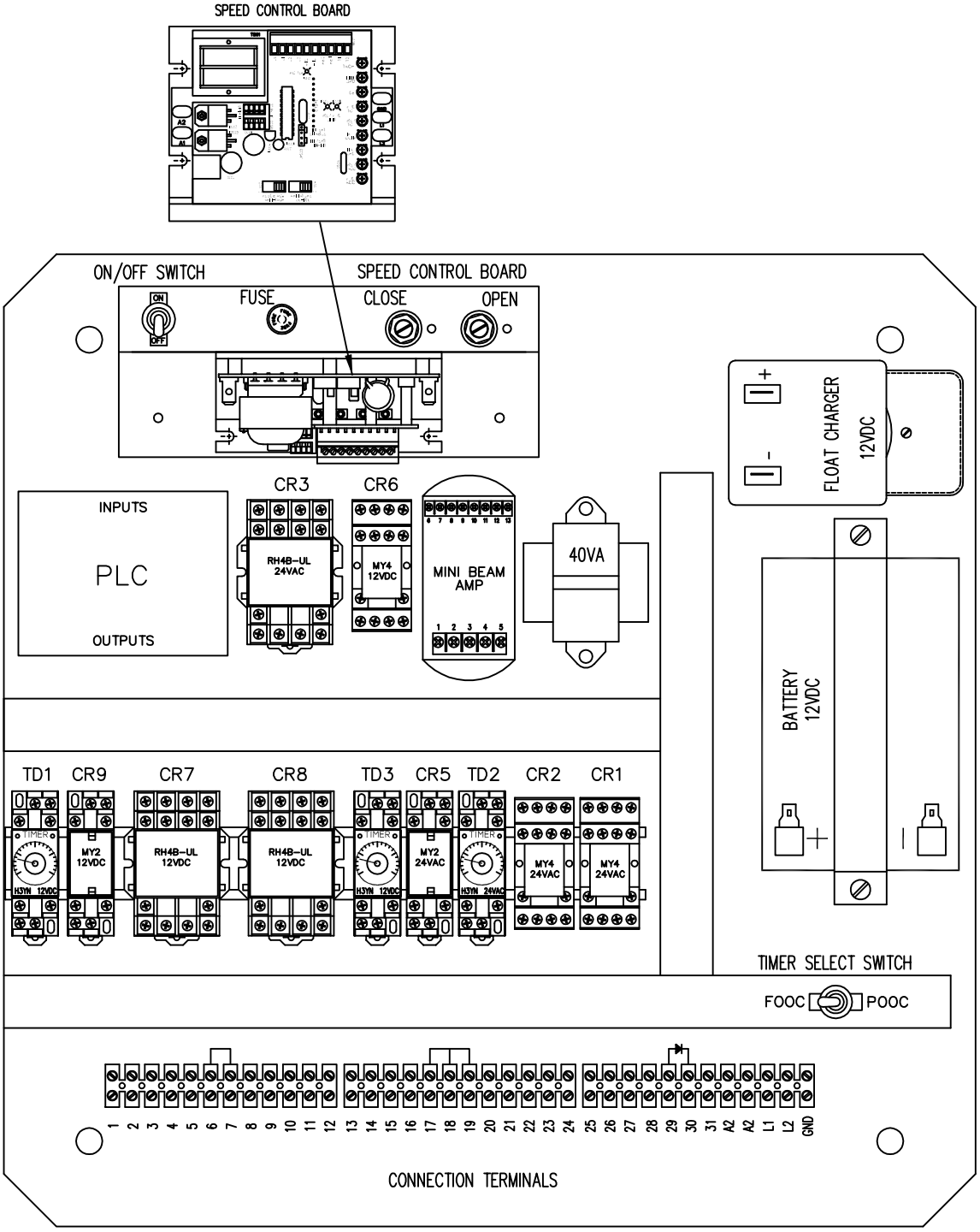
2. OPEN ONLY: Remove jumper from terminal 18 and 23. With door in the closed position, hold timer switch to the PO position for 5 seconds minimum.

3. TIME DELAY TO CLOSE: Connect jumper from terminal 18 terminal 23. To set timer, follow procedure given on page 14.

SPECIAL NOTE: Button 8 may be used for PARTIAL OPEN, see sheet 13.

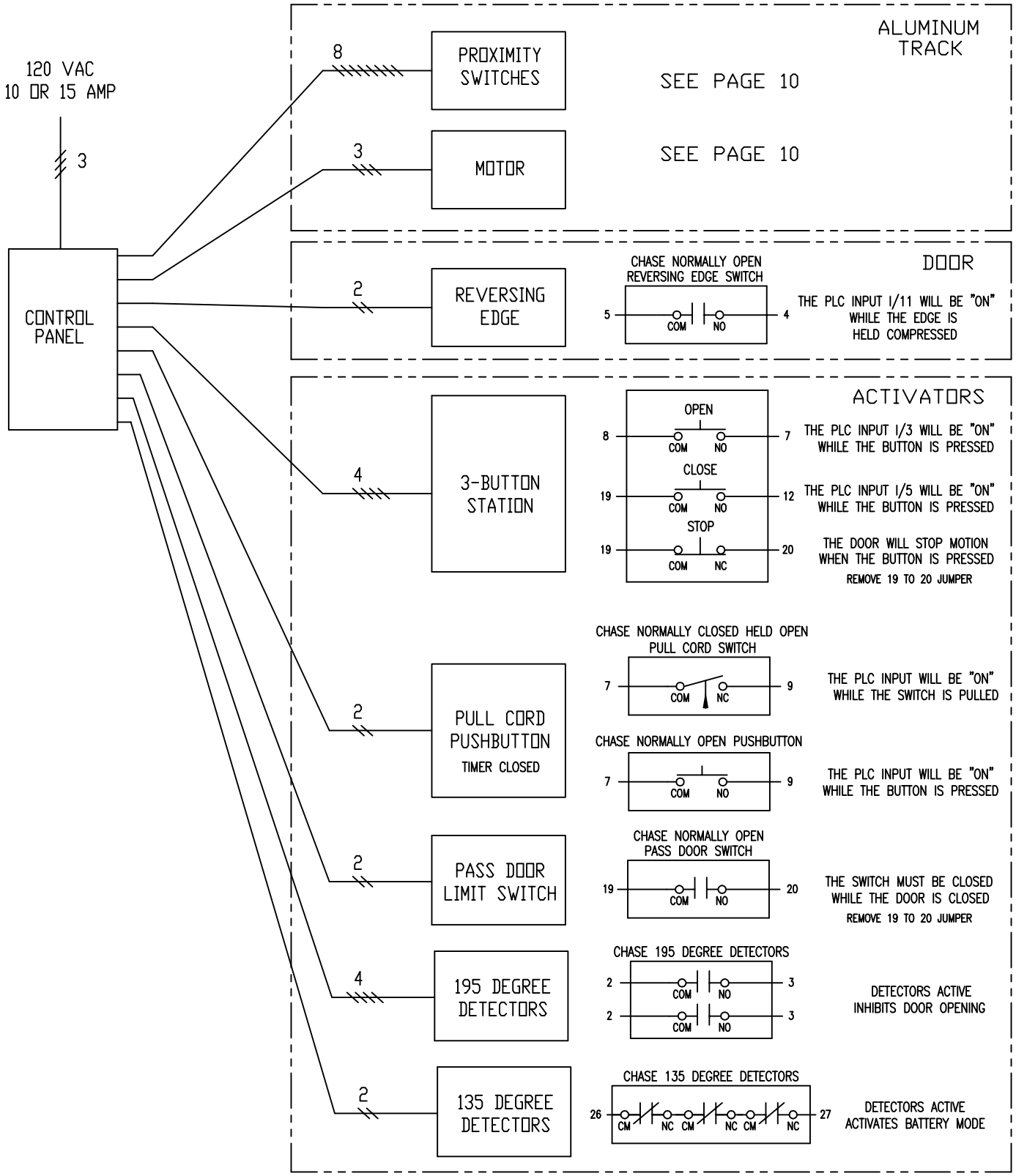
4 F1900-PLC Control Diagrams

4.1 Control Component Layout

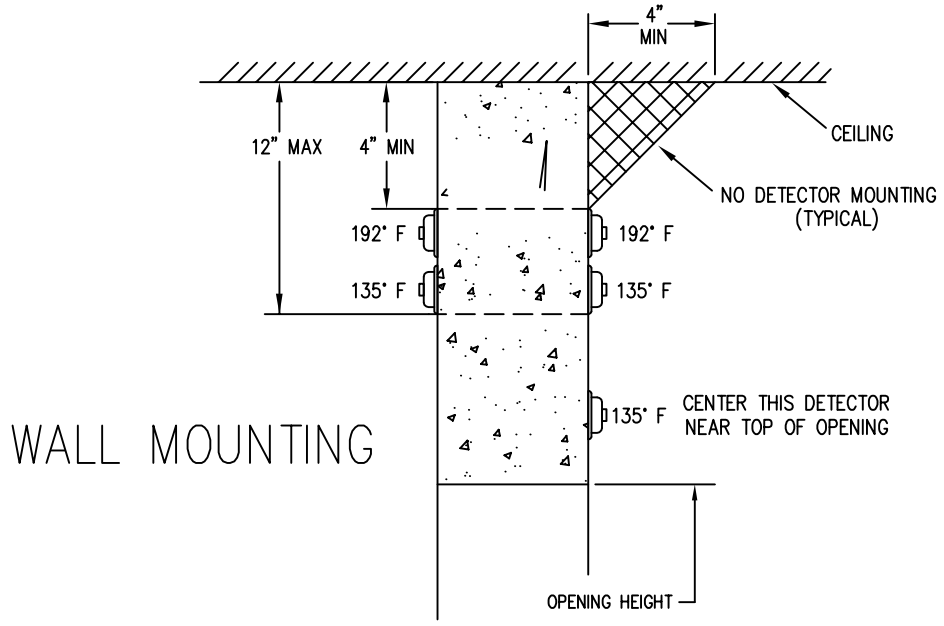


4 F1900-PLC Control Diagrams - continued

4.2 Field Wiring Requirements



5 Heat Detectors



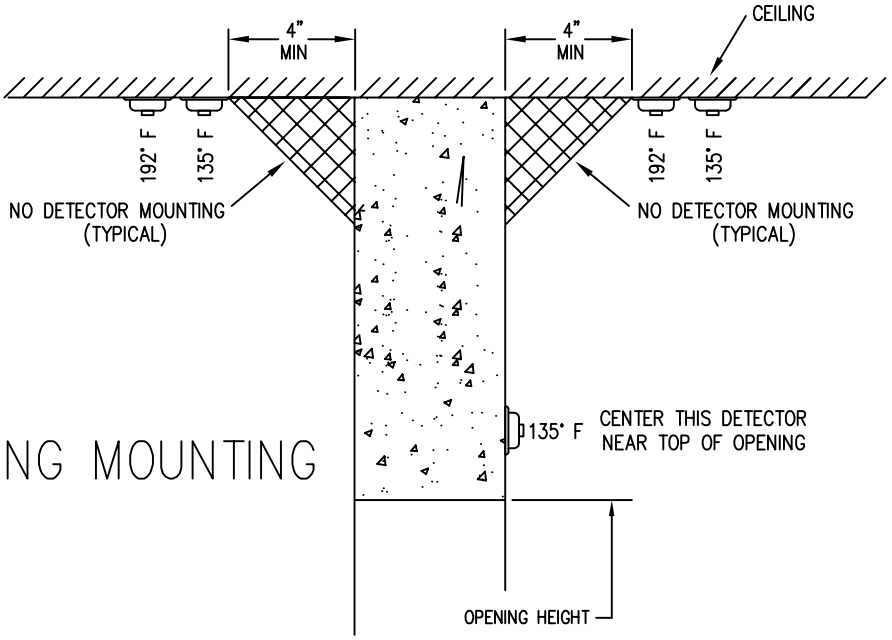
WALL MOUNTING

SUGGESTED PLACEMENT OF DETECTORS

THESE DETAILS SHOW RECOMMENDED DETECTOR PLACEMENT. ALL DETECTORS SHOULD BE CENTERED OVER THE OPENING, WHERE POSSIBLE, HORIZONTALLY LOCAL AUTHORITIES HAVE FINAL PLACEMENT JURISDICTION

SPECIAL CONSIDERATIONS

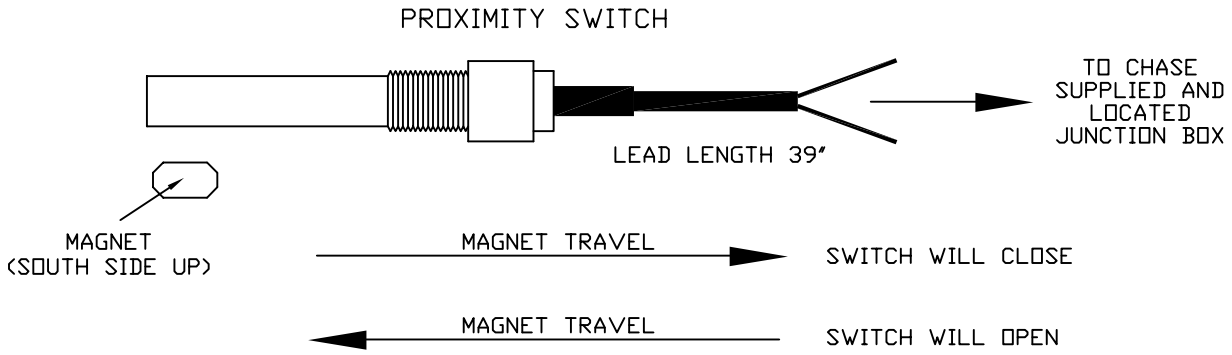
APPROVED DETECTORS (SUCH AS THOSE USED IN AN EXISTING ALARM SYSTEM) MAY BE SUBSTITUTED FOR THE 135° HEAT DETECTORS FURNISHED BY CHASE. THE 195° HEAT DETECTORS CANNOT BE SUBSTITUTED.



CEILING MOUNTING

IF YOU ARE UNSURE CONSULT YOUR LOCAL AUTHORITY HAVING JURISDICTION OVER PLACEMENT

6 Proximity Switch



1. For chain drive systems, the proximity switches are factory installed and pre wired to the Prox Switch Junction Boxes on the aluminum chain drive. For belt drive systems, instructions are provided with the door system for locating and mounting the proximity switches.

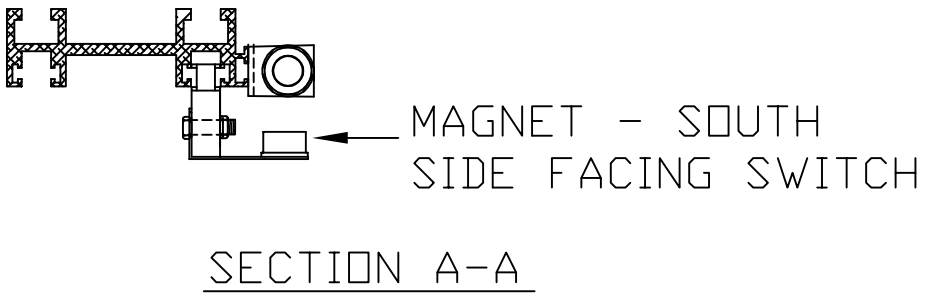
NOTE: Placing the proximity switches in the proper direction is important. See page 23.

2. If not factory wired, Terminate the wires from the proximity switches into the Prox Switch Junction Boxes. Connect the Prox Switch Junction Box wiring to the main control panel and connect as described in section 3.1, item #3.

3. The magnet should be mounted to the carrier and as close to the proximity switch as possible. The magnet is polarized; therefore, it is very important that the south side of the magnet be close to the proximity switches. South is marked "S". See diagram below.

NOTE: Use only the magnet sent with the operator to insure proper operation.

4. The proximity switch is a dry contact (contact rating 60 V – 1 amp) that is positioned in the door system in a normally open position. The only time that the switch should be closed is when the door is in the corresponding position. (Ex. When the door is open the slow open and full open switch will be closed.)



6 Proximity Switch

5. The proximity switches will maintain an open or closed position. The switches are activated by the magnet; therefore, it is necessary to "set" the switches before operating the door.

☞ NOTE: Switches must be manually "set".

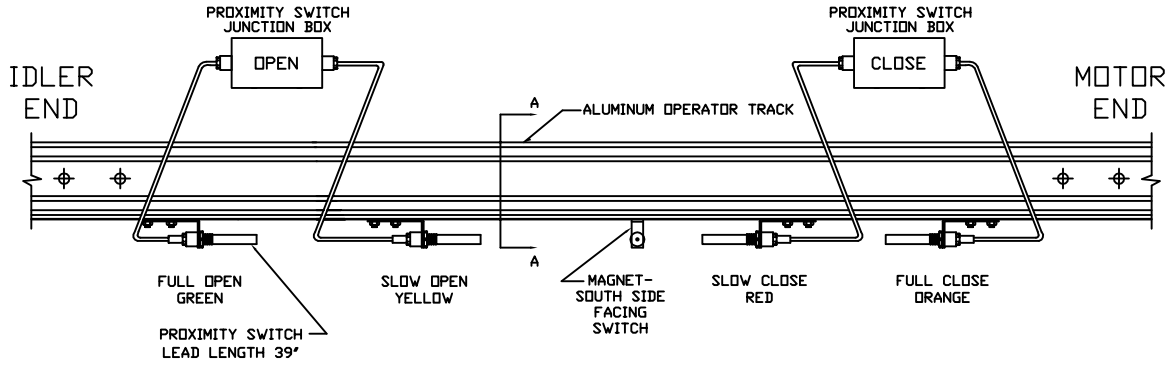
To set the switches, make sure the door is mounted to the drive chain and the magnet is attached to carrier with the south side closest to the proximity switches. With the power off, move the door to the full close position, then open the door to be full open position, then close the door to the halfway position. This procedure will "set" the proximity switches in the proper positions.

ADJUSTMENT:

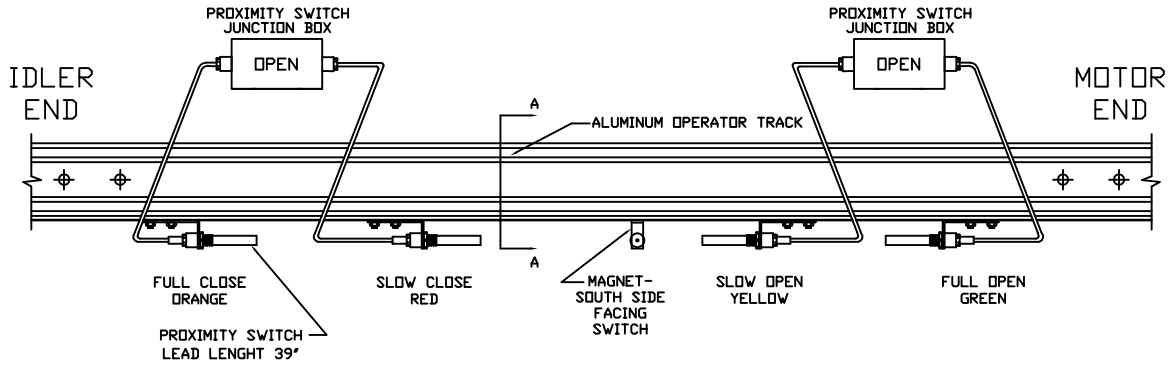
6. The proximity switches are used to sense the position of the door. Their signals tell the control box when to slow down and stop the door. They have been factory located on the aluminum chain guide, but some field adjustment may be required. Simply loosen the mounting bracket and slide the switch along the chain guide. Do not attempt to adjust the proximity switches until the door has been cycled by the operator and it is obvious that the switches are misplaced. Damage to the operator due to the door over–travel may result if the proximity switches are placed out of range.

7. Be sure that the wiring and/or conduit is clear of the chain and sprockets.

JUNCTION BOXES SHOWN ARE FACTORY LOCATED AND PRE WIRED



CENTER PARTING



RH TOP VIEW SHOWN LH OPPOSITE

7 Reversing Edge Air Switch

1. The leading edge of the door has a rubber nose called a "reversing edge". The top of the reversing edge is fitted with a plastic tube that connects to an air switch. The air switch is located in a bell box that you will need to mount on the door. The box is usually mounted to the face of the door or rear edge of the door. The holes in the door are factory predrilled to accept the box.

2. Attach (2) wires from the SJO cord to air switch wires using wire nuts. The other end of the cord will fasten to terminals 4 and 5 in the control box. Panduit clamps have been provided for field installation. Take care not to crimp wires.

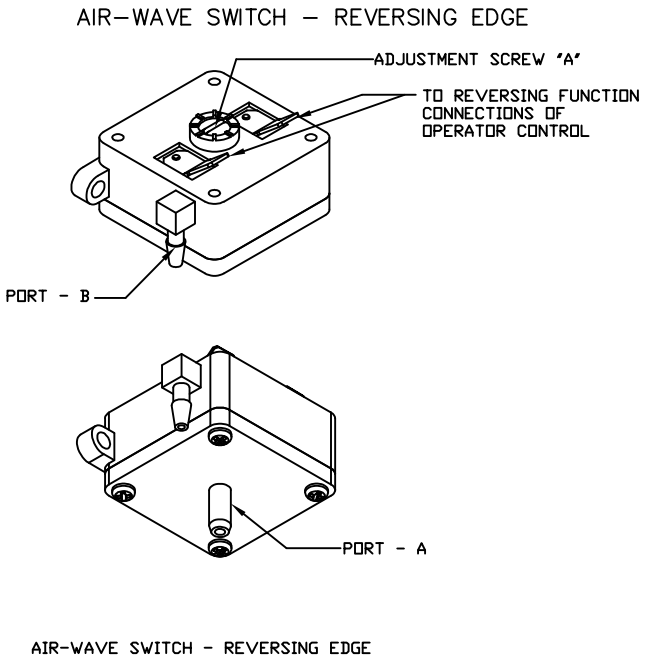
3. For Reversing Edges, connect the air tube from the reversing edge profile to air switch Port–A as shown below. Port–A is located in the middle of the air switch. Panduit clamps may be used to attach air tube to door. Take care not to crush or crimp the air tube.

4. The air switch comes pre–set from the factory as a <u>normally open</u> switch. To adjust the sensitivity of the switch, you will find an adjustment screw located on the opposite side of the normally open feed tube.

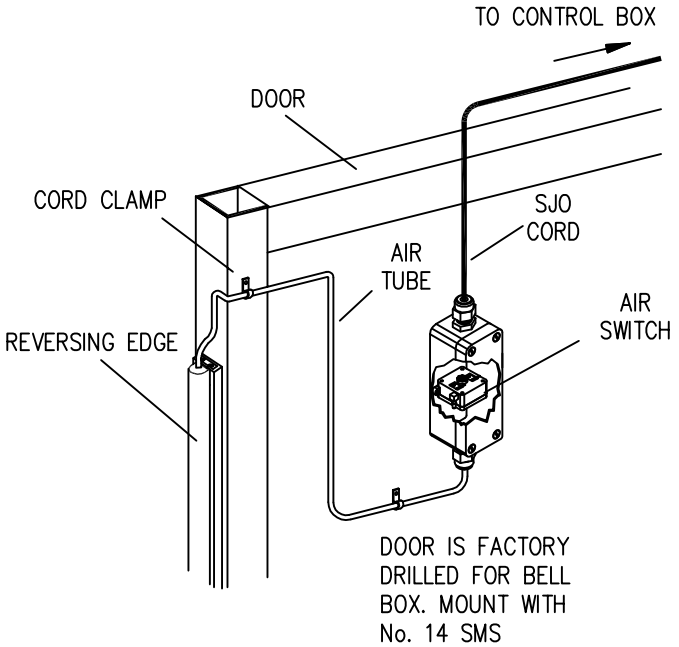
<u>Normally Open:</u>

In order to make the switch more sensitive, turn the adjustment screw clock–wise. This will move the screw closer to the diaphragm inside the switch. Shake the switch when adjusting to ensure it doesn't activate prematurely with the standard door travel. Incorporating the use of an audible electric meter is very helpful in achieving the desired sensitivity prior to connecting the switch to the edge. A normally open switch pushes the diaphragm towards the adjustment crew.

NOTE: The sensitivity of the air diaphragm switch can be so sensitive that the door may not close or the door may begin to close and instantly reverse and go open.



AIR–WAVE SWITCH – REVERSING EDGE



8 Speed Control Board

8.1 Specifications

Model	Armature Current Range (ADC)	Armature Horsepower	Voltage Range (VDC)
RG60U	5.0*	1/8 - 1/2*	0 - 90
	5.0**	1/4 - 1**	0 - 180

* Max. Armature Current = 10 ADC and Max.Horsepower = 1 when mounted to heat sink kit.
** Max. Armature Current = 10 ADC and Max. Horsepower = 2 when mounted to heat sink kit.

AC Line Voltage	115 VAC/230 VAC, ±10%, 50/60 Hz, single phase
Acceleration Time Range	0.5 - 10 seconds
Deceleration Time Range	0.5 - 10 seconds
Analog Input Voltage Range (signal must be isolated; S0 to S2)	0-10 VDC
Load Regulation	
with Armature Feedback	2% base speed
with Tachogenerator Feedback	0.5% base speed
Ambient Temperature Range	10°C - 55°C

8.2 Speed Control Board and Motor Troubleshooting

1. Check incoming drive voltage at L1–L2. Should be 120 VAC =/– 10%. If not in range shut off main power until corrected.

2. Check that the speed pots for open and closed are not turned off. (turned fully CCW).
Turn pot CW to increase speed while door is energized. Refer to page 16 for direction on setting the speeds to comply with current regulations.

3. Check that the correct PLC output is on for desired direction. O4 will be on for open and O5 will be on for close. If not, it may be an input condition not allowing the drive to run. Review your inputs to be sure the door is being activated correctly.

4. If outputs are on correctly, check motor voltage at A1 and A2. Will be 1–90 VDC while running. If there is voltage without movement inspect the door for mechanical issues preventing movement and inspect the motor for improper connection, thermal switch (if so equipped), worn brushes or open armature windings.

5. Check ref. voltage on the drive. Check from S0–S2 . It should be VDC based on the enabled direction and pot setting. If not remove wires from those drive terminals and recheck. If no voltage is present the drive or pot is bad. Pots can be disconnected and checked with a meter.

6. The drive board has been been set up at the factory. There are no user adjustments on the drive board. ANY changes to ANY item on the drive board can result in unexpected operation and will void the warranty on the drive.

1924 / F1900 PLC OPERATOR

DOOR TROUBLESHOOTING WITH PLC INDICATOR LIGHTS

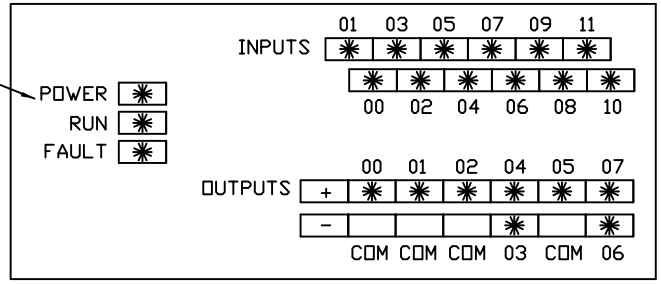
STATUS INDICATORS

POWER ON INDICATOR
If Off:
1.- Check POWER ON SELECTOR
2.- Check MAIN FUSES
3.- Check Transformer Fuses

PLC RUN INDICATOR
If Off:
1.- Call CHASE DOORS REPRESENTATIVE

PLC FAULT INDICATOR
If On / Flashing:
1.- Call CHASE DOORS REPRESENTATIVE

NOTE: INPUT OR OUTPUT IS "ON" IF LIT



INPUTS		NORMAL INPUT STATE	TROUBLESHOOTING
I/0	FULL OPEN PROX. SWITCH	ON IF DOOR IS FULLY OPENED	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/1	INTERLOCK INPUT	ON TO ALLOW DOOR TO OPEN	IF NOT INTERLOCKED, JUMPER FROM 19-20 MUST BE IN PLACE
I/2	FULL OPEN/CLOSE ACTIVATORS	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF, MOMENTARY
I/3	FULL/PARTIAL/STEP ACTIVATORS	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF, MOMENTARY
I/4	FULL OPEN TIMER CLOSE ACTIV.	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF
I/5	CLOSE ONLY ACTIVATORS	OFF WHILE DOOR ACTIVATOR IS OFF	ACTIVATOR MUST CHANGE STATE TO ON AND OFF, MAINTAINED
I/6	SLOW CLOSE PROX. SWITCH	ON FOR DOOR SLOW TO CLOSE ACTIVE	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/6	SLOW OPEN PROX. SWITCH	ON FOR DOOR SLOW TO OPEN ACTIVE	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/7	FULL CLOSED PROX. SWITCH	ON IF DOOR IS FULLY CLOSED	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/8	PARTIAL OPEN PROX. SWITCH	ON IF DOOR IS IN PARTIAL OPEN POS.	IF INCORRECT, CHECK PROX. SWITCH ADJUSTMENT AND POLARITY
I/9	FULL OPEN TIMER SELECT	ON IF FULL TIMER TO CLOSE SELECTED	IF NOT ON, CHECK JUMPER FROM 14-19
I/10	PARTIAL OPEN TIMER SELECT	ON IF PARTIAL TIMER TO CLOSE SELECTED	
I/11	REVERSING ACTIVATORS	OFF IF REVERSING DEVICE IS NOT ACTIVE	REVERSING DEVICE MUST CHANGE STATE TO ON AND OFF

OUTPUTS		NORMAL OUTPUT STATE	TROUBLESHOOTING
O/0	STOP COMMAND TO DRIVE	ON IF DRIVE STOPPED	IF ON AND DOOR NOT STOPPED CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/1	DOOR INTERLOCK OUTPUT	ON IF DOOR CLOSED	IF INCORRECT, CHECK CLOSED PROX. SWITCH ADJUSTMENT AND POLARITY
O/2	SPARE		
O/3	BATTERY CHARGER (OPTION)	CYCLES BATTERY CHARGER ON/OFF	IF HORN SOUNDS CHECK BATTERY CHARGER OUTPUT AND BATTERY VOLTAGE
O/4	DOOR OPEN TO DRIVE	ON WHILE DOOR OPENING	IF ON AND DOOR NOT OPENING CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/5	DOOR CLOSE TO DRIVE	ON WHILE DOOR CLOSING	IF ON AND DOOR NOT CLOSING CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/6	SLOW DOWN SPEED SELECT	ON WHILE DOOR CLOSING SLOW SPEED	IF ON AND DOOR NOT SLOWING CHECK DRIVE VOLTAGE AND SPEED POT ADJ.
O/7	DRIVE REFERENCE	ON FOR SPEED REFERENCE	FUNCTION CANNOT BE ALTERED

9 Troubleshooting - continued

9.2 Troubleshooting

Problem: Door cycles between BATTERY mode and normal operation. (Seems to be intermittent)
Cause: When BATTERY is low the operator will go in and out of BATTERY mode and an alarm will sound. This indicates that there is a BATTERY or BATTERY charger malfunction and that the control panel should be serviced immediately.

Corrective Action:
1. Unplug the BATTERY. When both charger lights are on, check the voltage output. It should read approximately 13 Volts. If this voltage is less than 13 volts when both lights are on, the charger is malfunctioning and should be replaced.

2. Check the BATTERY voltage. If the voltage from the BATTERY is less than 12 volts then allow the charger to charge the BATTERY for approximately 8 hours. After 8 hours, recheck the BATTERY voltage. If no significant increase in voltage has occurred, then replace the BATTERY.

Problem: Motor rotation seems to be incorrect.
Cause: Possible causes include malfunctioning activators or safety devices or motor leads incorrectly connected.

Corrective Action:
1. Turn main power off at ON/OFF switch and disconnect activators from terminals 8 and 9, reversing edge from terminals 4 and 5, and mini beam amp contact, treminal 5.

2. Connect BATTERY terminals. Connect red wire to positive (+) terminal and black wire to negative (–) terminal. Door should begin to close. If door tries to open, then reverse motor leads. (Do not reverse BATTERY leads) When door reaches the close proximity switch, the motor should turn off. If motor continues to run, then there is a problem with the full close proximity switch. Review pages 22 and 23 and correct proximity switch problem.

3. Touch jumper to 7 and 9. Verify that door opens while jumper is held on terminals 7 and 9 and closes when jumper is released.

4. Reconnect reversing edge to terminals on 4 and 5. If door begins to open and reversing edge rubber is not being pressed, then the reversing edge switch sensitivity should be adjusted as shown on page 24.

5. Reconnect activators to terminals 8 and 9, one at a time, and check each activator for proper operation. If the door malfunctions after connecting an activator, correct the problem with the activator and re–test.

6. Turn main power ON/OFF switch to the ON position. Test door to verify proper operation.

9 Troubleshooting - continued

9.3 Troubleshooting - continued

1. After initial sensor connection if the green and red lights are flashing press and hold the Programming button until both lights are on steady. This will calibrate the sensors.

Test to be sure that PLC input I/11 goes on and off as sensor sets are blocked/unblocked.

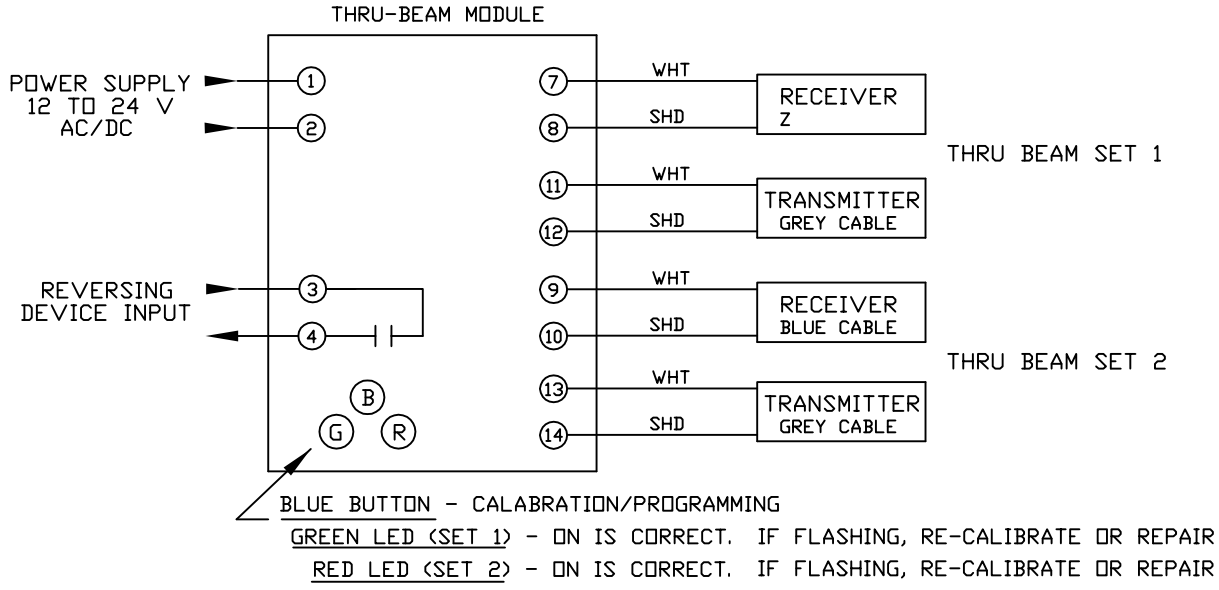
If the lights will not stay on steady OR the PLC input does not function properly the Thru-Beam Module may need to be programmed.

TO PROGRAM THE Thru-Beam Module:

Press and hold the programming button until the red light flashes and release it. Press the programming button one time. The red light will flash in a pattern of 2 flashes, off, 2 flashes off. Press and hold the programming button until both red and green lights are steady. Note that during programming if there is no input for 10 seconds the Thru-Beam Module will reset to default and the process must be restarted.

Re-test to be sure that the PLC input I/11 operates properly.

NOTE: AS STATED ELSEWHERE IN THE INSTALLATION MANUAL THE THRU-BEAM SWITCH OPERATION MUST BE TESTED DAILY BEFORE USE.



9 Troubleshooting - continued

9.3 Troubleshooting - continued

2. If the Thru–Beams are not operating correctly possible causes may include dirty lenses, an obstruction in the door opening, mis–aligned sensors, damaged wiring, or incorrect wiring to the Thru–Beam module in the control panel.

Sensors should always be re–calibrated after any change or repair is made. In some cases re–programming of the Thru–Beam Module may be neccessary. Refer to page 21.

Check wiring to eyes and make sure the wiring is not damaged. If any insulation is damaged, replace the damaged wire. Also check connections of wires to the module in the control box. Make sure wires are connected per the connection diagram.

Clean lenses on transmitter and receiver. Make sure no dirt is clouding the lenses. A scratched face of the sensor may result in no operation and replacement would be required.

Make sure there are no obstructions blocking the path of the Thru–Beams

Check alignment of eyes and mounting brackets. When eyes are aligned, the correct channel light on the Thru–Beam module should come on.

NOTE: AS STATED ELSEWHERE IN THE INSTALLATION MANUAL THE THRU–BEAM SWITCH OPERATION MUST BE TESTED DAILY BEFORE USE.

Chase Doors

World's Leading Manufacturer of Specialty Doors

Chase Doors Durulite CR1400

Operations and Maintenance Procedures

1. Introduction

This document is intended to serve as a general outline of maintenance activities needed for standard polyethylene doors and FRP frames. However, it should be noted that maintenance of polyethylene doors and FRP frames is virtually non-existent. A polyethylene door's high corrosion resistance, structural integrity and light weight characteristics contribute greatly to its low maintenance. Maintenance will be, for the most part, associated with the accessories and hardware attached to the door and frame.

Maintenance of any product is important and necessary to obtain the maximum benefits of product service and longevity. Door and frame assemblies are not different.

2. Areas to be inspected

The following items should be periodically checked. The frequency with which these checks are performed must be established at the discretion of the building owner, insurance company, labeling authority, if applicable, and maintenance service. Differing frequencies of operation or types of traffic may be reflected in the frequency or types of inspections required.

Hinges

Check all hinges for loose attaching screws, hinge pin wear or other notable defects. Service the hinges or remove defective parts and replace per the hinge manufacturer's recommendations. The door should always swing freely and smoothly without obstruction from the opened to latched (when latching device is used) position.

Latch-sets

Check all latch-sets for loose attaching screws, latch wear or other notable defects. Service the latch-set or remove defective parts and

replace per the manufacturer's recommendations. The door should always latch freely and smoothly without obstruction. Self latching devices should always function freely and smoothly as the door swings into the closed position. Silencers should be replaced when latch operation is compromised by wear.

Strike plate
The strike should be firmly attached to the frame or inactive leaf of a pair of doors. Check for loose screws and or other notable defects. Service or remove and replace per the manufacturer's instructions.

Overhead closing, holding, or stop devices
Check all overhead devices for loose attaching screws, linkage arm, pin wear, fluid leaks, or other notable defects. Service the device or remove defective parts and replace per the manufacturer's recommendations. The primary and secondary closing speed adjustments should also be set and maintained per the manufacturer's instructions. The device should allow the door to operate freely and smoothly throughout its entire swing range and positively latch, when so equipped, or remain in the closed position.

Flush or Surface slide bolts
Check all bolts for loose attaching screws, rod bolt adjustment and strike plate (on both door and frame if so equipped) fastenings or other notable defects. Service the devices or remove defective parts and replace per the manufacturer's recommendations. The rod bolts should retract, extend and engage the strike or keeper hole freely and smoothly for both manual and or automatic bolts.

Glass Lites
The glazing material should be checked for cracks and or missing pieces of glazing. The glazing mounting frame should be checked to assure all attaching screws or other means are tight, and the unit is securely attached to the door. Service the glass lite or remove defective parts when required. Note local codes, labels and other issues that dictate appropriate glazing materials for each application.

Door and frame installation
A general visual inspection of the door and frame should be periodically conducted. Chemical spills and splashes should be cleaned in a timely manner to protect the finish from degradation, fading or discoloration. Tighten all hardware fastenings, as applicable, with care not to over-tighten.

Unobstructed operation
Inspect to ensure that Door assemblies are as specified and installed to

meet life safety code requirements. Therefore, propping, blocking or obstructing these openings in the open position or impeding normal functionality in any way is a violation of intended use and purpose as may be established by local building codes. Mis-use of openings in anyway other than what is designed should be prohibited by the owner. CR1400 Doors are not labeled with fire labels and should not be used in a fire door application**.**

Gasketing/weatherstripping

A visual and operational inspection is periodically necessary for gasketed or weather-stripped areas such as perimeter seals, threshold seals, door bottoms etc. Inspect for signs of deterioration such as splitting, cracking, or deforming of flexible components. Install replacement components as needed.

General inspection

Periodically check all moving parts of hardware for wear and lubricate, tighten or replace items as necessary. The above instructions are not intended to replace the individual hardware item manufacturer's literature and instructions.

Chase Doors

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www.chasedoors.com / www.fibrdor.com
for Fib-R-Dor Fiberglass Doors please call 800.342.7367 / 501.758.9494 Fax: 501.758.9496
for Durulite CR1400 and all other door products please call 800.543.4455 / 513.860.5565 Fax: 800.245.7045

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Operations and Maintenance Procedures

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Maintenance of any product is important and necessary to obtain the maximum benefits of product service and longevity. Fiberglass door and frame assemblies are not different. In fact, in some cases where the door and frame assembly is used as a "fire rated" , or "storm rated" barrier, proper maintenance is crucial. Basic maintenance to ensure the proper functioning of the assembly is imperative and well worth the effort to provide for human life safety.

2. Areas to be inspected

The following items should be periodically checked. The frequency with which these checks are performed must be established at the discretion of the building owner, insurance company, labeling authority if applicable, and maintenance service. Differing frequencies of operation or types of traffic may be reflected in the frequency or types of inspections required.

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Door and frame finish
A general visual inspection of the door and frame finish should be periodically conducted. Excessive surface defects should be sealed or repaired. The following guidelines have been provided by FIB-R-DOR to ensure the durability of the doors and assist in eliminating potential future

problems. Periodically check the interior and exterior of the door for damage. If the surface is punctured, a patch may be applied to effectively seal the door. The exterior may be maintained with an occasional non abrasive application of wax similar to what you would use on an automobile or fiberglass boat.
Chemical spills and splashes should be cleaned in a timely manner to protect the finish from fading or discoloration. Graffiti may be cleaned using non-abrasive non solvent based cleaners suitable for fiberglass gelcoat surfaces.

Unobstructed operation
Fire rated and or smoke control assemblies are specified and installed to meet life safety codes requirements. It is imperative that these assemblies receive regularly scheduled maintenance checks for all of the above items. Additionally, for the assembly to serve its purpose of stopping fire and or smoke, it must function freely with the ability to positively latch in the closed position. Therefore, propping, blocking or obstructing these openings in the open position or impeding normal functionality in any way is a violation of intended use and purpose as may be established by local building codes. Mis-use of openings in anyway other than what is designed should be prohibited by the owner. If the door is not labeled with a fire label it should not be used in a fire door application**.** Fire retardant doors are not to be used as equivalent to fire rated doors.

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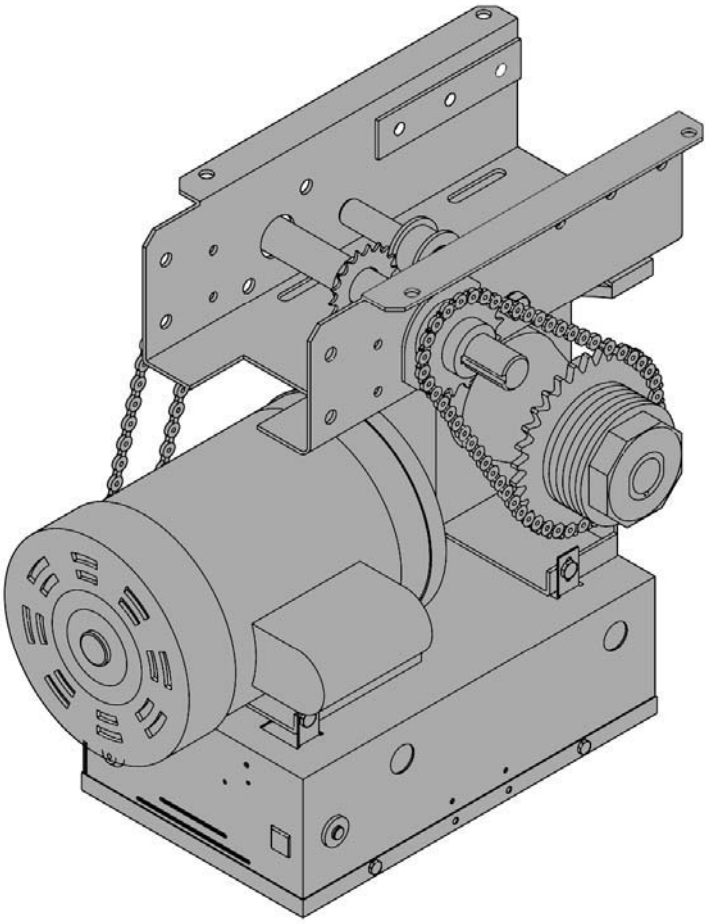
FACTORY SET
B2 WIRING

OWNER'S MANUAL

MODEL GT

INDUSTRIAL DUTY DOOR OPERATOR



NOT FOR RESIDENTIAL USE

Manufactured with UL recognized components

SPECIFICATIONS

MOTOR

TYPE: .....Continuous duty

HORSEPOWER: .....1/2, 3/4,1 & 1-1/2 Hp
Single or Three phase

SPEED:.....1725 RPM

VOLTAGE: .....115, 220, 230 Single phase
230, 460, 575 Three phase

CURRENT:.....See motor nameplate

ELECTRICAL

TRANSFORMER:.....24Vac

CONTROL STATION:.....NEMA 1 three button station.
OPEN/CLOSE/STOP

WIRING TYPE:.....C2 (Factory Shipped)
Momentary contact to OPEN & STOP, constant pressure to CLOSE, open override plus wiring for sensing device to reverse. See page 8 for optional control settings.

LIMIT ADJUST: .....Linear driven, fully adjustable screw type cams. Adjustable to 24 feet.

MECHANICAL

DRIVE REDUCTION:.....Primary: Heavy duty wormgear-in-oil-bath speed reducer.

OUTPUT SHAFT SPEED:.....64 R.P.M.

DOOR SPEED: .....1' Foot per sec.
.....depending on door

BRAKE: .....Solenoid actuated disc brake.

BEARINGS: .....Output Shaft: Shielded Ball Bearing.

SAFETY

DISCONNECT:.....Quick disconnect door arm for emergency manual door operation.

REVERSING EDGE: ....(Optional) Electric or pneumatic sensing device attached to the bottom edge of door.

A REVERSING EDGE IS STRONGLY RECOMMENDED FOR *ALL* COMMERCIAL OPERATOR INSTALLATIONS. *REQUIRED* WHEN THE 3 BUTTON CONTROL STATION IS OUT OF SIGHT OF DOOR OR ANY OTHER CONTROL (AUTOMATIC OR MANUAL) IS USED.

ENTRAPMENT PROTECTION ACCESSORIES (OPTIONAL)

SENSING EDGES & PHOTO EYES

Sensing devices supplied for door industry type operators with an isolated normally open (N.O.) output are compatible with your operator. This includes pneumatic and electric edges, and through beam and retro reflective photo eyes. If your door does not have a bottom sensing edge or safety photo eyes and you wish to add a safety device to your application, please contact your local LiftMaster Authorized Dealer.

If not pre-installed by the door manufacturer, mount the sensing edge on the door according to the instructions provided with the edge. The sensing edge may be electrically connected by either coiled cord or take-up reel. Refer to the steps below.

Important Notes:

a) Proceed with Limit Switch Adjustments before making any sensing edge wiring connections to operator as described below.

b) Electrician must hardwire the junction box to the operator electrical box in accordance with local codes.

NOTICE

IT IS STRONGLY RECOMMENDED THAT A SAFETY PHOTO EYE OR SENSING EDGE BE USED IN CONJUNCTION WITH THE OPERATOR.

WIRING:

For wiring of your sensing device to the operator, refer to the wiring diagram supplied with your operator. See field connection terminals identified as Sensing Device or Safety Edge.

TAKE-UP REEL: Take-up reel should be installed 12" above the top of the door.

COIL CORD: Connect operator end of coil cord to junction box (not supplied) fastened to the wall approximately halfway up the door opening.

LIMIT SWITCH ADJUSTMENT

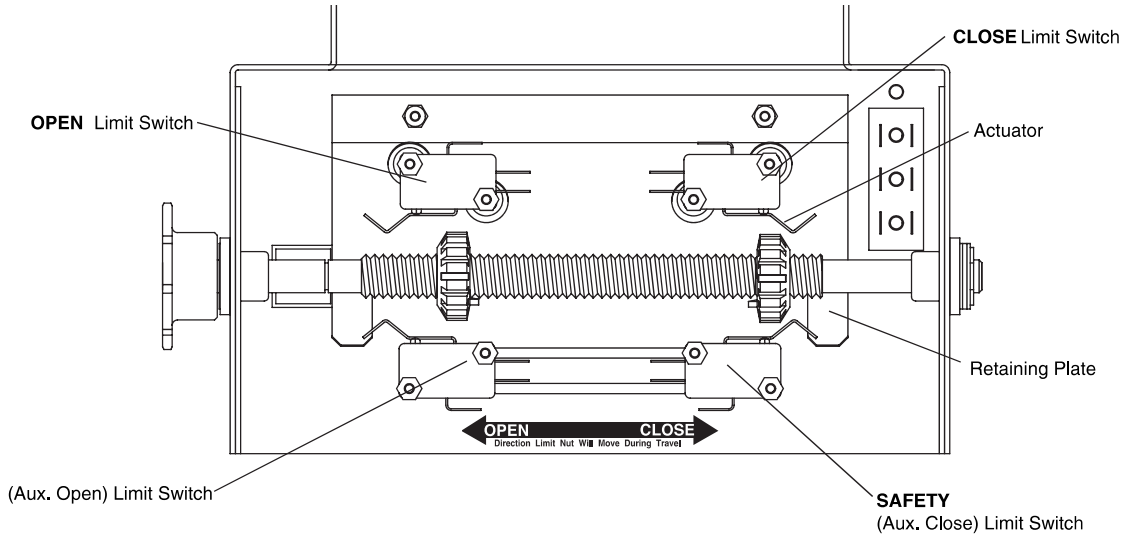
MAKE SURE THE LIMIT NUTS ARE POSITIONED BETWEEN THE LIMIT SWITCH ACTUATORS BEFORE PROCEEDING WITH ADJUSTMENTS.

1. To adjust limit nuts depress retaining plate to allow nut to spin freely. After adjustment, release plate and ensure it seats fully in slots of both nuts.
2. To **increase** door travel, spin nut **away** from actuator. To **decrease** door travel, spin limit nut **toward** actuator.
3. Adjust open limit nut so that the door will stop in open position clear of the opening but does not contact the stop.
4. Repeat Steps 1 and 2 for close cycle. Adjust close limit nut so the door is centered in the opening and does not contact the door stop.

WARNING

TO AVOID SERIOUS PERSONAL INJURY OR DEATH FROM ELECTROCUTION, DISCONNECT ELECTRIC POWER BEFORE MANUALLY MOVING LIMIT NUTS.

If other problems persist, call our toll-free number for assistance - 1-800-543-4455.



POWER WIRING CONNECTIONS

Remove the cover from the electrical enclosure. Inside this enclosure you will find the wiring diagram(s) for your unit. Refer to the diagram (glued on the inside of the cover) for all connections described below. If this diagram is missing, call the number on the back of this manual. DO NOT INSTALL ANY WIRING OR ATTEMPT TO RUN THIS OPERATOR WITHOUT CONSULTING THE WIRING DIAGRAM.

DISCONNECT POWER AT THE FUSE BOX BEFORE PROCEEDING.

OPERATOR MUST BE PROPERLY GROUNDED AND PERMANENTLY WIRED IN ACCORDANCE WITH LOCAL ELECTRICAL CODES. NOTE: THE OPERATOR SHOULD BE ON A SEPARATE FUSED LINE OF ADEQUATE CAPACITY.

ALL ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED INDIVIDUAL.

WARNING

TO AVOID DAMAGE TO DOOR AND OPERATOR, MAKE ALL DOOR LOCKS INOPERATIVE. SECURE LOCK(S) IN "OPEN" POSITION.

IF THE DOOR LOCK NEEDS TO REMAIN FUNCTIONAL, INSTALL AN INTERLOCK SWITCH.

POWER WIRING

1. Be sure that the power supply is of the correct voltage, phase, frequency, and amperage to supply the operator. Refer to the operator nameplate on the cover.

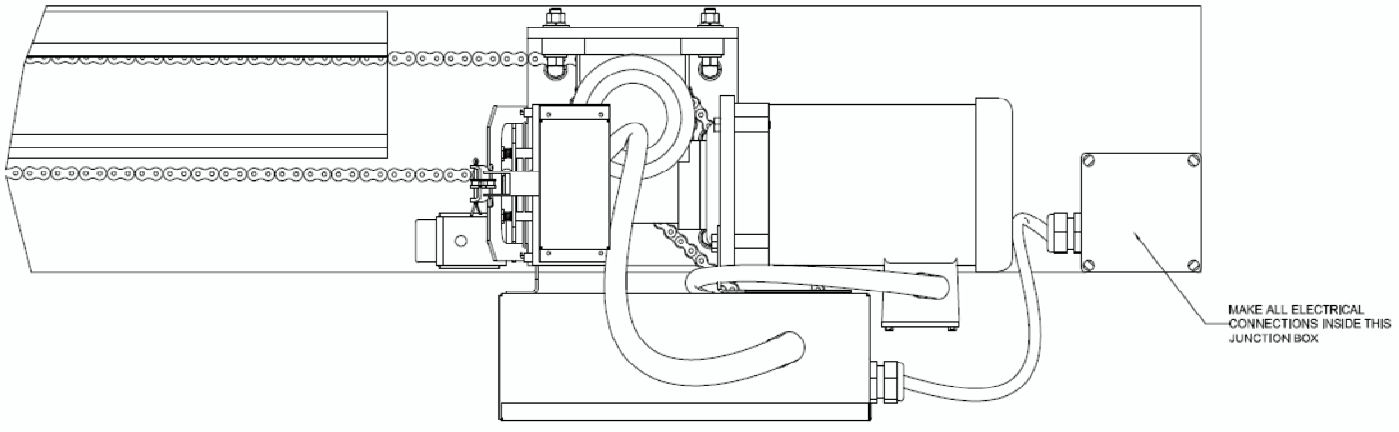
2. Make all electrical connections in junction box located next to motor. See detail below.

DO NOT TURN POWER ON UNTIL YOU HAVE FINISHED MAKING ALL POWER AND CONTROL WIRING CONNECTIONS AND HAVE COMPLETED THE LIMIT SWITCH ADJUSTMENT PROCEDURE.

IMPORTANT: THIS UNIT MUST BE PROPERLY GROUNDED. A GROUND SCREW IS SUPPLIED IN THE ELECTRICAL BOX FOR CONNECTION OF THE POWER SUPPLY GROUND WIRE. FAILURE TO PROPERLY GROUND THIS UNIT COULD RESULT IN ELECTRIC SHOCK AND SERIOUS INJURY.

ON THREE PHASE MACHINES ONLY!

Incorrect phasing of the power supply will cause the motor to rotate in the wrong direction (open when CLOSE button is pressed and vice-versa). To correct this, interchange any two of the incoming three phase power lines.



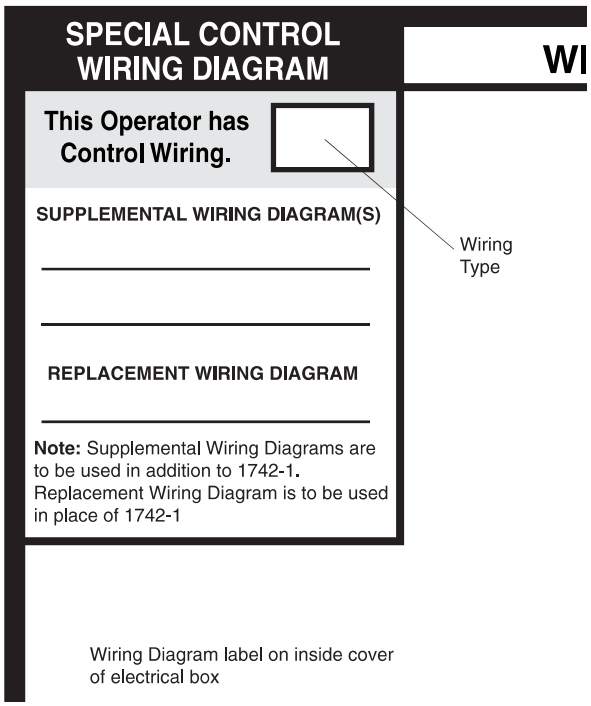
DETAIL B

CONTROL WIRING

Standard B2 or C2 Wiring
Standard operators are shipped from Chase with jumper set for B2 wiring, which is momentary contact on close. If constant pressure on close is required, see close control jumper setting below.

- **Momentary contact on close (B2 wiring)**
  Red jumper wire was placed on terminal #3 in electrical enclosure. The operator will require only momentary contact to close the door.

- **Constant pressure on close (C2 wiring)**
  Move red jumper wire from terminal #3 to terminal #2. The operator will require constant pressure on close control in order to keep the door moving in the close direction.



Wiring Diagram label on inside cover of electrical box

SPECIAL CONTROL WIRING

If your operator was shipped from the factory with non-standard control wiring or with optional accessories that require addition instructions, refer to the wiring diagram(s) indicated in the special control wiring data box. When a replacement wiring diagram is present, wiring diagrams in this manual will not apply. Refer only to the replacement wiring diagram for all connections.

IMPORTANT NOTE: If your wiring diagram is missing, or you are unsure of the wiring type for your operator, contact the customer service department @ 1-800-528-2806.

LOCATING THE CONTROL STATION
All operators are supplied with some type of control station. Generally two pull cord stations are provided. A three button station (OPEN / CLOSE / STOP) may be added or substituted when requested at the time of order.
Mount the control station near the door.

⚠ WARNING

INSTALL THE CONTROL STATION WHERE THE DOOR IS VISIBLE, BUT AWAY FROM THE DOOR AND ITS HARDWARE. IF CONTROL STATION CANNOT BE INSTALLED WHERE DOOR IS VISIBLE, OR IF ANY DEVICE OTHER THAN THE CONTROL STATION IS USED TO ACTIVATE THE DOOR, *A REVERSING EDGE MUST BE INSTALLED ON THE BOTTOM OF THE DOOR.* FAILURE TO INSTALL A REVERSING EDGE UNDER THESE CIRCUMSTANCES MAY RESULT IN SERIOUS INJURY OR DEATH TO PERSONS TRAPPED BENEATH THE DOOR.

Radio Controls (optional)
On all models with type B2 control wiring, a terminal bracket marked R1 R2 R3 is located on the outside of the electrical enclosure. All standard radio control receivers (single channel residential type) may be mounted to this bracket. The operator will then open a fully closed door, close a fully open door, and reverse a closing door from the radio transmitter. However, for complete door control from a transmitter, a commercial three-channel radio set (with connections for OPEN/CLOSE/STOP) is recommended.

WARNING

DO NOT USE RADIO CONTROLS WITH YOUR OPERATOR UNLESS YOU HAVE INSTALLED SOME TYPE OF ENTRAPMENT PROTECTION DEVICE. THE USE OF RADIO CONTROLS PRESENTS POTENTIAL HAZARDS DUE TO THE USER'S ABILITY TO OPEN OR CLOSE THE DOOR WHEN OUT OF SIGHT OF THE DOOR. IN ADDITION, IF A SINGLE CHANNEL CONTROL IS USED, THE USER WILL NOT BE ABLE TO STOP THE DOOR FROM THE TRANSMITTER.

Additional Access Control Equipment (optional)
Locate any additional access control equipment as desired (but so that the door will be in clear sight of the person operating the equipment), and connect to the terminal block in the electrical enclosure as shown on the FIELD WIRING CONNECTIONS diagram. Any control with a normally (N.O.) isolated output contact may be connected in parallel with the OPEN button. More than one device may be connected in this manner. Use 16 gauge wire or larger for all controls. DO NOT USE THE CONTROL CIRCUIT TRANSFORMER (24Vac) IN THE OPERATOR TO POWER ANY ACCESS CONTROL EQUIPMENT OTHER THAN A STANDARD RESIDENTIAL TYPE RADIO RECEIVER.

External Interlock Switch
The operator has a terminal connection for an external interlock switch. This switch must be a normally closed (N.C.) two-wire device with a contact rating of at least 3 amps @ 24Vac. When such a switch is connected as shown on the FIELD WIRING CONNECTIONS diagram, the control circuit will be disabled when the switch is actuated, thereby preventing electrical operation of the door from the control devices.

TEST THE SYSTEM

Turn on power. Test all controls and safety devices to make sure they are working properly. It will be necessary to refer back to page 6 for fine adjustment of the limit switches.

IMPORTANT NOTES:

Do not leave operator power on unless all safety and entrapment protection devices have been

- tested and are working properly.

Be sure you have read and understand all Safety Instructions included in this manual.

-

Be sure the owner or person(s) responsible for operation of the door have read and understand

- the Safety Instructions, know how to electrically operate the door in a safe manner, and know how to use the manual disconnect operation of the door operating system.

WARNING

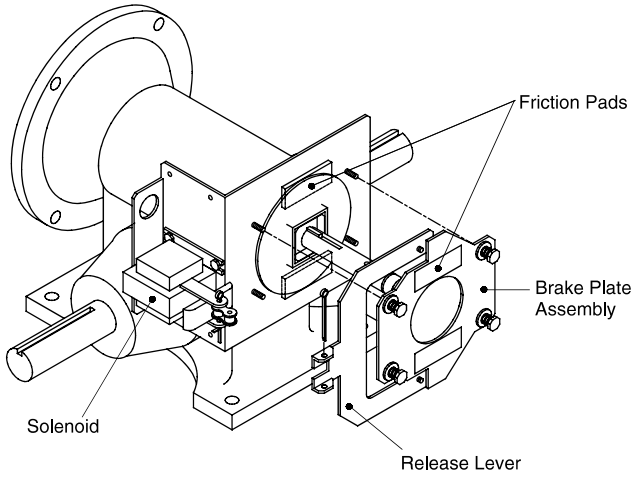
DO NOT PLACE HANDS OR TOOLS IN OR NEAR THE OPERATOR WHEN THE POWER IS ON OR WHEN TESTING CONTROL OR SAFETY DEVICES. ALWAYS DISCONNECT POWER BEFORE SERVICING OR ADJUSTING THE OPERATOR.

BRAKE ADJUSTMENT

A solenoid brake is standard on GT operators. The brake is adjusted at the factory and should not need additional adjustment for the the life of the friction pad.

Replace friction pads when necessary. Refer to the illustration for identification of components for the solenoid type brake system.

Solenoid Brake System



MAINTENANCE SCHEDULE

Check at the intervals listed in the following chart.

ITEM	PROCEDURE	EVERY 3 MONTHS	EVERY 6 MONTHS	EVERY 12 MONTHS
Drive Chain	Check for excessive slack. Check & adjust as required. Lubricate.*	●		♦
Sprockets	Check set screw tightness	●		♦
Fasteners	Check & tighten as required		●	♦
Manual Disconnect	Check & Operate		●	♦
Bearings & Shafts	Check for wear & lubricate	●		♦

- ♦ **Use SAE 30 Oil (Never use grease or silicone spray).**
- ♦ **Repeat ALL procedures.**
- ■ **Do not lubricate motor. Motor bearings are rated for continuous operation.**
- ■ **Inspect and service whenever a malfunction is observed or suspected.**
- ■ **CAUTION: BEFORE SERVICING, ALWAYS DISCONNECT OPERATOR FROM POWER SUPPLY.**

HOW TO ORDER REPAIR PARTS

OUR LARGE SERVICE ORGANIZATION
SPANS AMERICA

INSTALLATION AND SERVICE INFORMATION
IS AS NEAR AS YOUR TELEPHONE SIX DAYS A WEEK.
SIMPLY DIAL OUR TOLL FREE NUMBER:

1-800-528-2806

HOURS: (Central Standard Time)
6:00 A.M. TO 7:00 P.M. - Monday through Friday
8:00 A.M. TO 4:30 P.M. - Saturday
www.liftmaster.com

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

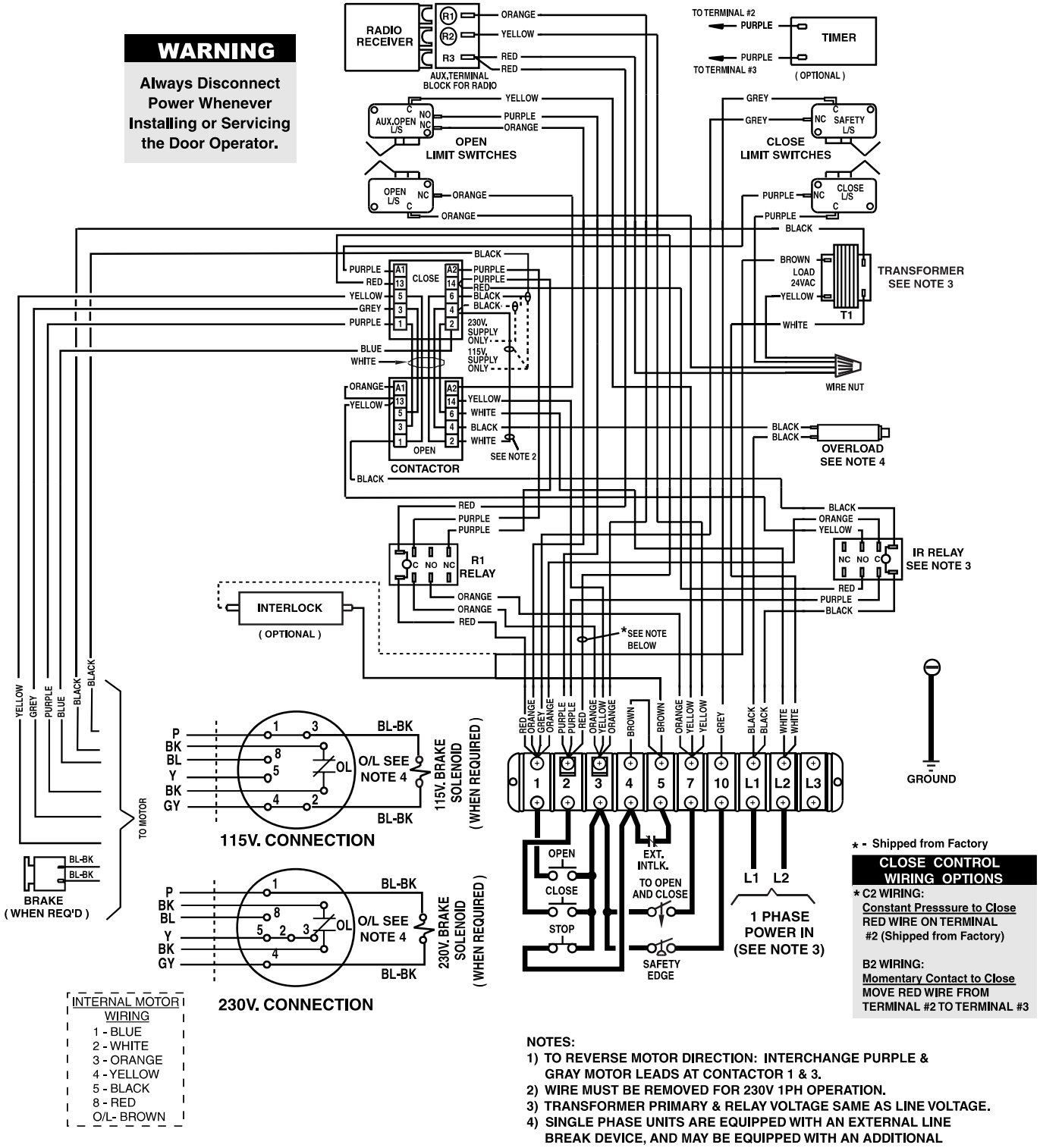
- PART NUMBER
- PART NAME
- MODEL NUMBER

ADDRESS ORDERS TO:

THE CHAMBERLAIN GROUP, INC.
Technical Support Group
6020 S. Country Club Road
Tucson, Arizona 85706

SINGLE PHASE SCHEMATIC DIAGRAM

10118-1

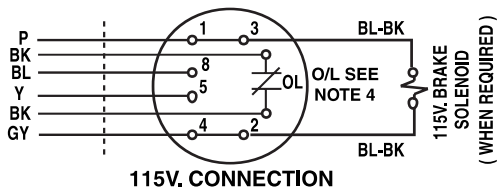


NOTES:

1) TO REVERSE MOTOR DIRECTION: INTERCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3.
2) WIRE MUST BE REMOVED FOR 230V 1PH OPERATION.
3) TRANSFORMER PRIMARY & RELAY VOLTAGE SAME AS LINE VOLTAGE.
4) SINGLE PHASE UNITS ARE EQUIPPED WITH AN EXTERNAL LINE BREAK DEVICE, AND MAY BE EQUIPPED WITH AN ADDITIONAL INTERNAL PILOT DUTY THERMAL O/L DEVICE.

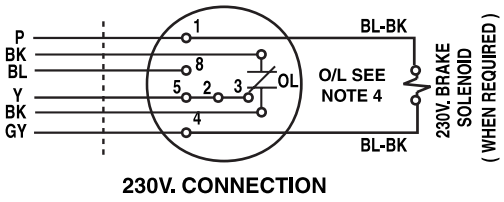
SINGLE PHASE WIRING DIAGRAM

10118-1

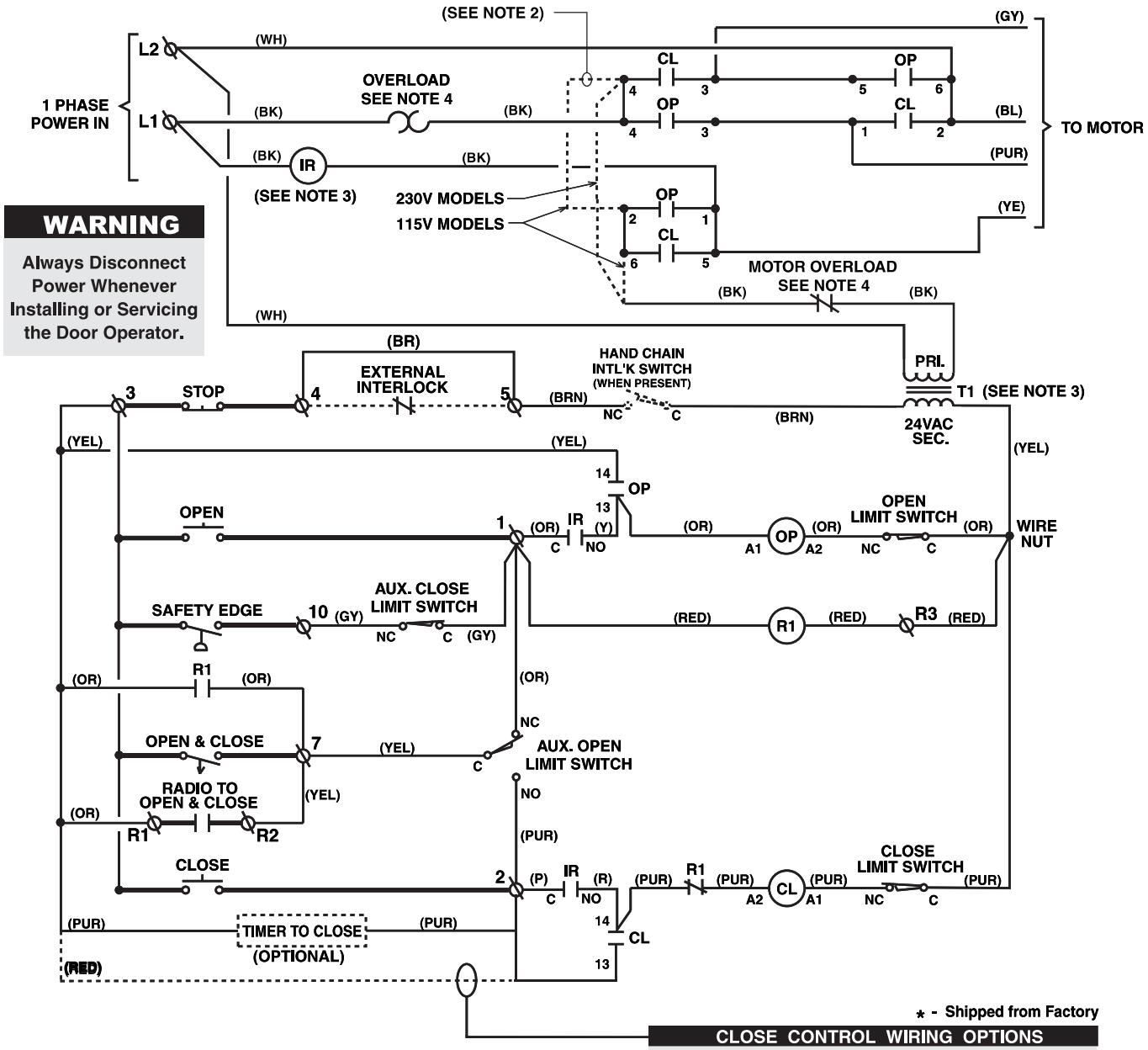


115V. CONNECTION

INTERNAL MOTOR WIRING
1 - BLUE
2 - WHITE
3 - ORANGE
4 - YELLOW
5 - BLACK
8 - RED
O/L - BROWN



230V. CONNECTION



WARNING

Always Disconnect Power Whenever Installing or Servicing the Door Operator.

* - Shipped from Factory

CLOSE CONTROL WIRING OPTIONS

*C2 WIRING - Constant Presssure to Close
RED WIRE ON TERMINAL #2 (Shipped from Factory)

B2 WIRING - Momentary Contact to Close
MOVE RED WIRE FROM TERMINAL #2 TO TERMINAL #3

NOTES:
1) TO REVERSE MOTOR DIRECTION: INTERCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3.
2) WIRE MUST BE REMOVED FOR 230V 1PH OPERATION.
3) TRANSFORMER PRIMARY & RELAY VOLTAGE SAME AS LINE VOLTAGE.
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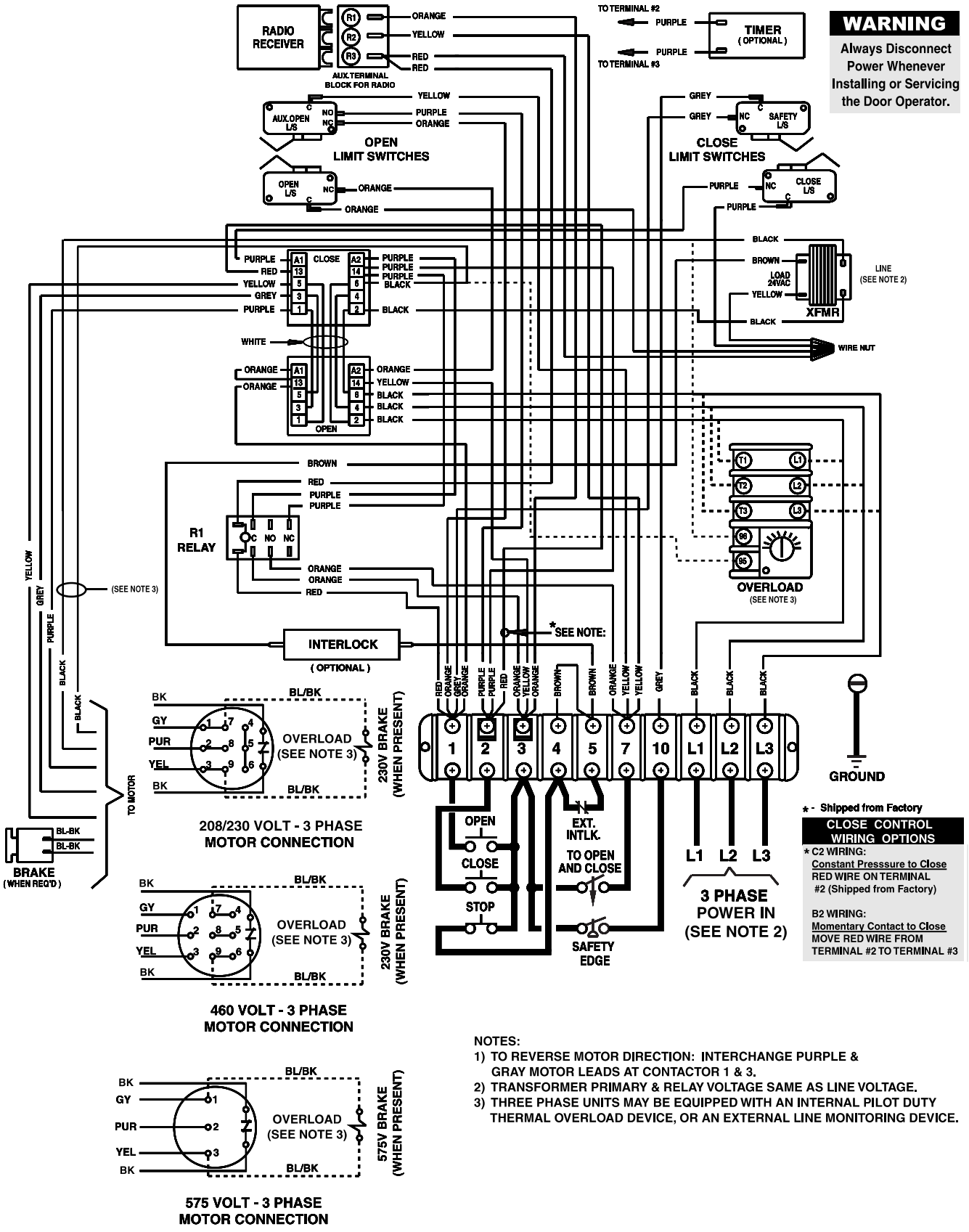
THREE PHASE SCHEMATIC DIAGRAM

10118-3

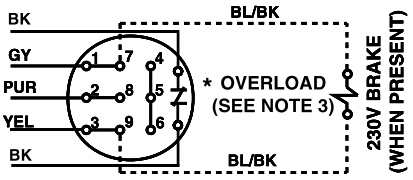


NOTES:

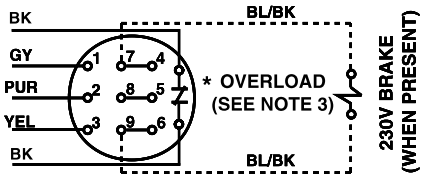
1) TO REVERSE MOTOR DIRECTION: INTERCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3.
2) TRANSFORMER PRIMARY & RELAY VOLTAGE SAME AS LINE VOLTAGE.
3) THREE PHASE UNITS MAY BE EQUIPPED WITH AN INTERNAL PILOT DUTY THERMAL OVERLOAD DEVICE, OR AN EXTERNAL LINE MONITORING DEVICE.

THREE PHASE WIRING DIAGRAM

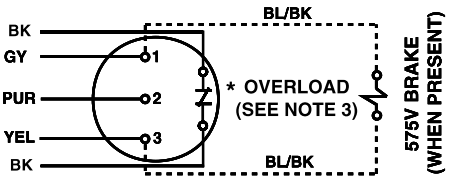
10118-3



208/230 VOLT - 3 PHASE
MOTOR CONNECTION

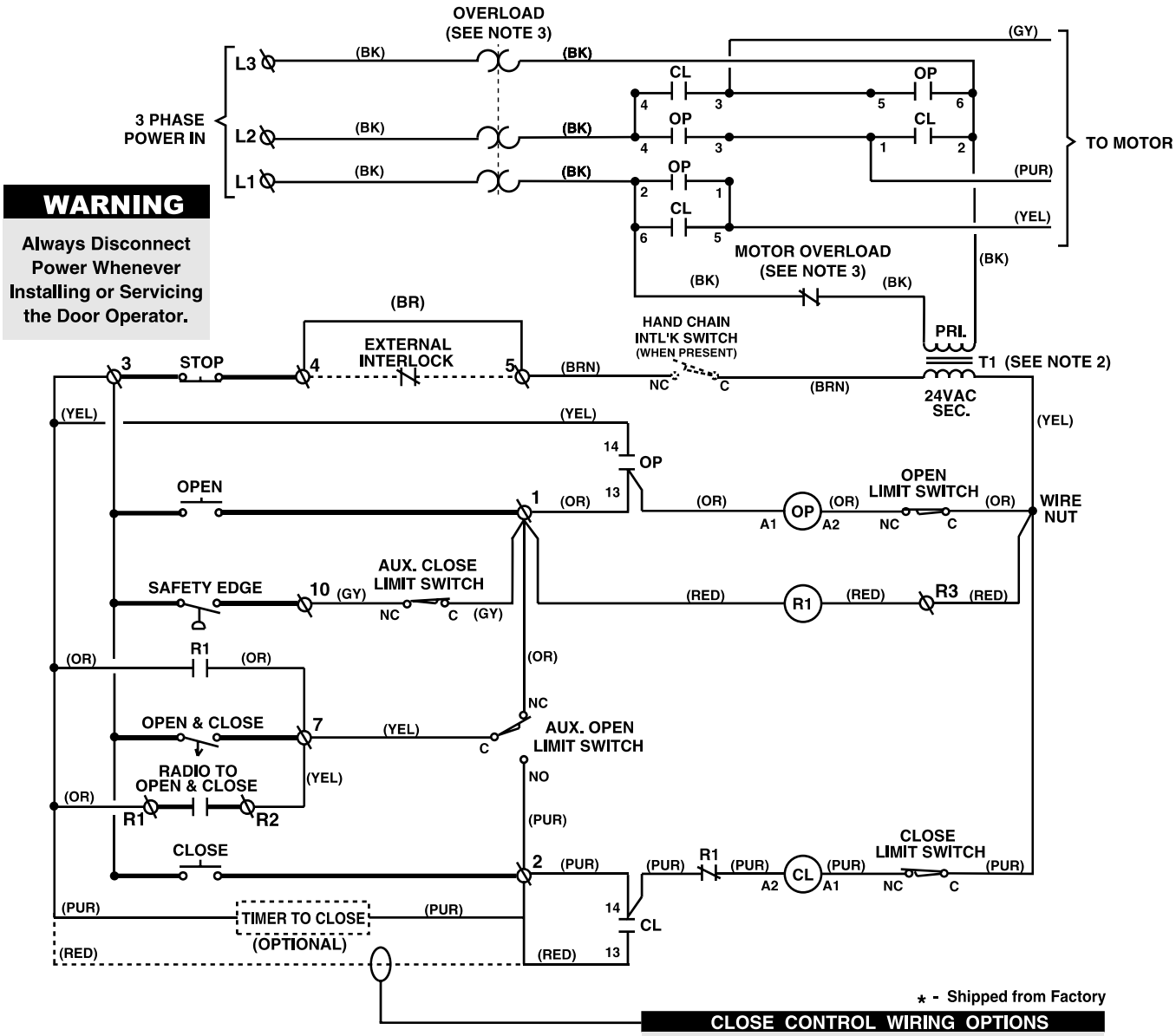


460 VOLT - 3 PHASE
MOTOR CONNECTION



575 VOLT - 3 PHASE
MOTOR CONNECTION

* MOTOR O/L LEAD COLOR BROWN



WARNING

Always Disconnect Power Whenever Installing or Servicing the Door Operator.

* - Shipped from Factory

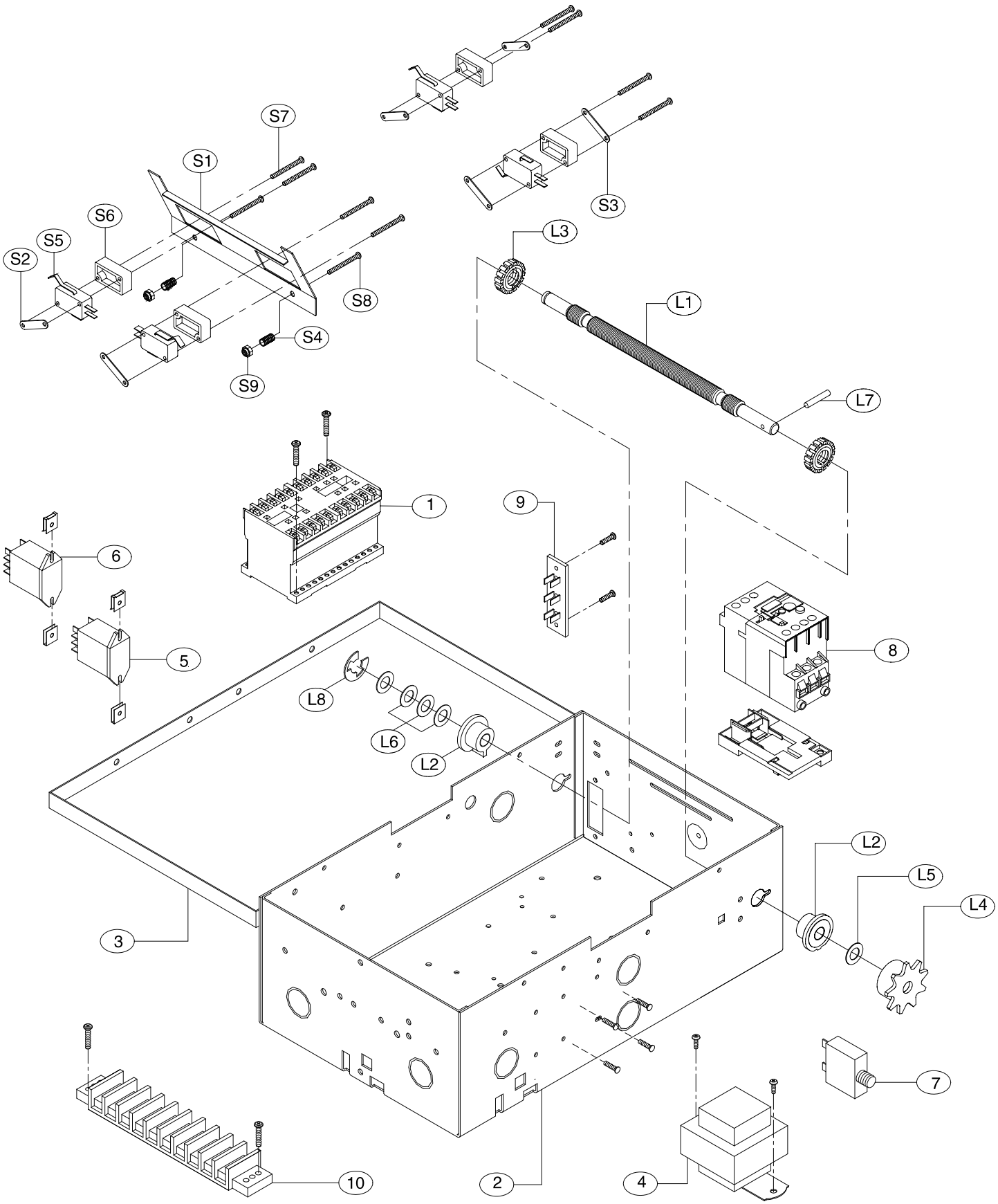
CLOSE CONTROL WIRING OPTIONS

*C2 WIRING - Constant Presssure to Close
RED WIRE ON TERMINAL #2 (Shipped from Factory)

B2 WIRING - Momentary Contact to Close
MOVE RED WIRE FROM TERMINAL #2 TO TERMINAL #3

NOTES:
1) TO REVERSE MOTOR DIRECTION: INTERCHANGE PURPLE & GRAY MOTOR LEADS AT CONTACTOR 1 & 3.
2) TRANSFORMER PRIMARY & RELAY VOLTAGE SAME AS LINE VOLTAGE.
3) THREE PHASE UNITS MAY BE EQUIPPED WITH AN INTERNAL PILOT DUTY THERMAL OVERLOAD DEVICE, OR AN EXTERNAL LINE MONITORING DEVICE.

ILLUSTRATED PARTS – ELECTRICAL BOX



REPAIR PARTS KITS – ELECTRICAL BOX

Below are replacement kits available for your operator. For replacement of electrical box, motor or brake components be sure to match model number of your unit to kit number below to ensure proper voltage requirements. Optional modifications and/or accessories included with your operator may add or remove certain components from these lists. Please consult a parts and service representative regarding availability of individual components of kits specified below. Refer to page 11 for all repair part ordering information.

Complete Electrical Box Replacement Kits
To order a complete electrical box replacement kit, add a K- prefix to the model number of your operator. For example:

GT5011M (Operator) = K-GT5011M (Elec. Box Kit)

Electrical Box Sub-Assembly Kits

K72-12510	Limit Shaft Assembly
K75-12511	Limit Switch Assembly

Shaft Assembly Kits

K75-12858	Torque Limiter Assembly
K72-12859	Drive Shaft Assembly

Brake Assembly Kits

K75-12855	115V Models
K75-12856	230-460V Models
K75-12857	575V Models

Motor Kits

K20-1050C2P	Models	GT5011M, GT5021M
K20-3050C4P	Models	GT5023M, GT5043M, GT5038M
K20-3050M5	Model	GT5053M
K20-5150C6	Models	GT5025M
K20-1075C2P	Models	GT7511M, GT7521M
K20-3075C4P	Models	GT7523M, GT7543M, GT7538M
K20-3075M5	Model	GT7553M
K20-5175C6	Model	GT7525M
K20-1100C2P	Models	GT1011M, GT1021M
K20-3100C4P	Models	GT1023M, GT1043M, GT1038M
K20-3100M5	Model	GT1053M
K20-5110C6	Model	GT1025M
K20-1150C2P	Models	GT1511M, GT1521M
K20-3150C4	Models	GT1523M, GT1543M, GT1538M
K20-3150C5	Model	GT1553M
K20-5115C6	Model	GT1525M

Individual Components

21-5115	Transformer, 115V Operators
21-5230	Transformer, 230V Operators
21-5460	Transformer, 380-460V Operators
21-5575	Transformer, 575V Operators
24-115-1	Relay, 115V 1Ph Operators
24-230-5	Relay, 230V 1Ph Operators

Note: *Item 9 may not be present*

*** COMPLETE ELECTRICAL BOX KITS**

Item	P/N	Description	Qty
1	03-8024-K	Contactor	1
2	10-13900	Electrical Box (No Tabs)	1
3	10-10115	Electrical Box Cover	1
4	21-5xxx	(See Individual Components)	1
5	24-xxx-x	(See Individual Components)	1
6	24-24-1	24Vac DPDT Relay	1
7	25-2xxx	(See Overloads)	1
8	25-4xxx	(See Overloads)	1
9	42-10040	Terminal Block, Radio	1
10	42-110	Terminal Block, 10 Position	1

* Electrical Box Kits include parts from K72-12510 and K75-12511

K72-12418 LIMIT SHAFT ASSEMBLY KIT

Item	P/N	Description	Qty
L1	11-10021	Limit Shaft	1
L2	12-10028	Flange Bearing, 3/8" I.D.	2
L3	13-10024	Limit Nut	2
L4	15-48B18AXX	Sprocket 48B18 x 3/8" Bore	1
L5	80-10025	Washer, Shim 3/8" I.D. x .050 THK.	1
L6	80-10026	Washer, Shim 3/8" I.D. x .010 THK.	4
L7	86-RP04-100	Roll Pin, 1/8 DIA. x 1 Long	1
L8	87-E-038	E Ring, 3/8"	1

K75-12511 LIMIT SWITCH ASSEMBLY KIT

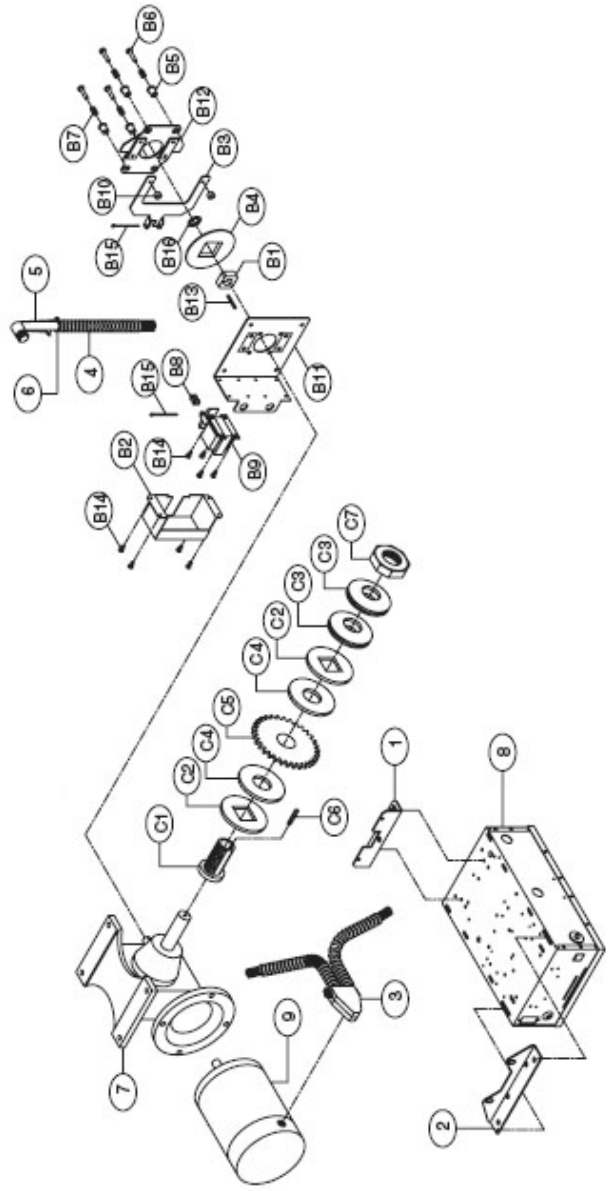
Item	P/N	Description	Qty
S1	10-10013	Depress Plate	1
S2	10-12553	Nut Plate, Switch	4
S3	10-12806	Backup Plate	2
S4	18-10036	Spring, Depress Plate	2
S5	23-10041	Limit Switch	4
S6	31-12542	Standoff, Limit Switch	4
S7	82-PX04-20	Screw, #4-40 Pan Head Phillips	8
S8	82-PX06-16	Screw, #6-32 x 1" Pan Hd Phillips	2
S9	84-LH-06	Locknut, #6-32 Nylon Hex	2

OVERLOADS

	ITEM 8					ITEM 9			
OPERATOR	25-2006 6 Amp	25-2008 8 Amp	25-2010 10 Amp	25-2015 15 Amp	25-2025 25 Amp	25-4002-5K 1.6-2.5 Amp	25-4003-K 2.6-3.7 Amp	25-4004-K 2.5-4.0 Amp	25-4008-K 5.5-8.0 Amp
GT5011M			●						
GT5021M	●								
GT5025M	●								
GT7511M				●					
GT7521M		●							
GT7525M		●							
GT1011M				●					
GT1021M		●							
GT1023M								●	
GT1043M						●			
GT1053M						●			
GT1025M		●							
GT1038M						●			
GT1511M					●				
GT1521M			●						
GT1523M									●
GT1543M							●		
GT1553M						●			
GT1525M			●						
GT1538M							●		

Note: Single phase units are equipped with an external line break device, and may be equipped with an additional internal pilot duty thermal O/L device.

Three phase units may be equipped with an internal pilot duty thermal O/L device or an external line break device.


B6
B5
B12
B7
B3
B10
B4
B15
B16
B1
5
B13
6
4
B15
B8
B11
B2
B14
B9
B14
C7
C3
C8
C2
C4
C5
C4
C2
C1
C6
1
8
3
9
7
2

REPAIR PARTS KITS – MODEL GT

Refer to the parts lists below for replacement kits available for your operator. If optional modifications and/or accessories are included with your operator, certain components may be added or remove from these lists. Individual components of each kit may not be available. Please consult a parts and service representative regarding availability of individual components. Refer to page 11 for all repair part ordering information.

BRAKE ASSEMBLY KITS

KIT PART #	FOR	OPERATOR(S)
71-B120		115 Volt Models
71-B240		230-460 Volt Models
71-B575		575 Volt Models

ITEM	PART #	DESCRIPTION	QTY
B1	07-10179	Brake Hub	1
B2	10-10187	Brake Solenoid Cover	1
B3	10-10190	Brake Release Lever	1
B4	10-10191	Brake Disc, Zinc Plated	1
B5	11-10192	Spring Cup for Brake Assembly	4
B6	11-10193	Brake Stud	4
B7	18-10194	Spring, Compression x .875" Long	4
B8	19-48001	Chain, #48 x 1 Pitch	1
B9	22-120	Brake Solenoid, 115V	1
	22-240	Brake Solenoid, 230-460V	1
	22-575	Brake Solenoid, 575V	1
B10	31-10186	Spacer, .20 I.D. x .31 Long	2
B11	75-10180	Brake Mounting Plate Assembly	1
B12	75-10184	Brake Pressure Plate Assembly	1
B13	80-9001	Feather Key	1
B14	82-WX10-08T	Screw, #10-32 x 1/2" Serrated Flange	8
B15	86-CP04-112	Cotter Pin, 1/8" x 1-3/4" Zinc Plate	2
B16	87-P-062	Push on Fastener, 5/8" Int. Star	1

INDIVIDUAL PARTS

ITEM	PART #	DESCRIPTION	QTY
1	10-10446	MTG. Bracket, Elec Box-Brake	1
2	10-10447	MTG. Bracket, Elec Box-Reducer	1
3	27-10188	Double BX Connector	1
4	28-10218	Conduit, 3/8"	1
5	28-10219	Connector, 90 degree	1
6	28-10220	Bushing, Anti-Short	1
7	32-10540	Gear Reducer	1
8	See Page 17	Electrical Box Replacement Kit	1
9	See Page 17	Motor Replacement Kit	1
10	10-10536	Frame	1

K75-12858 TORQUE LIMITER ASSEMBLY KIT

ITEM	PART #	DESCRIPTION	QTY
C1	07-10534	Hub, Torque Limiter	1
C2	07-10535	Clutch Pressure Plate	2
C3	18-10539	Belleville Washer	4
C4	39-10541	Clutch Disc	2
C5	S14970	Sprocket Assy	1
C6	80-207-19	Key, 1/4" x 1/4" x 1-1/2"	1
C7	84-JH-150	Hex Jam Nut, 1-1/2"-12	1

CONTROL CONNECTION DIAGRAM

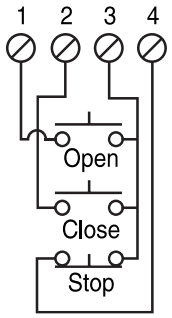
IMPORTANT NOTES:

1) The 3-Button Control Station provided must be connected for operation.
2) If a STOP button is not used, a jumper must be placed between termianls 3 and 4.
3) Auxiliary control equipment may be any normally open two wire device such as pullswitch, single button, loop detector, card key or such device.

ATTENTION ELECTRICIAN:
USE 16 GAUGE OR HEAVIER WIRE FOR ALL CONTROL CIRCUIT WIRING.

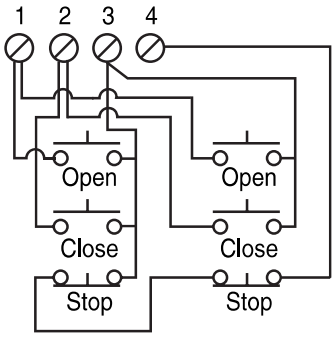
3 BUTTON STATION or 3 POSITION KEYSWITCH w/ SPRING RETURN TO CENTER AND STOP BUTTON

STANDARD



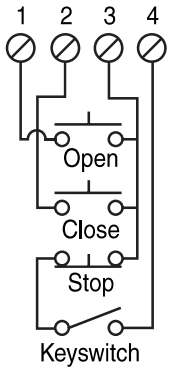
ALL CONTROL WIRING TYPES

2 OR MORE



ALL CONTROL WIRING TYPES

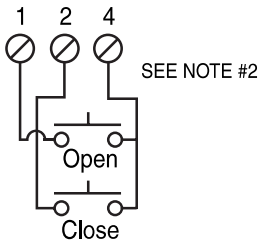
KEY LOCKOUT



ALL CONTROL WIRING TYPES

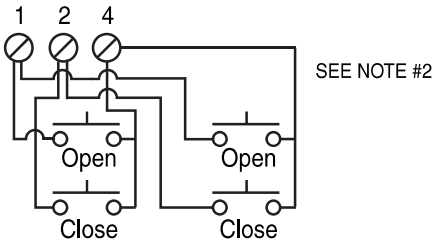
2 BUTTON STATION or 3 POSITION KEYSWITCH w/ SPRING RETURN TO CENTER

STANDARD



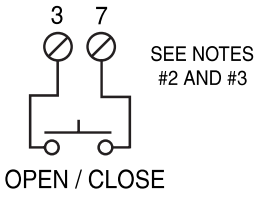
ALL CONTROL WIRING TYPES

2 OR MORE



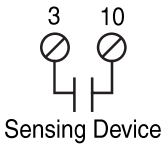
ALL CONTROL WIRING TYPES

1 BUTTON STATION or ANY AUXILIARY DEVICE



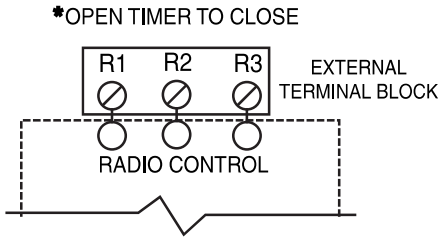
B2 or T1
WIRING TYPES ONLY

SENSING DEVICE TO REVERSE OR STOP



ALL CONTROL WIRING TYPES

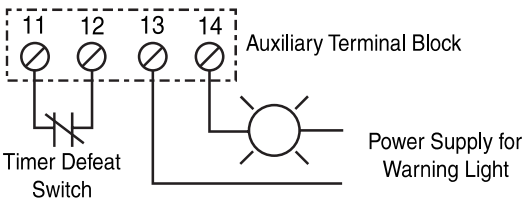
RESIDENTIAL RADIO CONTROLS



ALL CONTROL WIRING TYPES
*T1 WIRING - RADIO TO OPEN ONLY

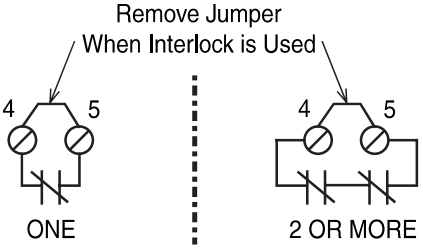
TIMER TO CLOSE w/ WARNING LIGHT

Warning Light will activate 15 sec. before door closes.



T1 CONTROL WIRING ONLY

EXTERNAL INTERLOCK



ALL CONTROL WIRING TYPES