



ASSA ABLOY

# Architectural Product Guide

ASSA ABLOY, the global leader  
in door opening solutions

## INTRODUCTION

Norton Door Controls offers a comprehensive line of door controls designed and manufactured to ensure superior performance, reliability and application breadth.

Founded in 1880, Lewis C. Norton began Norton Door Check Company to manufacture and market the first practical commercial door closer. In later years, Norton refined the rack and pinion closer and the concept of valve-controlled backcheck for hydraulic closers. Along the way there have been a variety of other innovations, including the aluminum alloy body, narrow style, non-handed closers, adjustable backcheck, speed adjustments and special application arms.

Today Norton® offers traditional surface, industrial economy, overhead concealed, commercial and architectural grade closers. To complement the closers, Norton also offers a unique range of arms to help provide maximum door and frame protection.

For a complete copy of all Norton catalogs and additional technical information, contact your local sales representative or visit us at [www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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## SUGGESTED APPLICATIONS

	Commercial	Aluminum Storefront	Architectural	Institutional	Cam Action	Specialty
<b>Sized Surface Closers</b>	1700 9300BC	1600BC	8300/8500	7700		78-B/F
<b>Multi-Sized Surface Closers</b>		1601	8301/8501	7500	2800ST	
<b>Security</b>				7570/7770		
<b>Overhead Concealed Closers</b>				7900/7970		

## FINISHES

### Sprayed Finishes

All Norton® Door Closers, Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol® arms and accessories are available in the following sprayed finishes. Order sprayed finishes by the BHMA Designation.

Consult individual catalogs for plating options and finish designations. Custom finishes are available; please contact your Norton Technical Product Specialist for details.

Finish Description	Specify BHMA Designation	Old Designation
Aluminum	689	AL
Statuary Bronze	690	STAT
Dull Bronze	691	DB
Black	693	315
Medium Amber	694	312
Gold	696	GB
Prime Coat	600*	SRI

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 7500 x 600 x 689).



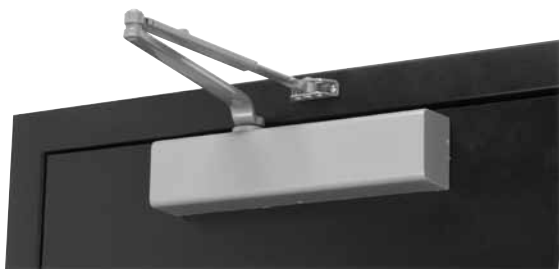
## APPLICATION CHART

Closer Series	Arm Options								
	Regular	Top Jamb	Parallel	Parallel Rigid	CloserPlus®	CloserPlus Spring™	Unitrol®	Slide Track	Low Profile
7500/7700	X	X	X	X	X	X	X	X	X
7570/7770	X			X	X	X		X	
8000	X	X	X	X	X	X	X	X	X
1600BC	X	X	X	X	X	X	X		X
1700	X	X	X						
9300BC	X	X	X						
78-B/F	X		X	X			X		

## APPLICATIONS

Shown with 8501 closers

**Regular Arm - pull-side**



**Parallel Arm - push-side**



**Top Jamb - push-side**



**APPLICATIONS**

**Parallel Rigid Arm - Heavy-Duty**



**CloserPlus® Arm - Heavy-Duty (Hold Open Shown)**



**CloserPlus Spring™ Arm - Heavy-Duty**



**Unitrol® Arm - Heavy-Duty**



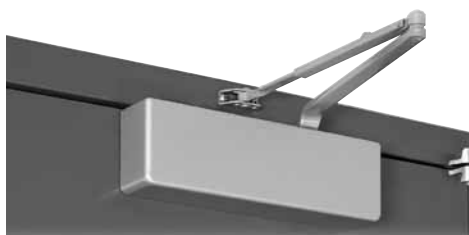
**Slide Track - pull-side application shown**



**Low Profile Arm**



## 7500/7700 SERIES




### Features

- Non-handed
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- 2-3/16" (56mm) projection (standard covers)
- All standard arm applications allow doors to swing 180°, conditions permitting
- Staked valves
- Heavy-duty arms available: Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- Slide Track - push or pull mounting
- 10-year limited warranty

### Optional Features

- Metal cover
- Corrosion-resistant model (specify 7500SS)
- Delayed action
- Enhanced backcheck

### Compliance Standards

- ANSI/BHMA A156.4, Grade 1 certified **BHMA CERTIFIED**
- UL listed
- UL10C compliant for positive pressure
- ADA compliant (7500 series) 

	7700	7500
Sized springs 2,3,4,5,6 with 50% additional adjustment	X	
Adjustable spring sizes 1 through 6		X
Bi-pack standard (regular arm and top jamb mounting)	X	
Tri-Style® standard (regular arm, top jamb and parallel arm mounting)		X

## 7500/7700 SECURITY



### Features

- Security arms - joints feature permanent, orbital riveted elbow and arm shoe/soffit plate joints which prevent disassembly
- Adjustable backcheck cushioning and positioning
- Heavy-duty arms available - Parallel Rigid, CloserPlus® and CloserPlus Spring™
- Slide track - push or pull mounting
- 10-year limited warranty

### Optional Features

- Delayed action
- Enhanced backcheck

### Compliance Standards

- ANSI/BHMA A156.4, Grade 1 certified **BHMA CERTIFIED**
- UL listed
- UL10C compliant for positive pressure

<b>Includes Security Cover, Security Arm and Torx® screw package</b>
7770 – Sized closer
7570 – Multi-sized closer



8000 SERIES

**Features**

- Non-handed
- Staked valves
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- 2-1/8" (54mm) projection (standard covers)
- All standard arm applications (with slim, full or metal covers) allow doors to swing 180°, conditions permitting
- 8300/8301 shipped with molded slim-line plastic cover
- 8500/8501 shipped with molded full plastic cover
- Heavy-duty arms available: Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- 10-year warranty



**Optional Features**

- Metal, architectural plastic or architectural metal covers (8500 or 8501)
- Delayed action

**Compliance Standards**

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure
- ADA compliant (8301 and 8501)



	8300	8500	8301	8501
Sized springs 2, 3, 4, 5, 6 with 50% additional adjustment	X	X		
Adjustable spring sizes 1 through 6			X	X
Bi-pack packaging standard (regular arm and top jamb mounting)	X	X		
Tri-Style® standard (regular arm, top jamb and parallel arm mounting)			X	X

1600 SERIES

**Features**

- Non-handed
- Standard, separate and independent, latch, sweep and backcheck cushioning valves
- Staked valves
- 2-7/8" (73mm) projection
- All standard arm applications allow doors to swing 180°, conditions permitting
- Heavy-duty arms available: Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- 10-year warranty



**Optional Features**

- Delayed action (in lieu of backcheck)
- Corrosion-resistant model (specify 1601SS)
- Molded plastic cover

**Compliance Standards**

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure
- ADA compliant (1601BF)



	1600BC	1601	1601BF
Sized springs 2, 3, 4, 5, 6 with no power adjustment	X		
Adjustable spring sizes 3 through 6		X	
Adjustable spring sizes 1 through 4			X
Tri-Style® standard (regular arm, top jamb and parallel arm mounting)		X	X
Bi-packed standard (regular arm and top jamb mounting)	X		

## 1700 SERIES

**Intended for use on interior doors of apartments, hotels and other light-duty commercial buildings**

### Features

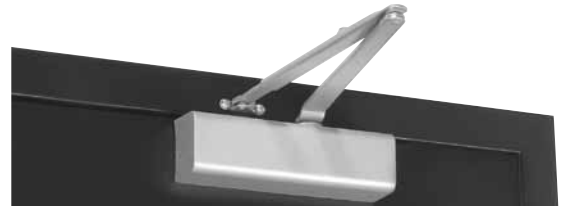
- Spring size 1, 2, 3, or 4
- Installs regular arm, parallel arm or top jamb
- Non-handed
- Independent adjustable sweep and latch speeds
- 5-year limited warranty

### Optional Features

- Full cover
- Hold open arm
- Backcheck

### Compliance Standards

- ANSI/BHMA A156.4, Grade 2 certified
- UL listed
- UL10C compliant for positive pressure



Shown with cover



Shown without cover

## 9300BC SERIES

**Designed for commercial exterior and interior doors such as front store and industrial applications**

### Features

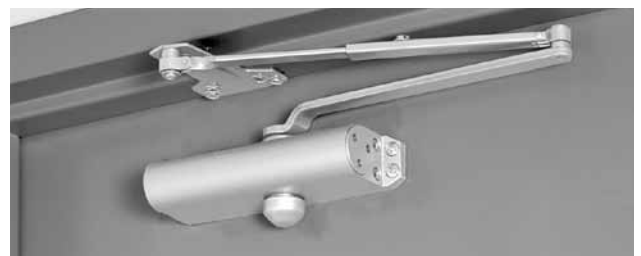
- Spring size 2, 3, 4 or 5
- Separate and independent valve for sweep speed and latch speed
- Adjustable backcheck standard
- Non-handed
- Regular and top jamb mount standard - no prefix
- 5-year limited warranty

### Optional Features

- Friction hold open arm
- Parallel mount - "P" prefix

### Compliance Standards

- ANSI/BHMA A156.4, Grade 3
- UL listed
- UL10C compliant for positive pressure



## 78-B/F SERIES

**Features**

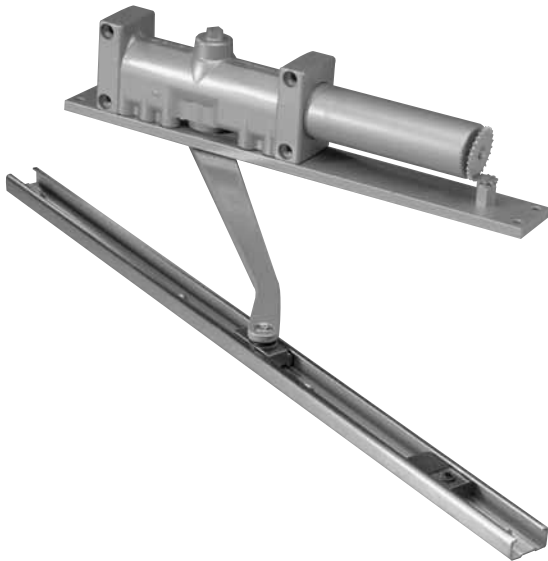
- Choice of adjustable spring power  
B/D - Spring size 2, 3, or 4  
E/F - Spring size 5 and 6
- Adjustable sweep/latch speed
- Adjustable backcheck cushioning
- Handed (Closer spring can be reversed in the field)
- Heavy-duty arms available: Parallel Rigid and Unitrol®
- 10-year limited warranty

**Optional Features**

- Delayed action (DA units are handed; not field reversible)

**Compliance Standards**

- ANSI/BHMA A156.4, Grade 3
- UL listed
- UL10C compliant for positive pressure

7900/7970  
SERIES

The 7900 Overhead Closers are best suited for high-profile applications such as office buildings or conference centers. The 7970 security closers offer the necessary concealment and tamper resistance required in detention and psychiatric facilities. Used in conjunction with the door position switch (DPS), it provides the ability to monitor door status remotely.

**Features**

- Steel track and slider
- Fully adjustable, multi-point hold open (7900)
- Shock-absorbing door stop
- Adjustable sweep and latch speeds
- Adjustable backcheck cushioning and positioning
- Handed
- Available as sized or multi-sized units  
Sized closer - (4, 5 or 6); specify 7904, 7905 or 7906  
Multi-sized - (1-6); specify 7900
- Installs with butt hinges, offset or center hung pivots
- Installs in hollow metal, aluminum or wood doors and frames
- Torx® screws furnished standard (Order 7970DPS)
- 790 Fire Block
- 10-year limited warranty

**Optional Features**

- Door Position Switch (7970DPS)

**Compliance Standards**

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed







## Features

- Cam action design for smooth operation: efficient, powerful, heavy-duty
- Slide track application with regular arm operating efficiency
- Adjustable spring size 1 through 6
- Adjustable closing force
- Adjustable closing and latching speed
- Backcheck standard
- Non-handed
- Push or pull side installation
- 10-year warranty
- Suitable for exterior and interior doors
- Recommended maximum interior door width 54" (137cm)
- Recommended maximum door weight 250 lbs.
- Standard opening range:
  - Push Side = 110°
  - Pull Side = 110°

Note: Door openings greater than 110° can be achieved when an auxiliary door stop (by others) is used. Consult factory for details and templates.

## Optional Feature

- Hold open

## Compliance Standards

- Meets requirements for Americans with Disabilities Act (ADA)
- ANSI/BHMA A156.4 certified **BHMA** CERTIFIED
- UL and UL10C listed

### 7100SZ SERIES

Designed with safety in mind, SafeZone® takes door closers to a higher level. *SafeZone* uses a multi-point, electromechanical closer and a programmable motion sensor. When the door is opened manually, *SafeZone* senses movement in the door opening and stops the door from closing. A physically disabled person in a wheelchair; an elderly person moving slowly; a child who stops to pick up a toy are all protected. When movement is no longer detected, the adjustable setting times out and the door closes.

*SafeZone* detects movement in both directions, allowing one person or a stream of people to travel through an opening, making it ideal for theaters, hospitals, doctor's offices and elementary schools.



#### Features

- Multi-point, electromechanical closer/holder
- Sensor detects movement in both directions
- Selectable hold open time and sensitivity
- Push or pull side mounting
- Handed units
- Spring sizes 3, 4 or 5 (models 7110SZ and 7150SZ); spring sizes 2, 3, 4 or 5 (models 7120SZ and 7130SZ)
- Fail safe operation

#### Benefits

- Energy savings realized by power engaging only when motion is detected
- Extends door life and minimizes wear and tear on hardware by limiting unnecessary cycles

### PATENTS

- Patent Pending

### CERTIFICATIONS

- ANSI/BHMA certified to meet ANSI/BHMA A156.15 Release Devices
- Electromechanical Closer/holders are listed by Underwriters Laboratories for labeled fire doors
- Manufactured in an ISO 9001 facility



## 7200 SERIES


### Features

- Multi-point hold open
- Pull- or push-side mounting
- Handed
- Closer size 3, 4 or 5
- Selective Hold Open (standard) - door will hold open at any degree of opening beyond a pre-set hold open point, up to 175°. Maximum opening 180°. Factory set at 80°.
- Infinite Hold Open (optional) - door will hold open at any degree of opening up to 175°. Maximum opening 180°. Infinite Hold Open can be set in the field by turning the cam.
- Voltage - 24VAC/DC or 120VAC
- Detected or non-detected units available
- 2-year limited warranty

### Optional Features

- Radio Frequency - RFS (selective) - *RF units are not UL listed for fire doors*
- Free Swing arm (7240 pull side only)

### Compliance Standards

- ANSI/BHMA A156.15 certified 
- UL listed

### Pull (Hinge) Side Mounting



7210 Shown

### Functions


- Master Unit: Suffix MPDO
- Slave Unit: Suffix MPSO
- Support Unit: Suffix MPO
- Executive Unit: Suffix RFS

## POWER TRACK®

### Features

- Selective single-point hold open
- Spring cushioned dead stop
- Spring size 5; order 7705
- 24 VAC/DC or 120VAC, 60Hz
- Pull/Push installations - Prefix "P" for push-side installation
- Fail-safe operation
- Available with or without smoke detector
- 2-year limited warranty

### Compliance Standards

- ANSI/BHMA A156.15 certified 
- UL listed (All Support units are UL listed for application with any compatible UL listed fire/smoke detection equipment)

### Functions

- Master Unit – Suffix PTDO
- Support Unit – Suffix PTO



7705PTDO Shown



## 5600 SERIES

The 5600 Series, the newest addition to the POWERMATIC® Family of Operators, offers functionality and control at an affordable price. Ideal for retrofit applications, the 5600 Series converts interior, non-fire rated doors for ADA compliance easily and affordably and provides a simple way to achieve touchless environments in public restrooms. Furnished standard with a track assembly, the pull-side mounted unit can be operated manually or activated by wall switches, or radio frequency devices. Easy to install, set-up and adjust, the 5600 Series is perfect for ADA-compliant offices, classrooms and dorm rooms, and touch free applications like public restrooms, labs and examination rooms.



## FEATURES

- Pull side mounting
- Non-handed
- Quiet operation
- Electrically controlled backcheck, sweep and latch
- Activation options: wall switches, radio frequency devices
- Ease of installation and set-up
- On/Off Switch
- Hold open options: 0-30 seconds (5 seconds minimum required for ADA and ANSI/BHMA A156.19)
- Onboard 24VDC (1.1A) power supply for accessories
- Door closer mode for manual usage
- Electronic motor dampening - provides feel of normal, manual door closer
- Electric hardware and access control interface
- Optional AC power cord

## PATENT

- Patent Pending

## FUNCTIONS

- Push & Go
  - As the door is manually opened, the operator "senses" movement and opens door to the full-open position.
- Obstruction Detection
  - Motor stops if door is obstructed during opening
- Motor Start Delay
  - 0-5 second delay to allowing locking hardware to release first
- Overload Safety Shut-Off
  - After two minutes of receiving a door activation signal, the inverter will time out
  - Prevents motor/inverter damage

## ELECTRICAL DATA

- Power Input; 120 VAC, 60Hz
- Current Draw: .6A
- Relay Output: SPDT
  - Normally Open/Normally Closed (jumper)
  - For electric strike function

## CERTIFICATIONS

- ETL certified; conforms to ANSI/UL standard 325 for automatic closing doors.
- Meets requirements for Americans with Disabilities Act (ADA)
- 1-year warranty (refer to current Norton® price book for terms & conditions)

## 5700 SERIES



5710 Shown

The 5700 Series design is based on ease and simplicity. This unit installs in minutes rather than hours and consists of three basic components: inverter, motor and Norton's 1601 closer body. Quiet and dependable, the 5700 meets the requirements of the Americans with Disability Act (A.D.A.) and ANSI/BHMA 156.4. Available push- or pull- side mounting, this unit is perfect for applications that don't require special features but demands reliability.

## FEATURES AND FUNCTIONS

- Ease of installation and setup
  - Simple instructions
- Application versatility and ease of adjustment
  - Push- or pull-side mounting available
- Operates as mechanical surface closer during close cycles or when door is opened manually or if power is turned off
  - Quiet operation
  - Acceptable for fire-rated doors
  - Spring force provides the feel of a normal manual door closer
  - Door can be opened manually if desired
- Non-handed
- End-User On/Off Switch
- Norton® 1600 series door closer
  - Adjustable spring power
  - Backcheck valve
  - Sweep valve & latch valve
- Unit Activation Options
  - Wall switches
  - Motion sensor
  - Radio frequency device
- Hold Open options
  - 0-30 seconds (5 seconds minimum required for ADA and ANSI/BHMA A156.19)
- Obstruction Detection
  - Motor stops if door is obstructed during an opening
  - Door closes under manual spring force
- "Push and Close"
  - Allows the operator to skip the hold open time when it is not necessary or required
  - Adjustable door sensitivity
- Overload Safety Shut-Off
  - After two minutes of receiving a door activation signal, the inverter will time out and close the door
  - Prevents motor/inverter damage
- Motor Start Delay for Locking Hardware
  - 0-5 second delay to allow locking hardware to release first

## ELECTRICAL DATA

- Power Input: 120 VAC, 60Hz
- Current Draw: .6A or .3A
- Relay Output: DPDT
  - Normally Open/Normally Closed (jumper)

## CERTIFICATIONS

- c-UL US listed for use on fire and smoke barrier doors
- 2-year warranty
- ANSI/BHMA A156.19 (Low Energy Operators) certified
- Meets requirements for Americans with Disabilities Act (ADA)
- Meets ANSI/BHMA A156.4 requirements



## 5900 SERIES

The 5900 Series is a full-featured, extremely quiet, low energy door operator designed for moderate to high traffic doors. This cost-effective operator is available for either push- or pull-side mounting and is ideal for any application designed to meet the Americans with Disabilities Act (A.D.A). "One touch" programming combined with the operators' built-in ability to calibrate door mass, offers Norton customers a smart, dependable solution.



5910 Shown

## FEATURES & FUNCTIONS

- Ease of installation and setup
  - Simple instructions
  - "One touch" programming
- Application versatility and ease of adjustment
  - Non-handed units
  - Push- or pull-side mounting
- Power Assist
  - When unit is activated, it allows the door to be opened manually with a force less than 5 lbs.
- Push and Go (selectable)
  - As the door is manually opened, the operator "senses" movement and opens door to the full-open position.
- Motor Startup Delay
  - Delays operator opening
- Obstruction Detection
  - Open
    - Door closes if it hits an obstruction while opening
  - Close (Stop on Stall)
    - Door will stop once it hits an obstruction and rest against the obstruction until obstruction is removed
- Infinite Hold Open
  - Door will hold open at set position until power is turned off
- Power Latch (selectable)
  - Increases latch power
- Selector mode switch (3 position)
  - Off - Disables signal inputs
  - On - Activates signal inputs
  - Hold Open - Activates the unit to the hold open position

## ELECTRICAL DATA

- Power input 120 VAC, 60 Hz (+10%, -15%)
- Current draw .75A
- 12VDC @ .5A output, 24VDC @ .25A output or 24VDC @ .4A output

## CERTIFICATIONS

- UL325 certified
- UL10c certified
- 2-year warranty (refer to current price list, terms and conditions)
- Americans with Disabilities Act (ADA)
- ANSI/BHMA A156.19 certified





## 6900 SERIES

The 6900 Series is the professional's choice in low energy operators. Offering a full range of features and functions, this reliable operator is easy to set-up and adjust. Designed to automatically open and close doors easily, the 6900 is ideal for moderate to high traffic openings including executive offices, retirement homes and educational facilities.



6960 Shown

## FEATURES AND FUNCTIONS

- Handed units
- Push or pull-side mounting
- Uses Norton 7500 series door closer
  - Adjustable spring power
  - Backcheck valve
  - Backcheck position valve
  - Sweep valve
  - Latch valve
  - Speed control valve
  - Pressure adjustment valve
- Single pole double throw (SPDT) relay output
- 24 VDC @ 1.2A output
- Selector mode switch (3 position)
  - OFF – Disables signal except blow open. Unit still powered.
  - ON – Activates signal inputs for normal use.
  - HOLD OPEN – Activates the unit to the hold open position indefinitely.
- Integrates with access control systems
- Power assist selector switch
- Push and go selector switch
- Motor start-up delay adjustment
- Obstruction detection (open & close)
- Vestibule function delay adjustment (for sequencing two or more units)
- Door hold open delay adjustment
- Blow open function for smoke ventilation
- Presence detector input

## ELECTRICAL DATA

- Power Input: 120 VAC, 60 Hz (+10%, -15%)
- Current Draw 1.5A
- Auxiliary Output 24 VDC @ 1.2A
- SPDT relay output for controlling electric strikes or electric locks not to exceed 1 amp @ 30 VDC

## CERTIFICATIONS

- c-UL, UL for use on fire and smoke barrier doors
- Meets requirements for UL10C and UBC 7.2 for positive pressure
- 2-year warranty
- Meets requirements for Americans with Disabilities Act (ADA)
- ANSI/BHMA A156.19, certified **BHMA**  
CERTIFIED



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For a complete listing of products and  
applications please visit our web site.

[www.nortondoорcontrols.com](http://www.nortondoорcontrols.com)

[www.assaabloy.ca](http://www.assaabloy.ca)

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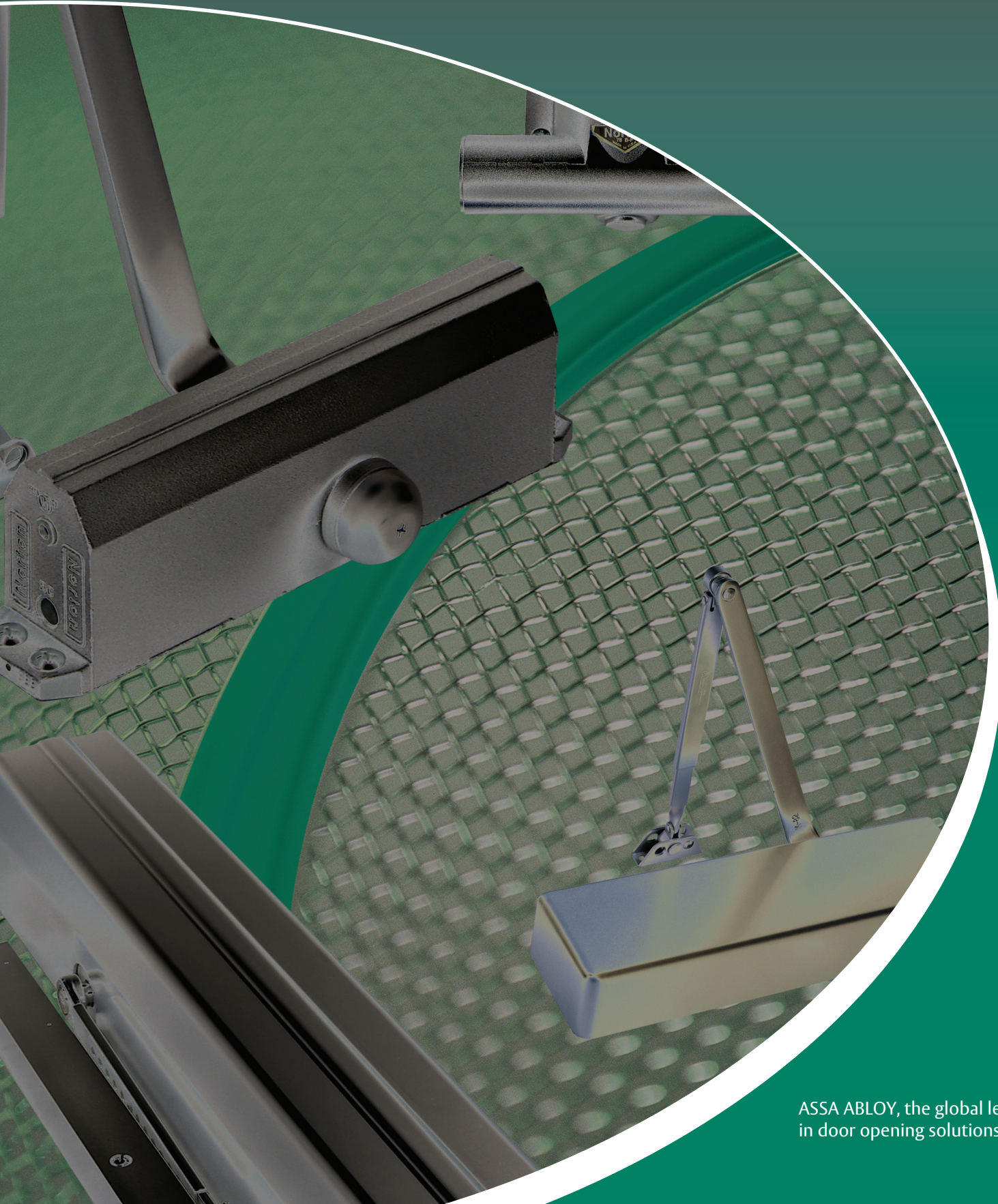
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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.



ASSA ABLOY

# General Information Guide



ASSA ABLOY, the global leader  
in door opening solutions



**GENERAL  
INFORMATION**

**About Norton Door Controls...**

Today's modern Norton® door control began with Lewis C. Norton, the inventor of the first American door closer. In 1880, he organized the Norton Door Check Company to manufacture and market his product: the first practical, commercial door closer. Though cumbersome, his first door closers were effective devices which permitted the adjustment of the door's sweep speed.

In later years, Norton Door Controls refined the rack and pinion closer and the concept of a valve-controlled backcheck for hydraulic closers. Along the way there have been a variety of other innovations, including the aluminum alloy body, narrow style, non-handed closers, adjustable backcheck, speed adjustments and special application arms. As Fire/Life Safety Standards were updated, Norton introduced the 7200 Series Electromechanicals and later the Power Track®. In 1990, the American with Disabilities Act (ADA) was passed, requiring buildings to have handicapped accessible doors for the physically challenged. This law brought about the creation of the original PowerMatic® Low Energy Operator.

Today, Norton Door Controls offers traditional surface, industrial economy, overhead concealed, security, commercial, architectural, electromechanical and electrified closers. To complement the closers, Norton also offers a unique range of arms to help provide maximum door and frame protection. The Norton philosophy has been – and continues to be – one of constant improvement...of quality products.

Since 1957 Norton Door Controls have been manufactured in Monroe, North Carolina.

**The ASSA ABLOY Door Security Solutions Sales Force... Specialists in Door Control**

Each ASSA ABLOY Sales Representative is selected for his knowledge of hardware and his ability to provide assistance to both specifier and user. His technical background and intimate understanding of *Norton* door closers and their applications are available to the specifier when a project is in the planning stages. When the project is complete he inspects the installation and instructs the maintenance staff on how to adjust each door control.

The ASSA ABLOY Door Security Solutions Representatives are supported by a Technical Product Support Department to help solve field problems. Together, these specialists can overcome most installation difficulties.

**Special Templates**

All *Norton* door closers and door controls are supplied with instructions that show the correct mounting position for the closer and arm in relation to the door, frame and hinges or offset pivots for a variety of door openings. Templates are available upon request for special conditions, such as center pivoted doors. Whenever you need assistance with a door control application or specification, contact your ASSA ABLOY Door Security Solutions Representative.

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## Listings/Approvals

Norton® door closers have been designed and manufactured to conform with government and industry standards. For particulars not covered in this section, please contact your Sales Representative.

## Underwriters' Laboratories, Inc.

All Norton door controls are listed by Underwriters' Laboratories, Inc.

## State and Local Listings

Norton Series 7200, Series 7700PTO/7700PTDO, Series 7900, Series 7706STP and Series 6900 are listed with the California State Fire Marshal for use on fire doors.

Norton door closers are approved by the New York City Material and Equipment Acceptance Division.

There has been increased emphasis by all parties associated with the construction and operation of buildings to make facilities accessible to and usable by handicapped people. Certain Norton door controls have features or modifications that help achieve these requirements.

To assist you in recognizing these controls, they are called to your attention throughout this catalog by the handicapped symbol.



## Federal and Industry Specifications

The following information is provided as a cross-reference. Use it as a guide to door closer design and function only. For additional questions, please contact your Sales Representative.

Norton Series Number	FF-H-121c Federal Spec Type	ANSI Type A156-4
78-B/F	3001-3004-3009	C01000 W/O PT 4A-4C-4D-4F-4H
1600BC 1601	3009 3009	C03000 W/O PT 4A-4D C03000 W/O PT 4A-4B-4C-4D-4F-4H
1700 1700BC	3009 3009	C03000 W/O PT 4A C03000 W/O PT 4A-4D
7500	3001-3004-3009-3230 (MOD)	C02000 W/O PT 4A-4B-4C-4D-4F-4H-4J
7700 7900	C03000	C02000 W/O PT 4A-4B-4C-4D-4F-4J C05030, C05040, C05050, W/O PT 4B-4C-4D-4F-4H
8100	3001-3004-3009	C03000 W/O PT 4A-4B-4C-4D-4F
8300	3001-3004-3009	C02000 W/O PT 4A-4B-4C-4D-4F
8301	3001-3004-3009	C02000 W/O PT 4A-4B-4C-4D-4F-4H
8500 8501	3001-3004-3009-3230 (MOD) 3001-3004-3009-3230 (MOD)	C02000 W/O PT 4A-4B-4C-4D-4F C02000 W/O PT 4A-4B-4C-4D-4F-4H
9300BC	3009	C03000 W/O PT 4A-4D

4A - +15% Power Adjustment  
4B - +35% Power Adjustment  
4C - +50% Power Adjustment  
4D - Adjustable Backcheck

4F - Delayed Action Closing  
4G - Factory Set Dead Stop  
4H - Adjustable Range of Closing Force  
4J - Backcheck Shall Be Advanced 15°

## Accessibility Code Closers

Norton Series 1601BF, Series 7500, Series 8301 and Series 8501 have been designed to conform to the requirements outlined in ANSI A117.1

For Buildings and Facilities — Providing Accessibility For Physically Handicapped People.

GENERAL  
INFORMATION

## Federal and Industry Specifications (continued)

The following information is provided as a cross reference. Use it as a guide to door closer design and function only. For additional questions, please contact your Sales Representative.

Norton® Series Number	ANSI Type A156.15
7700PTO 7700PTDO	CO0191 CO0201
P7700PTO P7700PTDO	CO0231 CO0241

Norton Series Number	ANSI Type A156.15	
	Type Number	Type of Installation
7210MPO 7210MPDO 7210MPSO	C00351 C00361 C00351	Rigid Slide Arm Track
7220/7230MPO 7220/7230MPDO 7220/7230MPSO	C00311 C00321 C00311	Double Lever Arm
7240MPO 7240MPDO 7240MPSO	C00371 C00381 C00371	Connected Free Swing Arm
7250MPO 7250MPDO 7250MPSO	C00391 C00401 C00391	Double Egress Arm
7290MPO	C00651	Overhead Concealed



## Glossary of Door and Frame Terms

A number of basic terms are used in the description of doors, frames and the application of door closers to them. Knowledge of these basic terms will provide a better understanding of this catalog.

**Door Top Rail:** The horizontal rail at the top of the door.

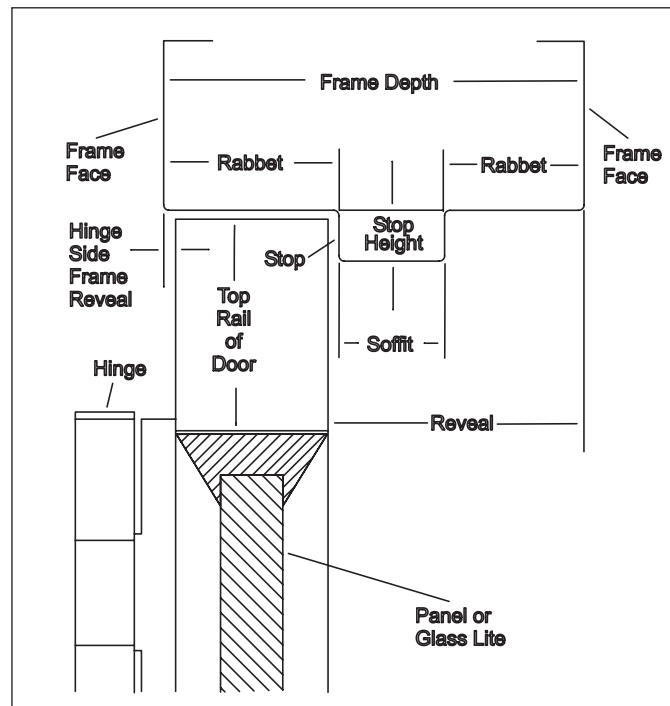
**Rabbet:** The section of the door frame recessed to receive the door.

**Soffit:** The flat surface on the underside of the frame between the vertical frame stops.

**Stop:** The part of the frame against which the door closes.

**Frame Face:** The exposed part of the frame which is generally parallel to the wall on metal frames. On wood frames this would be the frame molding.

**Reveal:** The distance from the frame face to the surface of the door.



## Applications

**Regular Arm:** A type of door closer installation. The closer is mounted on the hinge side top rail of the door. The arm is attached to the frame face at a right angle to the door.

**Parallel Arm:** A type of door closer installation. The closer is mounted on the opposite to hinge side top rail of the door. The arm is attached to the frame soffit parallel to the door.

**Top Jamb:** A type of door closer installation. The closer is mounted on the opposite to hinge side frame face, above the door. The arm is attached to the top rail of the door at a right angle to the door.

**Slide Track Closers:** A type of door closer installation. The closer is mounted on either the hinge side or opposite hinge side. The slide track is mounted to frame face on the hinge side, and the frame soffit on the opposite to hinge side.

**Corner Bracket Closers:** A type of installation when the closer cannot be mounted to either the door or the frame. The bracket is mounted on the upper corner of the push side hinge jamb of the frame. The closer is mounted to the bracket and the arm is attached to the top rail of the door at a right angle to the door.

### GLOSSARY OF TERMS

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#### General Terms

**Adjustable Backcheck Cushioning:** A term used to indicate that the strength of "backcheck cushioning" in the door's opening cycle can be regulated by means of a valve in the closer body.

**Adjustable Backcheck Position:** A term used to indicate that the location where "backcheck cushioning" occurs in the door's opening cycle can be adjusted by means of a valve in the closer body. This valve provides a range of 20° of door opening where the backcheck can be set.

**Adjustable Latch Speed:** A term used to indicate that a door's speed can be regulated in the "latch" range of the closing cycle (approximately the last 5° of closing) by means of a valve in the closer body.

**Adjustable Sweep Speed:** A term used to indicate that a door's speed can be regulated in the "sweep" range of the closing cycle (fully open to 5° from closed) by means of a valve in the closer body.

**Adjustable Delayed Action Closing:** This special door control feature adds a third speed range to the closing control cycle. It becomes effective when the door is opened and released at any point beyond 70°. This delayed closing enables traffic to clear the opening before the normal closing cycle starts.

**Hand (of a door):** A term used to describe the direction of a door's swing. When looking at a door — if the hinges are on the right and the door swings away from you, the door is a right hand. If the hinges are on the left and the door swings away from you, the door is a left hand.

**Handed:** A term used to describe a product that can only be used with either a right hand door or a left hand door, not both.

**Non-Handed:** Products are said to be non-handed when they can be installed, without modification, on either a right or left hand door.

**Field Reversible:** Handed products are said to be field reversible when the arrangement of their component parts can be changed to permit their operation on a door of the opposite hand. Often, the labor cost necessary to reverse the hand of a closer makes it desirable to order a closer of the correct hand.

**Hold Open:** Any means which is employed to maintain a door in an open position.

**Friction Hold Open:** This type of hold-open consists of two friction surfaces connected by a threaded stud. As the closer arm rotates, the two friction surfaces bind against each other. The amount of friction can be adjusted by means of a nut at the friction point.

**Fusible-Link Friction Hold Open:** This is a form of friction hold open that employs a fusible link and spring-loaded clamp assembly at the hold open friction joint. The heat from a fire will melt the fusible link, which releases the spring-loaded clamp assembly, relieving pressure on the friction joint and permitting the door closer to close the door. (*Fusible link is not recognized by NFPA therefore Norton does not offer this type arm*).

**Mechanical Hold Open:** Norton uses two types of mechanical hold open. One is a plunger type, whereby a spring-loaded plunger assembly engages either a ball rivet or a detent in a mating part. The other is a spring-loaded roller catch within a slide track.

**Hydraulic Hold Open:** This is the type of hold open employed in Norton® electromechanical closer-holders. An electrically controlled plunger assembly seals a chamber within the door closer to permit hydraulic fluid to flow in only one direction. Since the fluid is trapped in this chamber, the closer spring is prevented from closing the door. When power to the unit is interrupted, the plunger valve opens and releases the door from hold open. The door can also be released from hold open by pushing the door toward the closed position with enough force (approximately 15 to 20 lbs.) to overcome the holding force on the plunger valve.

**Telephone Booth Door Closer:** This special-feature door control holds the door open approximately 5° when the booth is not in use. When the booth is being used, the door can be closed by the user.

**Coupon Booth Hold Open:** This special-feature door control will hold a door open at approximately 15°. When the door is opened more than 80° the closer will then close and latch the door. This special-feature closer is generally used on safe deposit box inspection cubicles in banks.

**Hospital Hold Open:** This special-feature door control can hold a door open at any one of three points; approximately 15°, 45° and 90° or beyond. This special-feature closer is generally used where ventilation and privacy are required without having the door fully closed.

**Individually Sized Closers:** These closers are sized 2, 3, 4, 5 or 6 with each size having a different spring assembly. Each spring assembly provides a minimum closing force that determines its size.

**Multi-Size Power Adjustment Closers:** These closers have a spring assembly that can be adjusted through a wide power range. Closers with this feature are not individually sized but must be field adjusted through a range of sizes to meet the power needs of the door.

**50% Power Adjustment:** The closer has an external adjustment that allows preloading of the spring. Depending on the needs of the specific installation, closer power can be increased 50% over the minimum closing force for any size closer.

**Adjusta-Power Shoe:** This standard non-hold open regular arm or top jamb shoe has three mounting holes. By relocating the closer arm, the closer's power can – in effect – be adjusted 15% (7-1/2% increase or decrease). It provides a simple method of adjusting closer power to meet the need of the specific installation.

**Low Profile Arm:** A term used to describe an arm which has a minimum space requirement in the vertical distance between the closer pinion and the arm bracket. It requires less mounting space than closers with standard arms.

**Non-Critical Valves:** These are control valves used to regulate the flow of fluid – in contrast to valves that are either fully open or fully closed. Norton closer control valves have been designed to provide fine tuned hydraulic control.

**Parallel Rigid Arm:** This is a heavy-duty, non-telescoping forearm used in conjunction with a heavy-duty soffit plate.

**Reveal:** The distance measured from the surface of the frame face to the surface of the door.

**Tri-Style® Packaging:** The closer is packed with all necessary hardware for mounting in any of the three traditional mounting styles: Regular Arm, Parallel Arm or Top Jamb. Non-hold open closers have an Adjusta-Power shoe for regular arm and top jamb mounting and a soffit plate for parallel arm mounting. Hold open closers have the hold open arm for regular arm and top jamb mounting and a soffit adapter plate for parallel arm mounting.

### GLOSSARY OF TERMS

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#### General Terms...(continued)

**Unitrol® Door Control:** This is a proprietary Norton® door closer, door holder and shock absorbing door stop combination.

**CloserPlus®:** This is a combination of a door closer and an arm having a built-in positive stop. A hold open feature which may be engaged or disengaged as necessary is available as an option.

**Electromechanical Closer-Holder:** This is a door closer equipped with an electromechanical device which permits the door to be held open. When the door is manually pushed toward "closed," the holding mechanism releases and the door closes normally. The holding mechanism can also be released by means of fire/smoke detectors. *Norton* Closer-Holders are available with or without a built-in/integral fire/smoke detector.

**Power Track® Closer-Holders:** This is a slide track equipped with an electrically operated hold open mechanism. When the door is pushed toward "closed" the hold open mechanism will disengage and allow the door to close. The holding mechanism can be released by either a self-contained fire/smoke detector or by any compatible remote fire/smoke detection system.

**Executive™ Door Holder/Releaser:** Garage door operator radio frequency technology is applied to the hold open of executive office doors. During normal office business the door is held open. When the executive requires security or privacy he pushes the button on the remote hand-held transmitter. The switch in the receiver operates and interrupts the hold open circuit to allow the door to close.

**Positive Stop:** A physical limit to the opening of a door. It may be provided by means of floor or wall – mounted stops – usually with resilient bumpers — or by means of a limit imposed by the arm of the door closer. Norton's CloserPlus is an example of the latter.

## How a Door Closer Works

The basic function of a door closer is to provide a smooth, controlled closing action to the door after the door has been opened and released. A modern rack and pinion door closer provides this function in the following manner:

As the door is opened, the closer arm transmits motion to the piston in the closer housing smoothly and precisely. This action compresses the spring which provides the energy necessary to close the door.

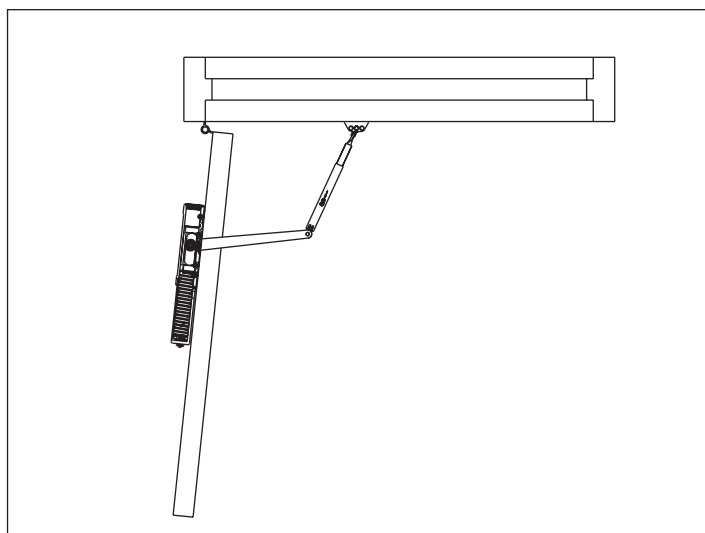
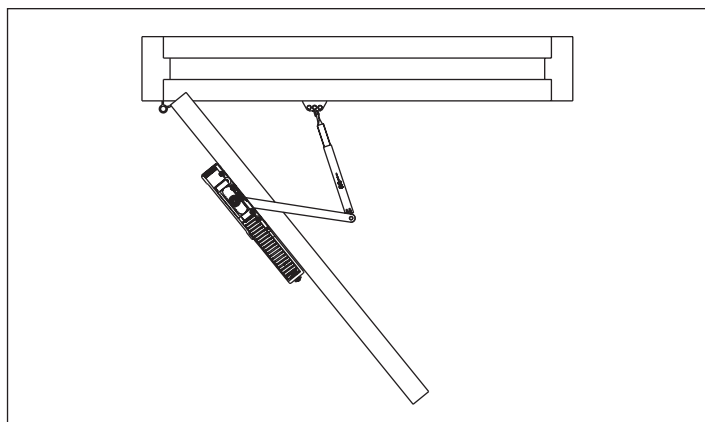
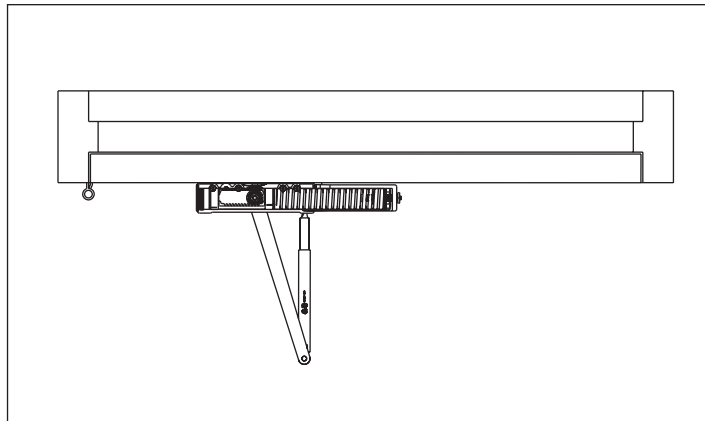
The force generated by the compressed spring is governed by a regulated hydraulic circuit within the closer. This hydraulic circuit provides precise control in the door's closing cycle.

These illustrations simulate generic door closer function. The closer components will vary; however, the principle is the same.

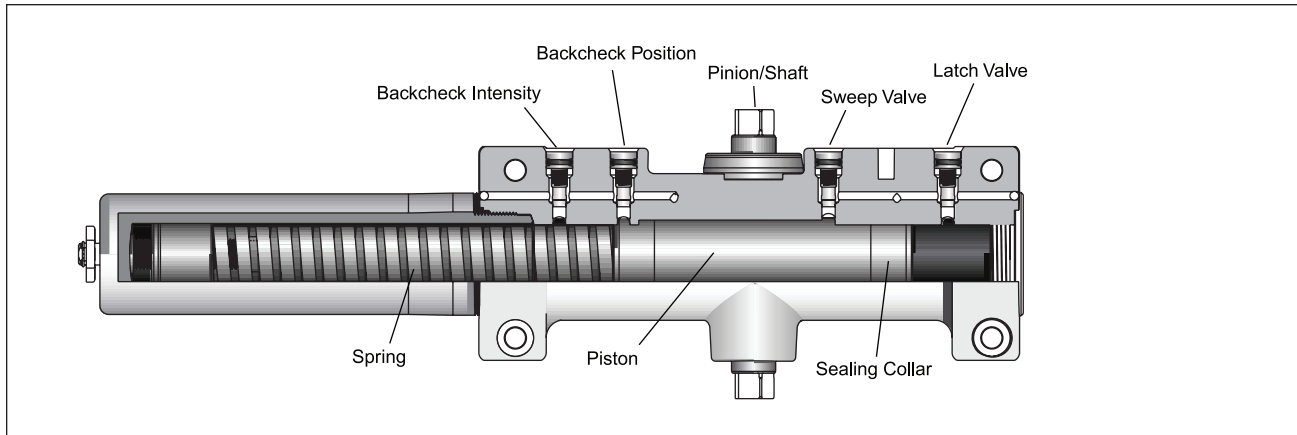
In the door opening cycle, the gear teeth of the pinion/shaft engage with the gear teeth of a rack milled into the piston. As the pinion/shaft rotates, it drives the piston, compressing the spring.

The movement of the piston forces the hydraulic fluid to flow from the reservoir side of the closer, to the area vacated by the piston. The fluid flows back to the reservoir side through a bored passage. Regulating this flow is the basis of controlling the door's closing speed.

During the closing cycle the compressed spring moves the piston toward its original position. This reverses the flow of the hydraulic fluid.



### DOOR CONTROLS



In all Norton® door closers, there are two points of control in the hydraulic fluid passage during the closing cycle. One point controls sweep speed; the speed of closing short of the last 5°. The other point controls latch speed; the last 5° of closing. Desirable sweep speed is generally a medium-to-low speed (4 to 6 seconds) closing of the door. Desirable latch speed will vary; a fast speed is desirable for doors with latching hardware; a slower speed is used for doors without latching hardware.

A control valve permits the closing speed to be individually controlled at each passage point. As the piston travels through most of the door's closing, the hydraulic fluid flows through the sweep speed passage.

At a point in the door's closing, the piston's "sealing collar" closes the passage controlling the sweep speed. At this point, the fluid begins to flow through the latch speed passage only.

## Surface Mounted Door Closers/Concealed Door Closers

Norton® closers can be surface-mounted or concealed in the frame. Each type has its advantages and disadvantages.

### Surface-Mounted Closers

This type of door control is easiest to install, with four drilled and/or tapped holes for the body, and two, four or five holes for the arm bracket. They require a minimum amount of preparation of the door and frame. The surface-mounted closer is also more accessible to the occasional adjustment that may be necessary with changes in usage or environmental conditions. Although surface-mounted closers, by definition, are never truly concealed, most Norton closers can be ordered with covers in a variety of painted or plated finishes to soften the closer's effect on the building design.

### Concealed Closers

On the occasions where the architect's design calls for a door closer that is not visually obvious, a concealed closer is recommended. This installation requires considerably more door and frame preparation than a similar surface-mounted closer.

### Overhead Concealed Closers

This type of door control is normally mortised into the transom of the frame above the door. A slide track is mortised into the top rail of the door. All elements — closer, arm and slide track — are totally concealed when the door is closed. Norton overhead concealed closers provide sweep and latch speed adjustments, backcheck cushioning and shock absorption. The Series 7900 closers also provide a 50% power adjustment feature. They are available with or without the hold open feature.

## Regular Arm, Top Jamb and Parallel Arm

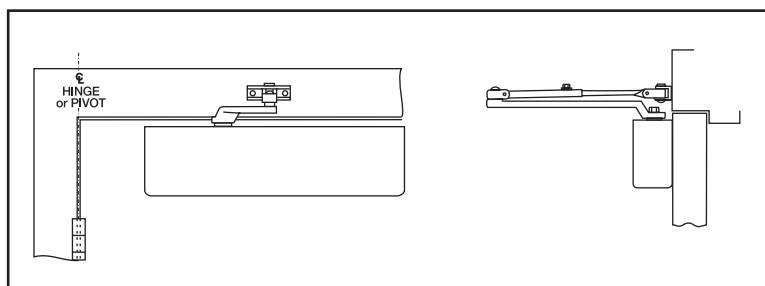
There are three basic methods of mounting surface door closers to the door and frame. The method the architect chooses is influenced by some combination of these five factors:

- Closer position, relative to the locations of door, frame and hinges
- Space limitations on the top rail of the door
- Space limitations on the frame face above the door
- Appearance
- Accessibility of the closer arm (especially in schools)

The three basic mounting methods which follow are illustrated with a double lever arm.

### Regular Arm

The closer body is mounted on the top rail, hinge side of the door. The forearm is mounted to the frame face by means of a mounting shoe. The closer body requires less space on the door's top rail than a parallel arm installation. The arm projects from the door at approximately a right angle. Finally, the geometry of the assembly makes a regular arm closer somewhat more power-efficient than a parallel arm closer.



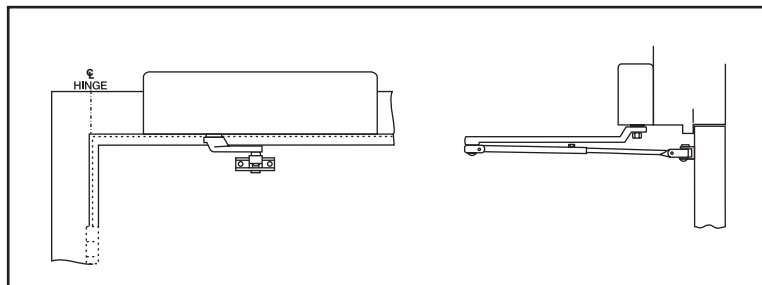


## DOOR CONTROLS

### Regular Arm, Top Jamb and Parallel Arm (continued...)

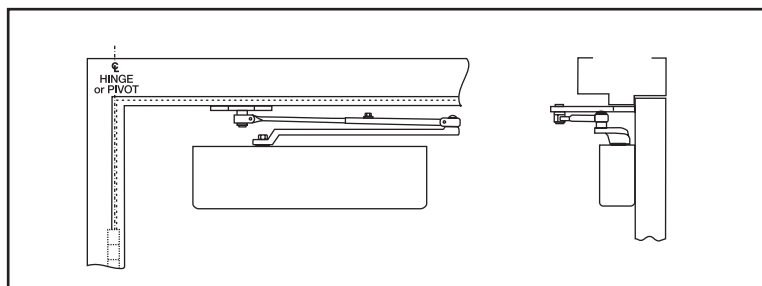
#### Top Jamb

The closer body is mounted on the frame face above the door, opposite the door's hinge side. The forearm is mounted on the top rail of the door by means of a mounting shoe. The top jamb closer is particularly suitable for doors with a narrow top rail, such as an aluminum-and-glass "storefront" door. Finally, the geometry of the assembly makes a top jamb closer somewhat more power-efficient than a parallel arm closer.



#### Parallel Arm

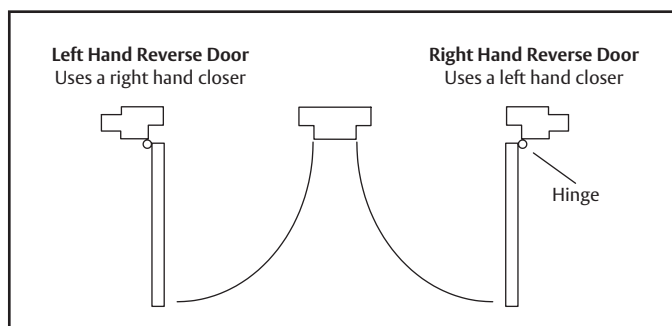
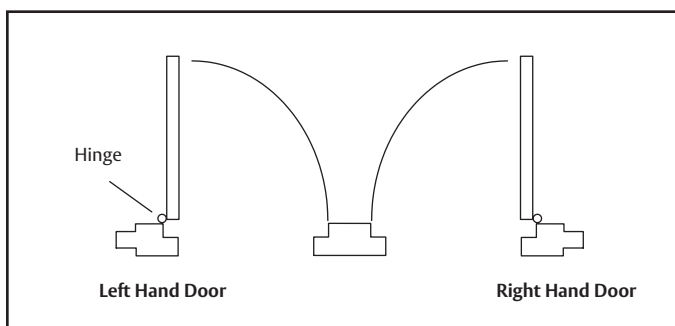
The closer body is mounted on the top rail of the door opposite the hinge side of the door. The forearm is mounted to the underside of the frame (the soffit) by means of a soffit plate, and requires no space on the frame face. The arm is parallel to the door, and therefore less accessible to mischief. The depth of the door's top rail is an important consideration when using this method of mounting. This method of mounting reduces the power-efficiency.



#### Hand of Door

Many door closers are non-handed. This means they can be placed on a door in such a way that they will operate a left-opening or a right-opening door. Even so, some covers, arms or holding devices are handed. In such a case, the hand of the door should be specified.

The illustrations below show how to determine the hand for door closers and other hardware.



Hardware	Hand of Door Opening Inward	
	Left Hand	Right Hand
Door Closers	LH	RH
RA, PA & TJ	RH	LH
Corner Brackets	LH	RH
Locks	---	---
Panic Exit Devices	---	---

Hardware	Hand of Door Opening Inward	
	Left Hand	Right Hand
Door Closers	RH	LH
RA, PA & TJ	LH	RH
Corner Brackets	LHR	RHR
Locks	LHR	RHR
Panic Exit Devices	LHR	RHR

## Door Closer Sizes

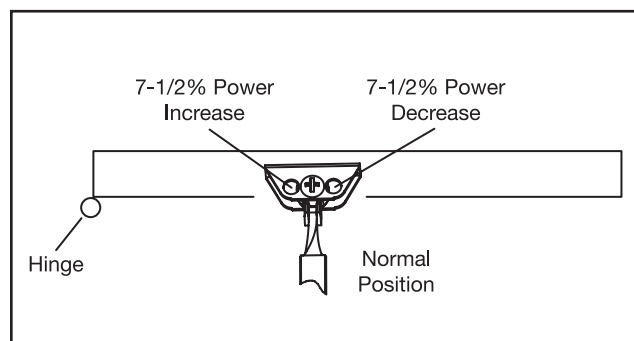
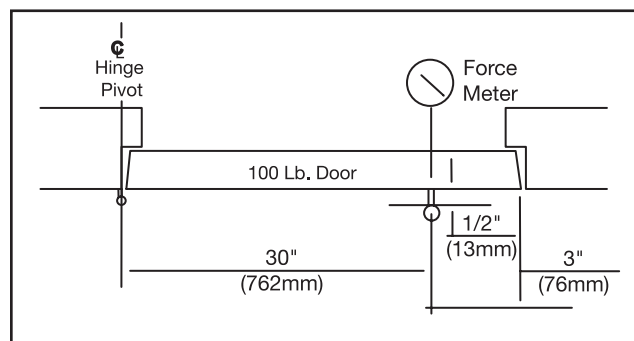
It is important that every manufacturer's door closer is sized and tested on the same basis. An industry standard has been adopted by the American National Standards Institute (A.N.S.I.) for this purpose.

The test is based upon controlling a 100 lb. door which has a center of gravity 18" (457mm) from the centerline of the door's pivot point (hinges). A force meter is located on the door 30" (762mm) from the centerline of the pivot point.

With the door closer installed, the door is opened to a minimum of 3" (76mm) and allowed to close from the power of the door closer. The greatest force exerted by the door closer, as the door closes between 3" (76mm) and 1/2" (13mm), determines the closing force of the door closer.

The following table shows the minimum closing force permitted for each closer size. All Norton® closers meet or exceed these minimum closing force standards.

ANSI/BHMA Door Closer Size	ANSI/BHMA Minimum Closing Force (Pounds)
2	3
3	5
4	8
5	11
6	14



Some series of *Norton* door closers are available with "50% power adjustment." These closers have an easily accessible adjustment that allows the installer to adjust the closing force. These closers allow a 50% increase in the minimum closing force for any given size.

In the case of a size 4 closer with an 8 pound minimum closing force, the closer's minimum closing force could be increased by 50% (1/2) or 4 pounds. The closer would then have a closing force of 12 pounds (8 pounds + 4 pounds)

Other series of *Norton* door closers are available with a "multi-size power adjustment" feature. These closers are equipped with an easily accessible adjustment that allows the installer to adjust closing force through a range of sizes. Traditional style closers are adjustable for sizes 2 through 4 or for sizes 5 and 6. Modern style closers have power ranges that vary, depending upon the door closer series.

Series	Sizes	Power
1601	3 thru 6	A156.4
1601BF	1 thru 4	A117.1 (ADA)
7500	1 thru 6	A117.1 (ADA) & A156.4
8301/8501	1 thru 6	A117.1 (ADA) & A156.4

A third power adjustment available with *Norton* non-hold open regular arm and top jamb mounted closers is the "Adjusta-Power Shoe." Merely by relocation of the closer forearm at the power shoe you can increase or decrease the force at the door's closed position by 7-1/2%.

### MEETING A.D.A. REQUIREMENTS

#### Meeting A.D.A Requirements

**Note:** The following information concerning the Americans With Disabilities Act (A.D.A.) has been extracted from ANSI A117.1 and the Federal Register, Part III, published by the Department of Justice, office of the Attorney General, 28CFR, part 36 and NFPA 101. The information provided here is an interpretation of the requirements which must be met for door opening accessibility by the handicapped or disabled. Please refer to ANSI A117.1 and NFPA 101 for specific details.

#### Door Opening Width Double-Leaf Doorways

If doorways have two independently operated door leaves, then at least one leaf shall meet the minimum clear opening width criteria. That leaf shall be the active leaf.

#### Single-Leaf Doorways

Doorways shall have a minimum clear opening of 32" (815mm) with the door open 90 degrees, measured between the face of the door and the opposite stop.

#### Door Opening Force

The maximum force for pushing or pulling open a door shall be as follows:

1. Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.
2. Other doors: Interior hinged doors: 5lbf (22.2N).

These forces do not apply to the force required to retract latch bolts or disengage other devices that may hold the door in a closed position.

#### Fire Doors (NFPA 101)

The forces required to fully open any door manually in a means of egress shall not exceed 15lbf (67N) to release the latch, 30lbf (133N) to set the door in motion, and 15lbf (67N) to open the door to the minimum required width. These forces shall be applied at the latch stile.

**Note:** The pound forces stated above should be reduced **where possible** to comply with exterior hinged door and interior hinged door requirements. However, door closing capability must not be compromised.

#### Door Closing Speed

ADA: If a door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3" (75mm) from the latch, measured to the leading edge of the door.

A117.1: Door closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees shall be 5 seconds minimum.

#### Delayed Action

Although the optional delayed action feature is extremely beneficial to the severely handicapped, it is not a requirement of A.D.A.

#### Door Opening Force

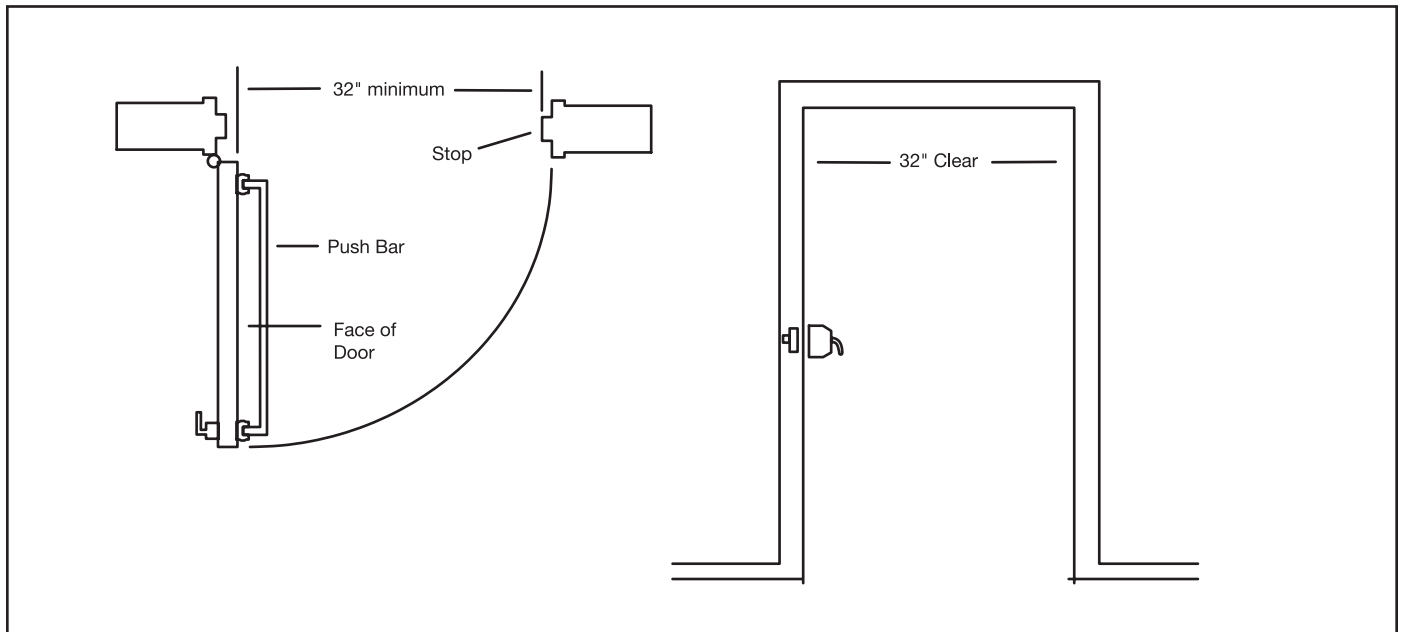
Opening forces may be measured with a spring scale as follows:

1. **Hinged Doors.** Apply force perpendicular to the door at the actuating device (lockset/pull) or 30" (760mm) from the hinged side, whichever is farthest from the hinge.
2. **Application of the Force.** Apply force gradually so that the applied force does not exceed the resistance of the door. Air-pressure differential, especially in high-rise buildings, can have an adverse effect on door-opening force. Accessible openings located in these areas will sometimes require the use of automatic or power-assisted doors to comply with allowable forces given.

Additional force to overcome the inertia of a door will exceed that required to maintain movement of the door. In general, only a momentary auxiliary force should be permitted to exceed the force indicated above.

## Hinged Doors

The 32-inch opening is measured from the stop on the door jamb on the latch side and the face of the door when standing open in the 90° position. Push bars and panic type hardware may protrude into this space if they are mounted high enough to allow the wide part of the wheelchair to pass below.





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Or contact us at:

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Fax: 1-800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

160 Four Valley Drive  
Vaughan, Ontario, L4K 4T9 Canada  
Tel: 800-461-3007  
Fax: 905-738-2478

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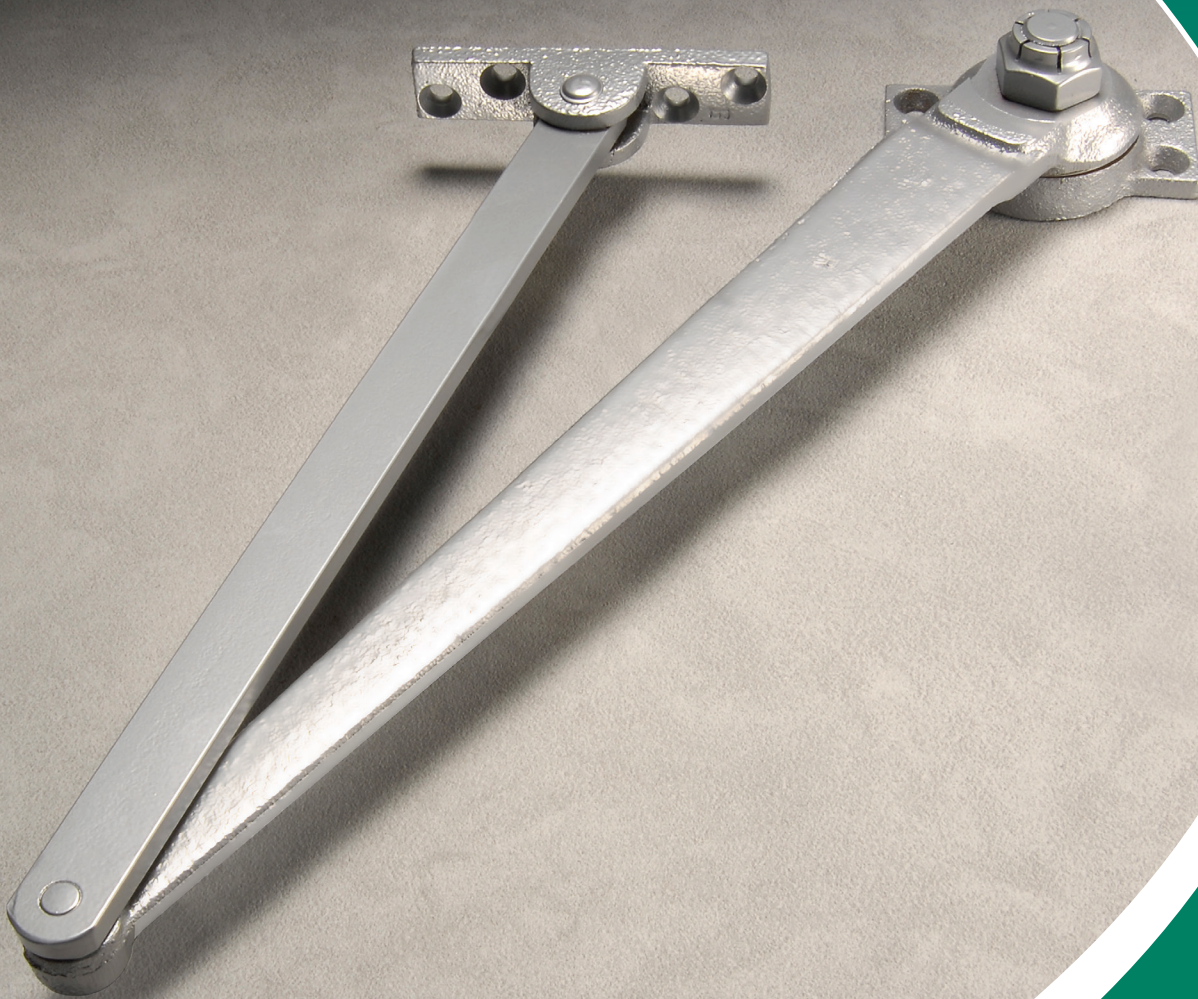
ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.



**Norton®**

ASSA ABLOY

# #2 Overhead Door Holders



ASSA ABLOY, the global leader  
in door opening solutions

## OVERVIEW

The Norton® #2 Overhead Door Holder is for application on the inactive leaf of a pair of doors where the function and cost of a door closer is not warranted. It permits the inactive leaf to be held open when the full opening of the pair is required. It can also be installed on doors with a closer when it is desired to have the hold open function separate from the door closer.

These handed door holders are for application on the push (stop) side of the door, and require a 1-1/2" (38mm) minimum frame soffit width. The bracket with friction hold open mechanism is mounted to the frame soffit. The forearm shoe is mounted to the top rail of the door, requiring a 1-3/4" (44mm) minimum top rail. An auxiliary stop is recommended when this door holder is used.

This door holder is also available with a soffit plate (1618D) which extends the center line of the hold open mechanism 5" (127mm) from the surface of the door. This application provides arm geometry for the door holder installation that is similar to the door closer installation on the opposite door leaf. This door holder with soffit plate is also available with an angle bracket (2022) for installation on doors with a flush transom condition.

## FEATURES

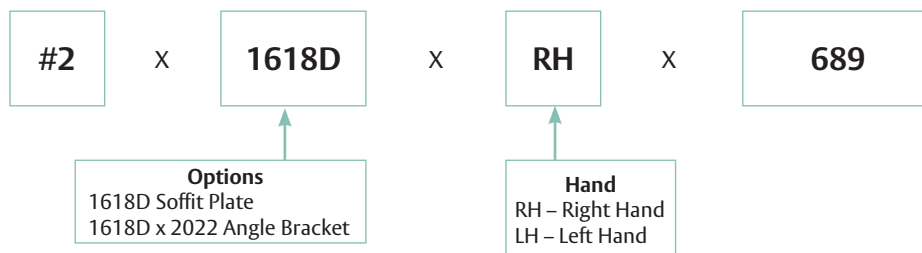
**Reliable Hold Open Mechanism:** Holder incorporates the same friction type hold open mechanism used in other *Norton* door closers with hold open arms.

**Adjustable 90° -180° Hold Open:** Degree of door hold open can be selected between 90° and 180° by template location and adjustment of the holder nut.

**Rugged Construction:** The forearm arm is heavy-gauge steel; the shoe, the main arm and soffit plate with mating friction surfaces are heavy cast iron.

**Handed:** *Norton* #2 Door Holder is handed.

## HOW TO ORDER

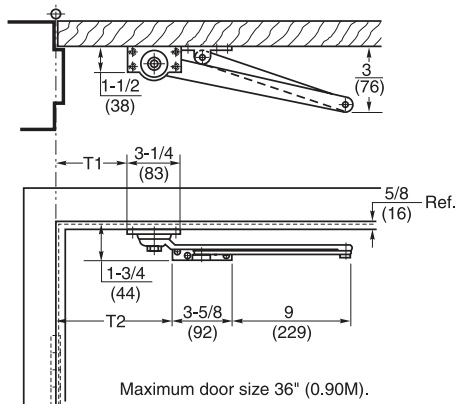




## #2 Overhead Door Holders

PUSH SIDE  
INSTALLATION

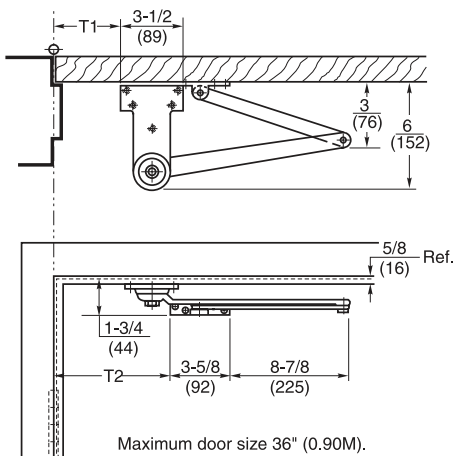
### No. 2 Door Holder



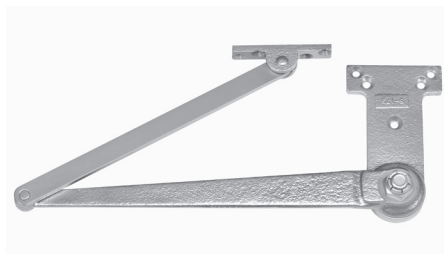
Hold Open	Template Position	
	T1	T2
90°	7-1/4 (184)	10-1/8 (257)
180°	4-1/4 (108)	7-1/8 (181)



### No. 2 Door Holder x 1618D Soffit Plate



Hold Open	Template Position	
	T1	T2
90°	7-3/8 (187)	10-1/8 (257)
180°	4-3/8 (111)	7-1/8 (181)



SPRAYED  
FINISHES

Description	Specify Norton® (BHMA) Designation	Complements the following finishes	Old Norton Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat	600*		SRI

Norton #2 Overhead Door Holders are available in the following sprayed finishes. Order sprayed finishes by the Norton symbol.

\*600 is a special rust-inhibiting prime coat. Holders can be ordered prime coat only (specify holder x 600). An additional charge applies if finish coat is required over prime coat.



**ASSA ABLOY**

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**[www.assaabloydsscanada.ca](http://www.assaabloydsscanada.ca)**

**Or contact us at:**

**Norton Door Controls**

3000 Highway 74 East

Monroe, NC 28112

Tel: 877-974-2255

Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

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Vaughan, Ontario L4K 4T9 Canada

Tel: 800-461-3007

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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

**Norton®**

ASSA ABLOY

# 1600BC/1601 Series Aluminum Storefront Door Closers



ASSA ABLOY, the global leader  
in door opening solutions



## INTRODUCTION

### Features

- Non-handed
- Rack-and-pinion design
- Cast aluminum body
- 2-7/8" (73mm) projection
- 1-3/8" (35mm) diameter piston
- 5/8" (16mm) diameter pinion journals
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Tri-Style® packaging (regular arm, top jamb and parallel arm mounting)
- All standard arm applications allow doors to swing 180°, conditions permitting
- Staked valves
- 10-year limited warranty

### Optional Features

- Delayed action (in lieu of backcheck). Specify 1601DA or 1601BFDA
- Corrosion-resistant model (non-hold open only). Specify 1601SS or 1601BFSS . (Not tri-packed)
- Molded plastic cover. Specify suffix P
- Heavy-duty arms: Parallel Rigid, CloserPlus®, CloserPlus Spring™, and Unitrol®

Features	1600BC	1601	1601BF
Sized springs 2,3,4,5,6 with no power adjustment	X		
Adjustable spring sizes 3 through 6		X	
Adjustable spring sizes 1 through 4			X

### Comppliance Standards

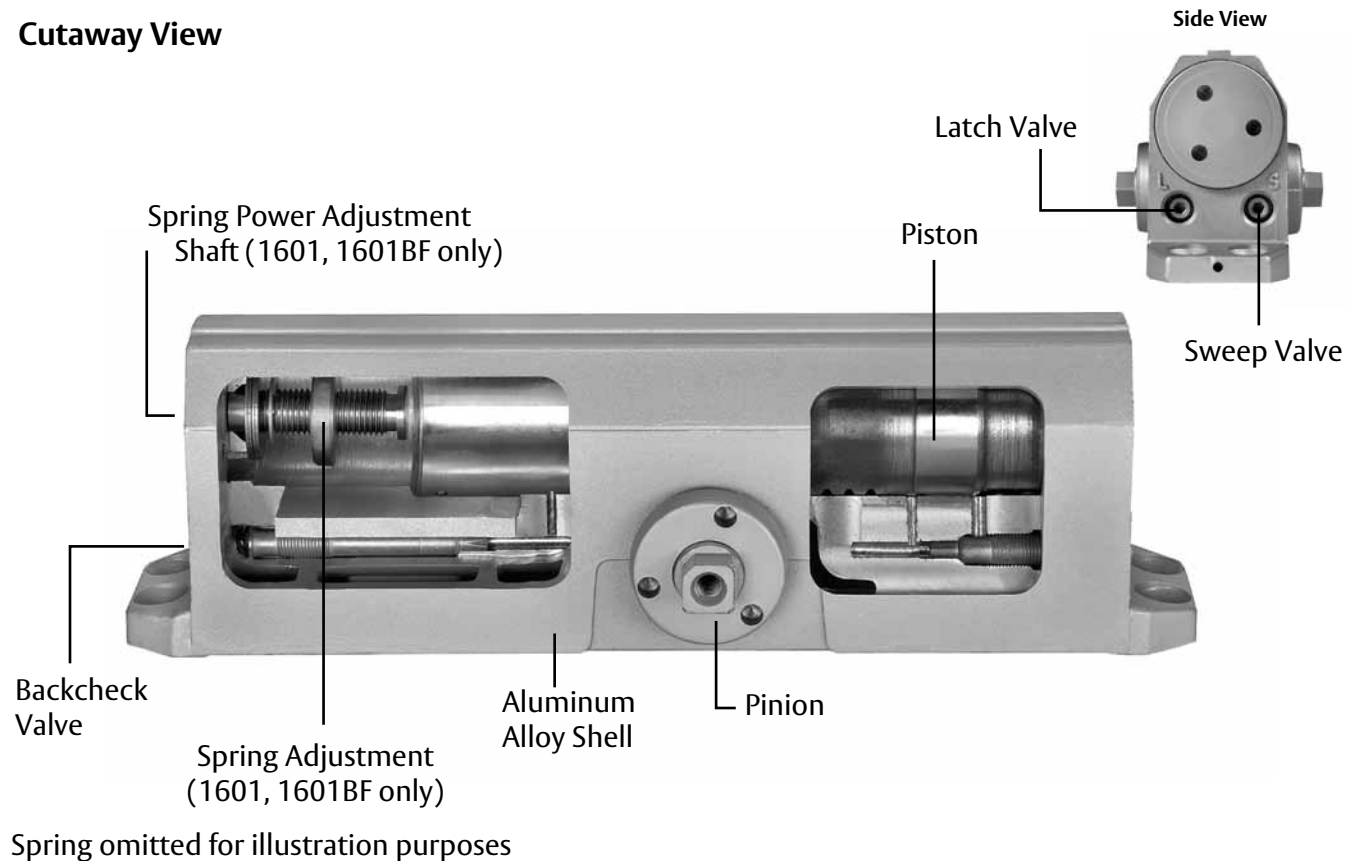
- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure
- A.D.A. compliant (1601BF)






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Optional Features .....	6-7
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Accessories.....	20-26
Parts List.....	27-36

## Cutaway View



## COMPLIANCE STANDARDS

 The series 1601BF door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI standard A117.1. All series 1600BC/1601(BF) are ANSI/BHMA A156.4, Grade 1 certified.  All Norton series 1600BC/1601(BF) closers with non-hold open arms are listed by Underwriters' Laboratories for labeled fire doors.  This includes compliance to UL10C for 3-hour assemblies. These products are manufactured in a certified ISO 9001 facility. These closers are also listed by New York City Materials and Equipment Acceptance Division.

### CAUTION: Door Closers for Low Opening Force Applications:

Door closers installed in openings required to meet the requirements of the Americans with Disabilities Act or ANSI Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.

HOW TO ORDER

For optimum protection of door and frame assemblies, always use auxiliary wall, floor, or overhead door stop.

- No Prefix** } 1600BC series designates Tri-Style®, sized  
1601 series designates Tri-Style®, multi-sized closer
- J** - Top jamb installation. Reveals in excess of 2-3/4 to 7"
  - P** - 1600BC parallel arm units requiring specialty brackets
    - 1601 parallel arm units requiring specialty brackets
    - 1680BC low-profile closer
    - 1601SS corrosion-resistant closer. Not Tri-Style.
  - PR** - Parallel Rigid arm (parallel arm only). Specify hand for hold open functions
  - CLP** - CloserPlus® arm (parallel arm only)
  - CPS** - CloserPlus Spring™ arm (parallel arm only)
  - UNI** - Unitrol® arm (parallel arm only - **specify door width**)
  - UNIJ** - Unitrol arm (top jamb only - **specify frame reveal**)

**J**  
**PREFIXES**

- 0** - Specifies standard arm.
- 8** - Specifies low-profile arm (prefix "P" for parallel arm). NHO only.

**16**  
**FIRST & SECOND DIGIT**  
Defines closer series

**0**  
**THIRD DIGIT**  
Specifies arm options

- 1** - Series 1601 power range 3 thru 6.
- 1BF** - Series 1601BF power range 1 thru 4 for A.D.A. accessibility.
- 2BC** - ANSI Size 2
- 3BC** - ANSI Size 3
- 4BC** - ANSI Size 4
- 5BC** - ANSI Size 5
- 6BC** - ANSI Size 6

**3BC**  
**FOURTH DIGIT**  
Closer power sizing

**H**  
**SUFFIXES**

Notes:

- Door closer warranty becomes void if it is installed on the exterior side of a door in the exterior wall of a building.
- It is strongly recommended, and it is required on fire door assemblies, that doors having a door closer be hung on ball bearing or anti-friction hinges or pivots.
- Failure to use the correct type and size fasteners may void factory warranty.
- Fasteners for fire/smoke door assemblies must conform to NFPA 80. In some applications additional fasteners may be mandated by NFPA 80 that are not shipped with standard Norton product, such as sleeve-nuts/sex-nuts or thru bolts and grommet nuts.
- Optional Torx® drive screws (with security pin) are only available with machine screw threads.
- Sizing charts provided on pages 12-19 are based on 1-3/4" (44mm) x 7" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight; or wind/draft conditions) may require a larger size closer.

- None** - Non-hold open arm function.
- H** - Hold open arm function (specify hand when "PR" prefix is ordered)
- DA** - Optional delayed action feature (in lieu of backcheck)
- HOSP** - 1603BC and 1604BC only. Hospital hold open (specify hand)
- COUP** - 1602BC and 1603BC only. Coupon booth hold open (specify hand)
- TEL** - 1602BC only - Telephone booth (non-handed)
- SS** - Series 1601/1601BF only. Corrosion-resistant closer. Not Tri-Style. Available with non-hold open adjustable arm only; for regular arm, top jamb "J" prefix or parallel arm "P" prefix
- T** - Thumbturn hold open on CloserPlus® (CLP) and CloserPlus Spring™ (CPS) arms
- P** - Cover

## Fasteners

Type	Description	Arm							
		RA	PA	TJ	Low Profile	PR	CLP/CPS	UNI	UNI-J
DOOR									
SDST	Self-Drilling Self-Tapping	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S
SN	Sleeve Nut	O	O	O	O	S	S	S	S
TBGN	Thru Bolts & Grommet Nuts	O	O	O	O	O	O	O	O
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O
FRAME									
SDST	Self-Drilling Self-Tapping	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O

**S = standard; O = optional**

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for thru bolting on wood doors. SN are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57mm) thick doors.

**TBGN** are an alternative to SN for wood doors. TBGN are supplied standard for 1-3/4" (44mm) thick doors. They can be specified for 1-3/8" (35mm) thick doors.

**SMS** - when specified, closer will be packed with sheet metal screws for the door *AND* sheet metal screws plus machine screws for the frame. SMS are supplied as a substitute for wood doors and frames.

## Finishes

All door closers are painted in water-borne acrylics. All steel parts, arms, brackets and mounting plates are powder coated. The closers will withstand 100 hours of salt spray. ANSI requires 25 hours.

### Sprayed Finishes

Description	Specify (BHMA) Designation	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat*	600	—	SRI*

\*600 is a special rust-inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 1605BC x 600 x 689).



## FEATURES

### Aluminum Alloy Housing

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interaction with steel components and operating conditions.

### Rack & Pinion Operation

Provides a smooth constant control of the door through its full opening and closing cycle. 180° door swing can be achieved when door, frame, hardware and arm function do not limit door swing.

### Non-Handed

With few exceptions all series 1600BC and series 1601 door closers are non-handed and can be installed on either right- or left- hand swing doors. Pinion shaft extends vertically through the closer body in both directions. Some options (such as Parallel Rigid hold open arms) will require that the hand of the closer be specified.

### Tri-Style®

1600BC/1601(BF) closers come with screws, brackets & soffit plate to allow for regular, top jamb, & parallel arm installations.

### Sweep Speed Control Valve

Allows adjustment of door speed from the door's full open position down to approximately 10° from the closed position.

### Latch Speed Control Valve

Allows adjustment of door speed from approximately 10° down to the door's fully closed position.

### Adjustable Backcheck

#### Cushion Valve

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It slows/cushions the door opening, when the door is forcibly opened beyond its pre-adjusted opening speed limits.

### Warranty

These closers carry a limited ten-year warranty against defects and a limited lifetime warranty on the aluminum housing.

### Closer Fluid

NorGlide® door closer fluid is a specially formulated hydraulic fluid that contains lubricity and anti oxidation agents that provide optimum performance and efficiency. This fluid complements the interaction of the door closer's aluminum housing with its steel and zinc components, while maintaining stable viscosity to allow the door closer to perform in temperatures ranging from extremely high to as low as -40° F.

### Door Closer Power Options

#### Sized Door Closer: 1600BC

Available in five different power sizes (2, 3, 4, 5 or 6). Outlined in ANSI specification A156.4. Spring power is not adjustable.

#### Multi-Sized Door Closer: 1601

Adjustable through the power range of sizes 3 through 6. Outlined in ANSI specification A156.4.

#### Multi-Sized Door Closer: 1601BF

Adjustable through the power range of sizes 1 through 4 to comply with the opening force requirements as outlined in the Americans with Disabilities Act (A.D.A.) and ANSI A117.1 for interior doors.

## OPTIONAL FEATURES

### Corrosion Resistant Door Closer

The series 1601SS and 1601BFSS door closers are available for use where corrosive conditions exist. This series is provided with zinc diecast adjustment valves, a 440 grade stainless steel pinion shaft, an all-aluminum body and bronze closer arm bushings; all other components and fasteners are of 302/303 grade stainless steel. This product is available for standard regular arm, top jamb and parallel arm, non-hold open, applications only. Not *Tri-Style* packed. "P" or "J" prefix required for parallel arm and top jamb applications.

### Optional Molded Cover - 1600P

Molded of high-impact U.L. listed material that covers the entire closer body assembly. This cover is non-handed for regular and parallel arm applications. Suffix "P" to catalog number. Not designed for top jamb applications.



# 1600BC/1601 Series Door Closers

## OPTIONAL FEATURES

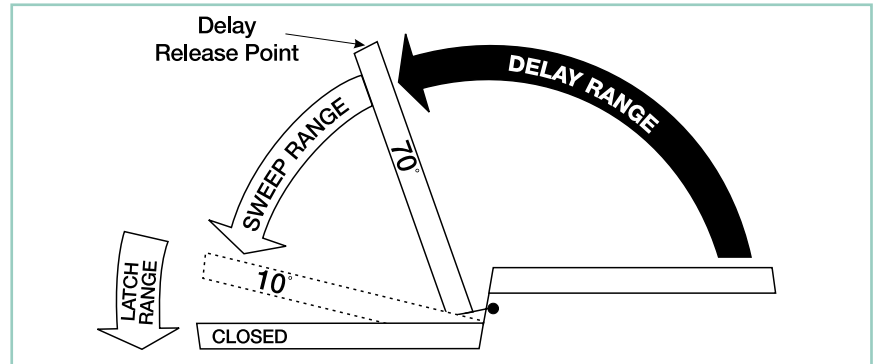
### Adjustable Delayed Action Closing

An optional hydraulic feature, available in lieu of backcheck, adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened and Released at	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds

### Pressure Relief Safety Valve

The delayed action hydraulic system contains a pressure relief valve. Any time the door is forced toward the closed direction while it is in the closing cycle, the valve will open and permit the door to close. This prevents damage to door, frame and closer.



### Suggested Applications

Delayed action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can accommodate the facility's staff with movement of food service carts, beds, and other wheeled traffic.

Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/warehouse facilities, doors to workshops or laboratories, doors to kitchen and food processing areas, etc.

## OPTIONAL FEATURES

### Non-Hold Open

Self-closes door every time door is opened. Auxiliary stop (by others) required except when using the CloserPlus®, CloserPlus Spring™ or Unitrol® Arms.

### Hold Open

Achieved by means of friction or ball and detent/roller. Friction hold open has a range of 90° to 180° using template location and mechanical adjustment. Ball and detent or roller hold open is effective in a range of 85° to 110°.

Hold open arm door closers are not permitted to be used on fire door assemblies.

### Door Opening Degrees

Arm Function	Regular Arm, Top Jamb Parallel Arm	Parallel Rigid Arm	CloserPlus Parallel Arm	CloserPlus Spring Parallel Arm	Unitrol Parallel Arm	Unitrol Top Jamb	Low Profile Regular, Parallel
Non-Hold Open	✓	✓	85° to 110°	85° to 110°	85° to 110°	85° to 110°	✓
Hold Open	90° to 180°	85° to 180°	85° to 110°	85° to 110°	85° to 110°	85° to 110°	N/A

✓ = 180° trim and template permitting

SPECIAL FUNCTION  
DOOR CLOSERSeries 1600BC Special Function  
Door Closers

## Telephone Booth Operation

Closer holds the door to the telephone booth open at 5° from the closed position. This prevents the light switch from being activated and allows the booth to be ventilated. It also indicates to users that the booth is unoccupied. Available in size 2 only for regular arm or top jamb application only.

## Coupon Booth Hold Open

Most commonly used on doors to safe-deposit box inspection cubicles. Closer holds the door to the booth open at 15° to indicate that the booth is available for use by a safe-deposit box renter. When the door is opened beyond 70°, the closer will close the door and engage the lock, providing the occupant with the desired privacy. Available in sizes 2 and 3 only for regular arm, top jamb or parallel arm application. Specify hand.

## Hospital Hold Open

Closer will hold door open at approximately 15° for ventilation, 45° for observation and beyond 90° for full access. Closer is supplied with a standard hold open arm for the beyond 90° hold open position. Available in sizes 3 and 4 only for regular arm, top jamb or parallel arm application. Specify hand.

SUGGESTED  
SPECIFICATIONS

## 1601 Series

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-7/8" from the surface of the door. Closers shall be non-handed to permit installation on doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have multi-size spring power adjustment to permit setting of spring from (1 through 4) or (3 through 6). Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep and latch speed. Closers shall have adjustable backcheck cushioning controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed-action closing controlled by a hex key adjustable valve.]

[Closer body shall be enclosed in/concealed with a full molded cover.]

[Closers shall be highly corrosion resistant and shall have all external body components of aluminum, zinc alloy or stainless steel material and all stainless steel fasteners.] Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+/- 7-1/2%) power adjustment. \*\* [1601] [1601BF] [1601SS].

\*\*For special arms insert the appropriate specification from column two or three on this page.

## 1600BC Series

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-7/8" from the surface of the door. Closers shall be non-handed to permit installation of doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow the door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall be sized for each door. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep and latch speed. [Closers shall have adjustable backcheck cushioning controlled by a hex key adjusted valve.]

[Closers shall have adjustable delayed action closing controlled by a hex key adjusted valve.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+/- 7-1/2%) power adjustment. \*\* [1600BC].

\*\*For special arms insert that specification here (see column three on this page).

## \*\*Unitrol® Arm

Door closers shall have built in-door stop [and holder] effective at one point selected at installation, from 85° - 115° in five-degree increments. Door stop shall be cushioned by a shock-absorbing heavy-duty spring action effective at the [soffit plate] [arm shoe] pivot. [Closers shall be provided for parallel arm installation using rigid steel main arm and secondary arm lengths proportional to the door width to reduce racking at the hinge/

pivot.] [Closers shall be provided for top jamb installation using steel, rigid main arm and telescoping secondary arm adequate for the frame reveal of the openings.] (Closer arm shall have ball and detent hold open feature that can be engaged or disengaged by 1/4 turn of mechanism; and hold open strength shall be adjustable.)

## \*\*CloserPlus® Arm

Door closers shall have built-in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall be reversible and attached to soffit plate. [Hold open mechanism shall have engage/disengage and strength selection actuated by thumbturn.] Closers shall be provided for parallel arm installation using rigid steel main and secondary arm.

## \*\*CloserPlus Spring™ Arm

Door closers shall have built in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall have a buffer spring that engages prior to the dead stop feature, reducing shock loads to the door and frame assembly. Door stop mechanism shall be reversible and attached to soffit plate. [Hold open mechanism shall have engage/disengage and strength selection actuated by thumbturn.] Closers shall be provided for parallel installation using rigid steel main and secondary arm.

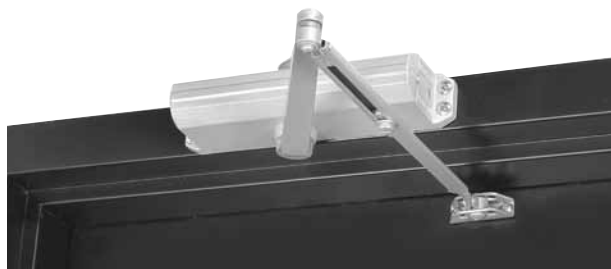


## Regular Arm

Non-hold open arm shown

This is the only pull-side application where a double lever arm is used. It is the most power-efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.

Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.



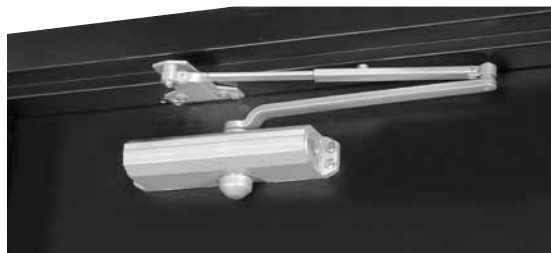
## Top Jamb

Non-hold open arm shown

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 2-1/8" (54mm). This application provides the best door control for doors in exterior walls that swing out of a building.

The entire door closer and arm assembly project from the frame, similar to the regular arm application, where the matters of appearance and malicious abuse can be of concern.

Consideration must be given to depth of the frame reveal.



## Parallel Arm

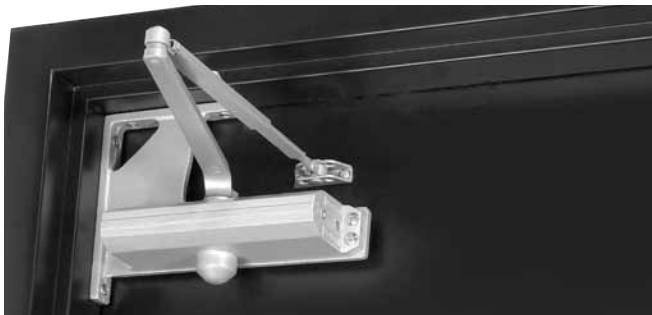
Non-hold open arm shown

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This may also be beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

Due to the geometry of the arm it is approximately 25% less power-efficient than a regular arm application.

The entire closer and arm assembly are mounted below the frame stop, requiring a top rail clearance on the door of between 5-3/8" (137mm), when using a low-profile arm (1680 series), to 6-3/8" (162mm), when using the hold open arm.

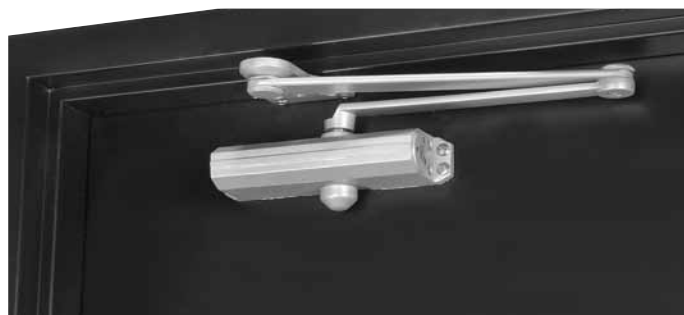
## APPLICATIONS



### Corner Bracket

This application can be used where top jamb and parallel arm application will not accommodate the door and frame conditions. Requires minimal top rail on the door; however, vertical clearance to the floor within the door opening should be checked to ensure code compliance.

The close proximity, for this application, of the door closer to the door's pivot point reduces the door closer's power efficiency by approximately 25% when compared to a regular arm. The projection of the arm from the door face might pose questions regarding design parameters or environment.

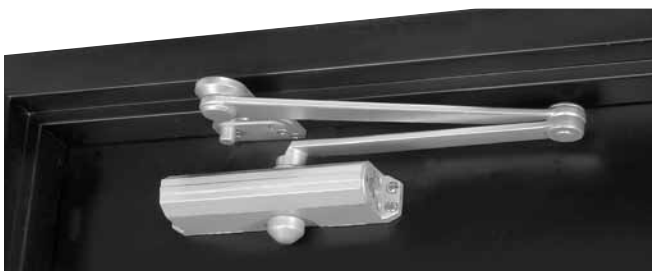


### Parallel Rigid Arm

Non-hold open arm shown

An enhanced variation of the standard parallel arm assembly that is intended for use in heavy traffic areas where auxiliary door stops are installed.

Hold open arm available - specify hand when ordering.



Non-hold open arm shown

### CloserPlus® Arm

Similar to the Parallel Rigid arm, this arm incorporates a stop at the arm's soffit plate to dead stop the door at a predetermined degree of door swing between 85° and 110°, in 5° increments. Prior to dead stop the door closer's backcheck feature slows the door speed to reduce the impact of the stop action.

The *CloserPlus* Arm is intended for use where an auxiliary door stop cannot be utilized and no more than moderate abuse is anticipated. Where more extreme conditions are expected, use of a Unitrol® arm is recommended.

Available with or without hold open. (Hold open tension is adjustable.)

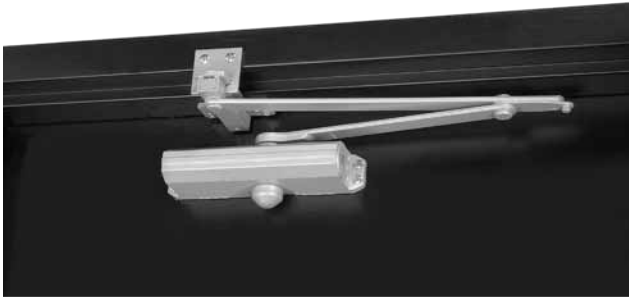


Non-hold open arm shown

### CloserPlus Spring™ Arm

This heavy-duty stop arm includes all the features of the *CloserPlus* arm, plus an added buffer spring that is compressed prior to the arm hitting the dead stop point. This greatly reduces the shock of the stopping action that occurs with the *CloserPlus* arm.

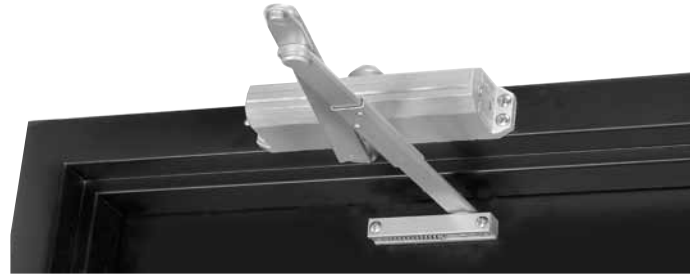
Thumbturn hold open is available.



## Unitrol® Arm

Parallel

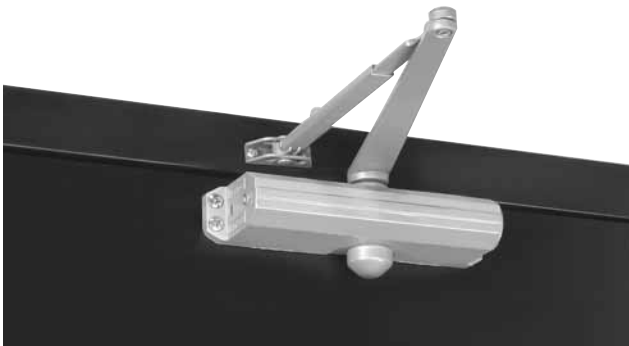
Can be used for either parallel arm or top jamb applications. *Unitrol* arms combine the features of a double lever arm overhead door stop/holder with the backcheck feature of the door closer to reduce door stopping shock loads to a minimum. The *Unitrol* uses a compression spring buffer at the soffit plate/arm shoe that will absorb 30 lbf. of force, 5° prior to the door's dead stop. Coupled with the door closer's backcheck feature, this arm provides the most controlled stop available with a surface door closer.



Top Jamb

For parallel arm applications there are three different length arm assemblies. Each length is designed for a specific range of door widths, to provide precise door control. This further lessens the dead stop impact on the door's hinges/pivots.

Specify depth of reveal when using top jamb mounting.



Regular

**Regular Arm:** Allows closer to be installed where there is as little as 1" (25mm) of frame face or ceiling clearance.



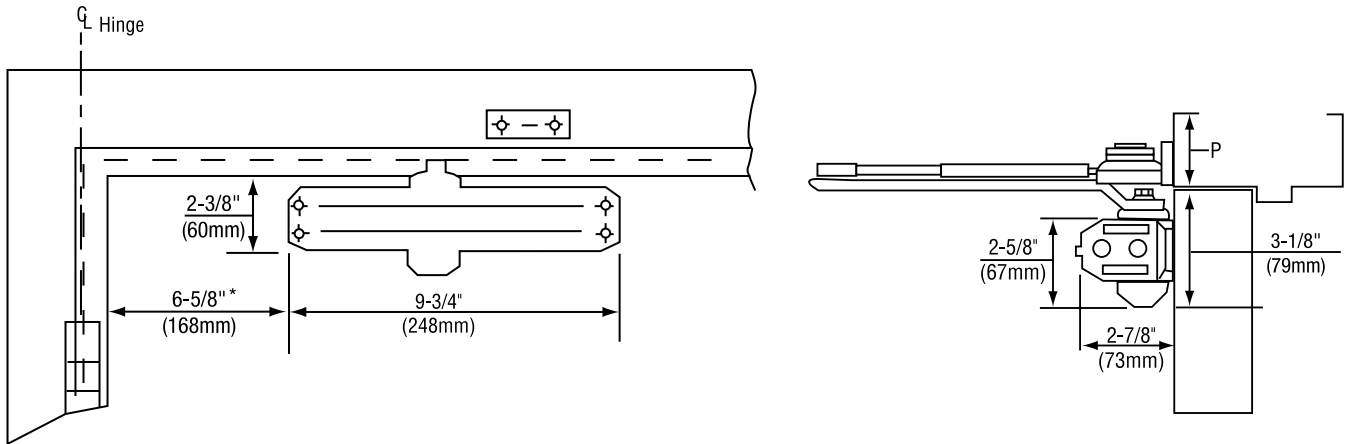
Parallel

**Parallel Arm:** Allows closer to be installed 1/2" (13mm) higher up on door than standard parallel arm application. Suffix "P" to the catalog number; i.e., P1680BC, P1681(BF).

## Low-Profile Arms

Supplied with 1680BC, 1681(BF) series door closers for non-hold open installations only. Low-profile arms have a reduced height elbow joint and a straight main arm. This enables the door closer to be installed in less vertical space. Non-hold open function only.

## REGULAR ARM



\* For doors opening up to 100°  
Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Maximum Door Size Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	—	1602BC	1602BCH	1601 1601BF	1601H 1601BFH
38" (97)	30" (76)	1603BC	1603BCH		
42" (107)	36" (91)	1604BC	1604BCH		
48" (122)	42" (107)	1605BC	1605BCH		
—	48" (122)	1606BC	1606BCH		

P Minimum Ceiling Clearance Inches/mm		
Non-Hold Open		Hold Open
1600BC/1601	1680BC/1681	1-5/8" (41)
1-1/2" (38)	1" (25)	

### Notes:

1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

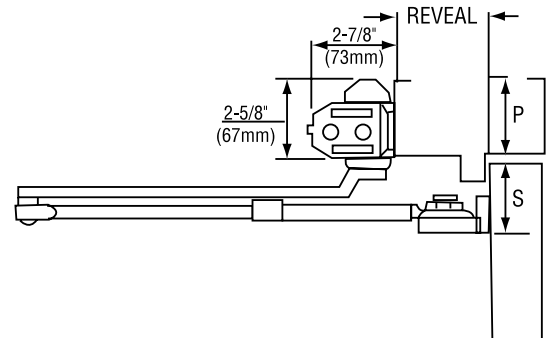
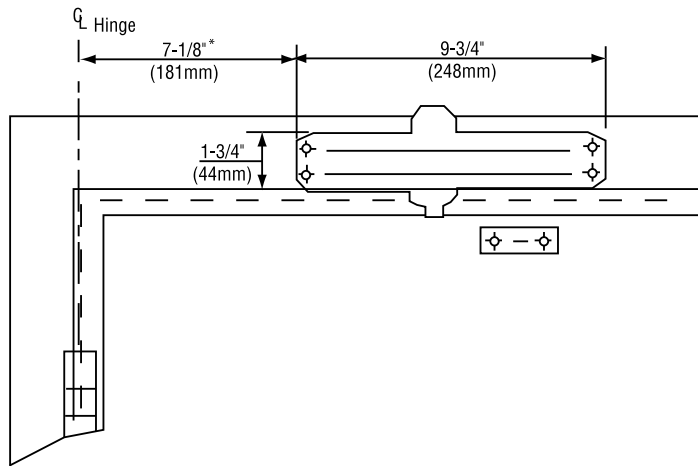
1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.



# 1600BC/1601 Series Door Closers

## TOP JAMB



\* For doors opening up to 100°  
Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Maximum Door Size Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	—	1602BC J1602BC J1682BC^	1602BCH J1602BCH	1601 1601BF	1601H 1601BFH
38" (97)	30" (76)	1603BC J1603BC J1683BC^	1603BCH J1603BCH		
42" (107)	36" (91)	1604BC J1604BC J1684BC^	1604BCH J1604BCH		
48" (122)	42" (107)	1605BC J1605BC J1685BC^	1605BCH J1605BCH		
—	48" (122)	1606BC J1606BC J1686BC^	1606BCH J1606BCH		

### Notes:

1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

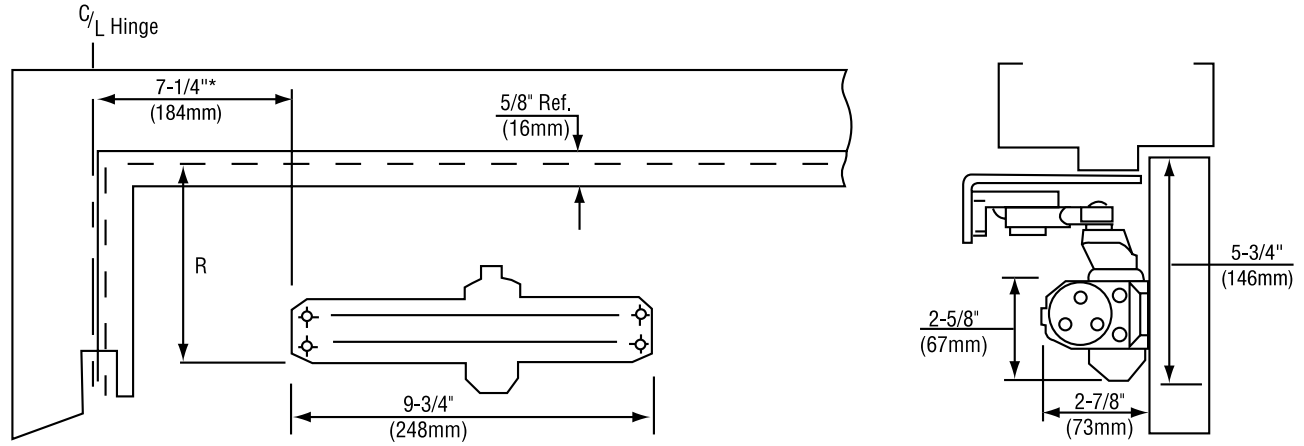
^Narrow-Profile Arm Closers can only be installed with 1687/1688 drop plate.

**Non-Hold Open-** Use standard 1600 closer for frame reveals between 0"- to 3" (0-76mm). Use top jamb J1600 closer for frame reveals from 3" to 7" (76 to 178mm). **Hold Open Use** standard 1600H closer for frame reveals between 0" to 2-3/4" (0-70mm). Use top jamb J1600H closer for frame reveals from 2-3/4" to 6-3/4" (70 to 171mm).

Contact factory if door weight exceeds 250 lbs.

P Minimum Ceiling Clearance		S Minimum Top Rail Clearance		
Without Drop Plate	With Drop Plate	Without Drop Plate	With 1687 Drop Plate	With 1688 Drop Plate
1600BC/1601	1600BC/1601 1680BC/1681	1600BC/1601	1600BC/1601	1600BC/1601 1680BC/1681
2-5/8" (67)	1-3/4" (44)	1-7/8" (48)	2-5/8" (67)	4" (102)

## PARALLEL ARM



\* For doors opening up to 100°  
Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Maximum Door Size Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
30" (76)	—	P1602BC	P1602BCH	1601 1601BF	1601H 1601BFH
36" (91)	30" (76)	P1603BC	P1603BCH		
42" (107)	36" (91)	P1604BC	P1604BCH		
48" (122)	42" (107)	P1605BC	P1605BCH		
—	48" (122)	P1606BC	P1606BCH		

R Minimum Top Rail of Door with 5/8" (16mm) frame stop Inches/mm			
Without Drop Plate		With Drop Plate	
1600BC 1601	1680BC 1681	1600BC 1601	1680BC 1681
5" (127)	4" (102)	3-1/8" (79)	2-1/8" (54)

### Notes:

This door sizing information also applies to corner bracket mounted closers.

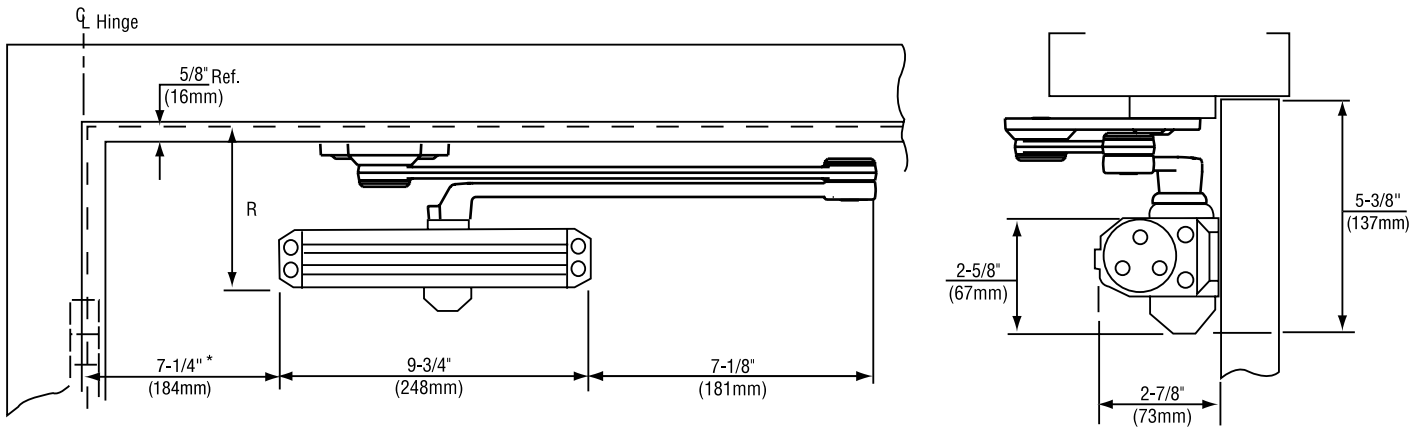
1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.

# 1600BC/1601 Series Door Closers

PARALLEL  
RIGID ARM



\* For doors opening up to 100°  
Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Door Size Wood or Metal Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
28"-32" (71-81)	—	PR1602BC	PR1602BCH	PR1601 PR1601BF	PR1601H PR1601BFH
33"-36" (84-91)	28"-32" (71-81)	PR1603BC	PR1603BCH		
37"-42" (94-107)	33"-36" (84-91)	PR1604BC	PR1604BCH		
43"-48" (109-122)	37"-42" (94-107)	PR1605BC	PR1605BCH		
—	43"-48" (109-122)	PR1606BC	PR1606BCH		

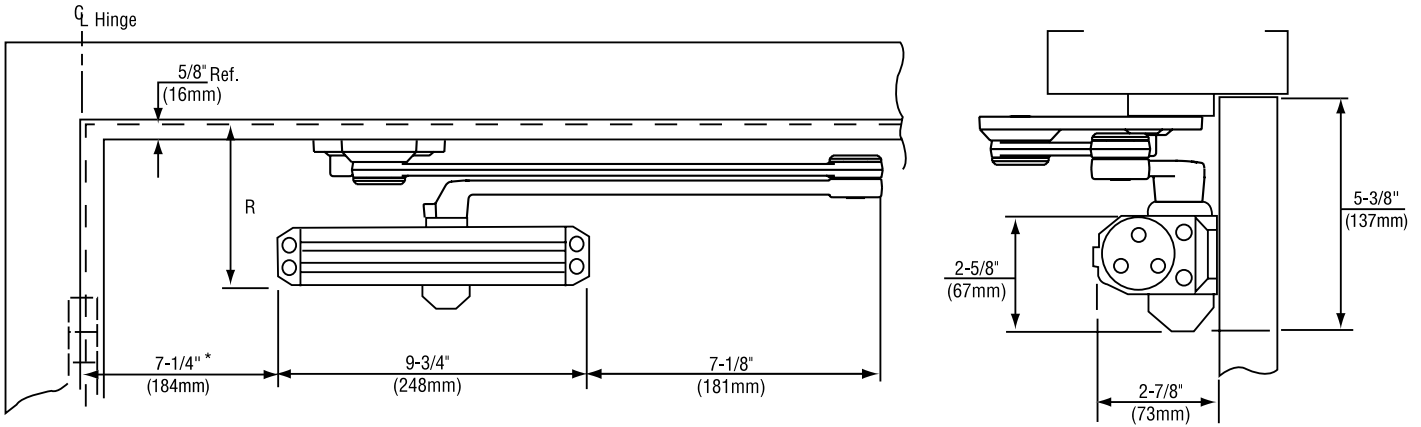
**Notes:**  
1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.

R Minimum Top Rail of Door with 5/8" (16mm) frame stop	
Without Drop Plate	With Drop Plate
4-1/2" (114)	2-5/8" (67)

**CLOSERPLUS®  
ARM**



\* For doors opening up to 100°  
Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Door Size Wood or Metal Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
28"-32" (71-81)	—	CLP1602BC	CLP1602BCT	CLP1601 CLP1601BF	CLP1601T CLP1601BFT
33"-36" (84-91)	28"-32" (71-81)	CLP1603BC	CLP1603BCT		
37"-42" (94-107)	33"-36" (84-91)	CLP1604BC	CLP1604BCT		
43"-48" (109-122)	37"-42" (94-107)	CLP1605BC	CLP1605BCT		
—	43"-48" (109-122)	CLP1606BC	CLP1606BCT		

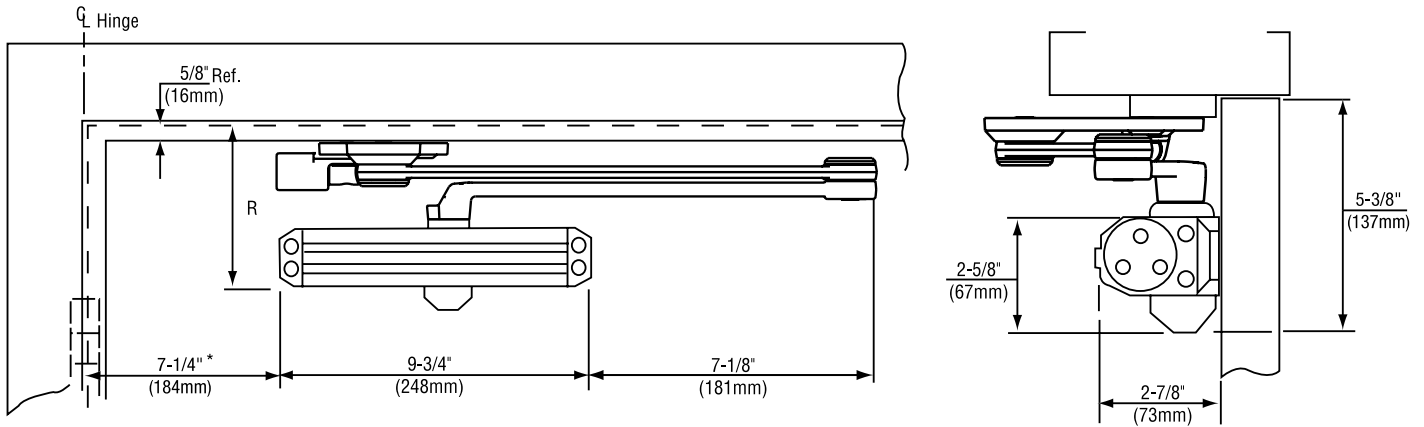
**Notes:**  
1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.

R Minimum Top Rail of Door with 5/8" (16mm) frame stop	
Without Drop Plate	With Drop Plate
4-1/2" (114)	2-5/8" (67)

# 1600BC/1601 Series Door Closers



\* For doors opening up to 100°  
Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Door Size Wood or Metal Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
28"-32" (71-81)	—	CPS1602BC	CPS1602BCT	CPS1601 CPS1601BF	CPS1601T CPS1601BT
33"-36" (84-91)	28"-32" (71-81)	CPS1603BC	CPS1603BCT		
37"-42" (94-107)	33"-36" (84-91)	CPS1604BC	CPS1604BCT		
43"-48" (109-122)	37"-42" (94-107)	CPS1605BC	CPS1605BCT		
—	43"-48" (109-122)	CPS1606BC	CPS1606BCT		

## Notes:

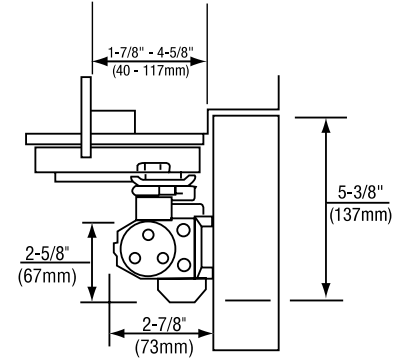
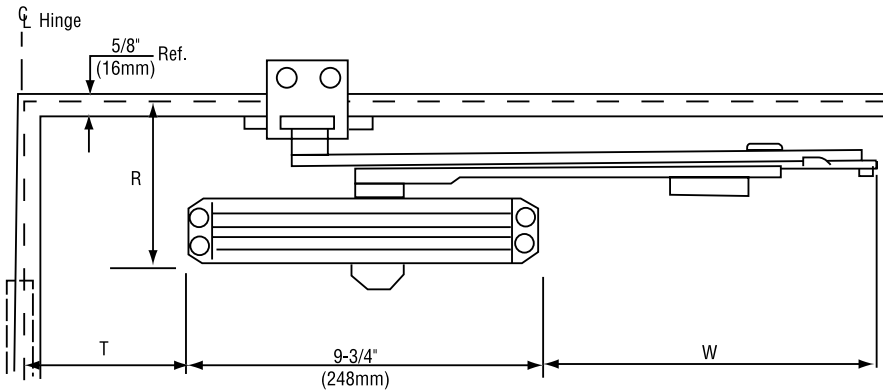
1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.

R Minimum Top Rail of Door with 5/8" (16mm) frame stop	
Without Drop Plate	With Drop Plate
4-1/2" (114)	2-5/8" (67)

**PARALLEL  
UNITROL® ARM**



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

Door Width	R Minimum Top Rail		T Template Position for 100° door opening						W Arm Extension
	Without Drop Plate	With Drop Plate	85°	90°	95°	100°	105°	110°	
28"-32" (71- 81)	4-1/2" (114)	2-5/8" (67)	8-1/4" (210)	7-5/8" (194)	7-1/8" (181)	6-3/4" (171)	6-3/8" (162)	6" (152)	7" (178)
33"-41" (84- 104)			10-5/8" (270)	10" (254)	9-3/8" (238)	8-7/8" (225)	8-3/8" (213)	8" (203)	8-1/2" (216)
42"-48" (107- 122)			12-7/8" (327)	12-1/8" (308)	11-1/2" (292)	10-7/8" (276)	10-3/8" (266)	9-7/8" (251)	10" (254)

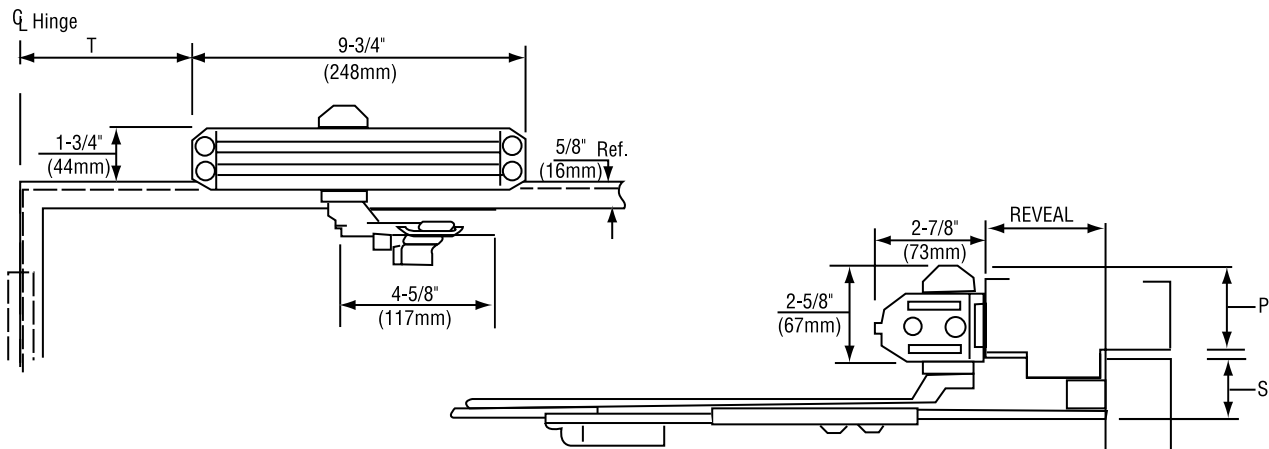
Door Size Wood or Metal Inches (cm)		Model Number				x Specify Door Width
		Sized Closers		Multi-Sized Closers		
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	
28"-32" (71-81)	—	UNI1602BC	UNI1602BCH	UNI1601 UNI1601BF	UNI1601H UNI1601BFH	
33"-36" (84-91)	28"-32" (71-81)	UNI1603BC	UNI1603BCH			
37"-41" (94- 104)	33"-36" (84-91)	UNI1604BC	UNI1604BCH			
42"-48" (107-122)	37"-41" (94-104)	UNI1605BC	UNI1605BCH			
—	42"-48" (107-122)	UNI1606BC	UNI1606BCH			

**Notes:**  
1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.

# 1600BC/1601 Series Door Closers



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 9-1/16" (230mm) horizontally.

P Minimum Ceiling Clearance		S Minimum Top Rail Clearance		T Template Position For Hold Open or Stop at Listed Angle					
Without Drop Plate	With Drop Plate	Without Drop Plate	With Drop Plate	85°	90°	95°	100°	105°	110°
2-5/8" (67)	1-3/4" (44)	2-3/8" (60)	3-1/8" (79)	8-3/4" (222)	8" (203)	7-3/8" (187)	7" (178)	6-3/8" (162)	6-1/8" (156)

Door Size Wood or Metal Inches (cm)		Model Number				x Specify Frame Reveal
		Sized Closers		Multi-Sized Closers		
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	
28-34 (71-86)	—	UNIJ1602BC	UNIJ1602BCH	UNIJ1601 UNIJ1601BF	UNIJ1601H UNIJ1601BFH	
35-42 (89-107)	28-34 (71-86)	UNIJ1603BC	UNIJ1603BCH			
43-48 (109-122)	35-42 (89-107)	UNIJ1604BC	UNIJ1604BCH			
49-54 (124-137)	43-48 (109-122)	UNIJ1605BC	UNIJ1605BCH			
—	49-54 (124-137)	UNIJ1606BC	UNIJ1606BCH			

## Notes:

1601 Door Closers are adjustable for sizes 3 through 6, and are shipped set at size 4.

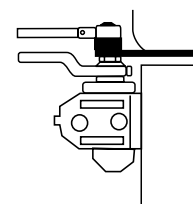
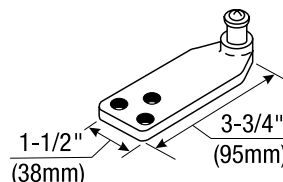
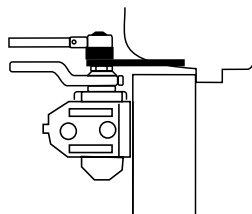
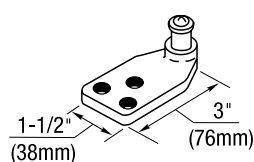
1601BF Door Closers are adjustable for sizes 1 through 4, shipped set at size 2 and can be adjusted to conform to ADA opening force requirements.

Contact factory if door weight exceeds 250 lbs.



**REGULAR ARM**

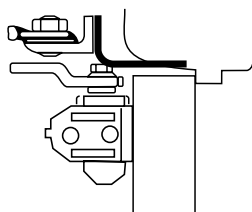
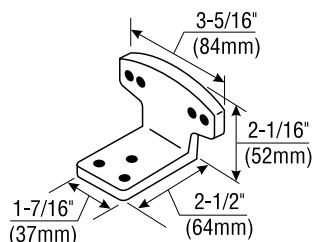
**Brackets for Non-Hold Open Arms**



**Molded/Bull Nose Trim - #2403 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard non-hold open shoe. The bracket is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a frame rabbet up to 2" (51mm) deep.

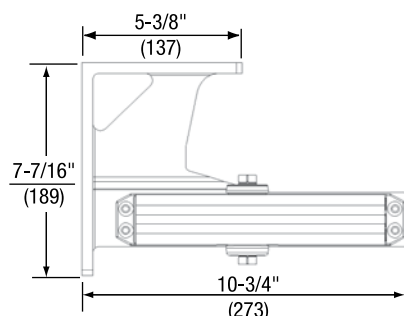
**Molded/Bull Nose Trim - #2403-3/4 Bracket:** This bracket is similar to-but longer than-the 2403 bracket. It is designed to accommodate frame rabbets from 2" to 2-7/8" (51mm to 73mm) deep.

**Brackets for Hold Open Arms**



**Molded/Bull Nose Trim - #80 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard hold open shoe. It is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a rabbet up to 2" (51mm) deep. This bracket is used in combination with the standard hold open mounting shoe.

**Corner Brackets for Closer Mounting**

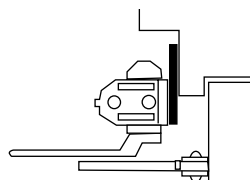
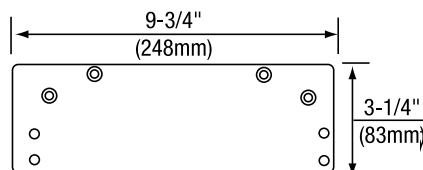


For Closer sizing information, use the Parallel Arm sizing chart on page 14.

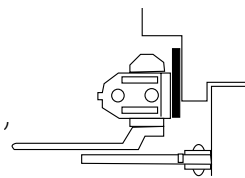
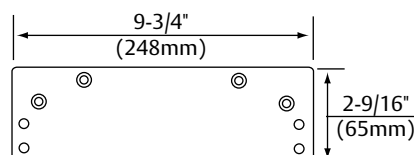
**Mounting Opposite Hinge Side - #1647 Corner Bracket:** For use where it is desired to mount the closer regular arm on the opposite to hinge side of the door. Can also be used to clear an overhead door holder.

**TOP JAMB**

**Closer Mounting Plates**



**Overhead Door Holder - #1688 Drop Plate:** For use where a overhead door holder prevents normal top jamb mounting. This places the center line of the arm mounting screws at 3-1/2" (89mm) from the top of the door.



**Low Ceiling Clearance - Overhead Door Holder - #1687 Drop Plate:** For use where the ceiling clearance is between 1-3/4" and 2-5/8" (44mm and 67mm). Or for use where an overhead door holder prevents normal top jamb mounting. This places the centerline of the arm mounting screws at 2-1/8" (54mm) from the top of door.

## Closer Mounting Plate

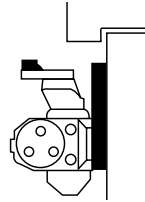
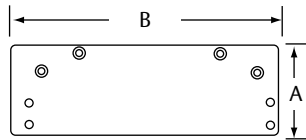
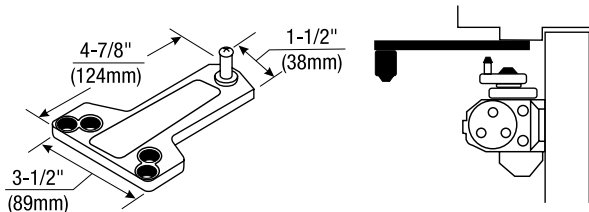


Plate No.	Dimensions	
	A (width)	B (length)
1688	3-1/4" (83mm)	9-3/4" (248mm)
1688C	4-1/8" (105mm)	9-7/8" (251mm)

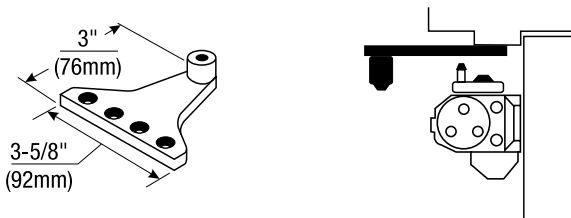
**Note: #1688C - To be used when optional cover is specified.**

**Narrow Top Rail - #1688 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 3-1/8" (79mm) in height for 1600BC or 2-1/8" (54mm) for 1680BC.

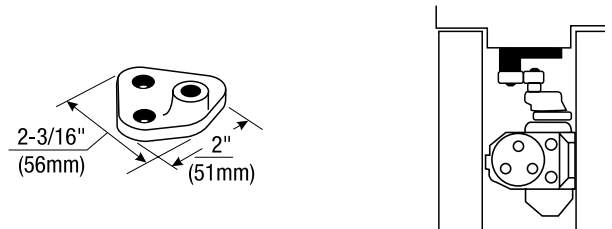
## Brackets for Non-Hold Open Arms



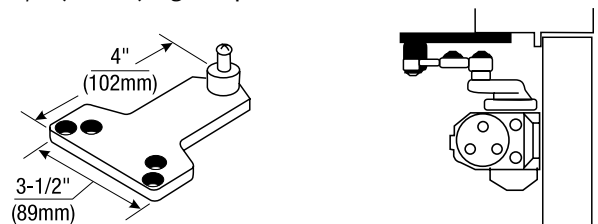
**Standard Installation - #1618A Soffit Plate:** This soffit plate is supplied standard with parallel arm closers. It can be mounted where the frame soffit is as narrow as 1" (25 mm). **Specify 1618A-SS for stainless steel soffit plate.** With Series P1600SS closers, a 1618A-SS soffit plate fabricated of stainless steel is supplied standard.



**Narrow Frame/Removable Stop - #2018B Soffit Plate:** For use where a narrow frame or frame with removable stop does not permit use of the standard soffit plate. This soffit plate may be mounted on the frame soffit or the frame rabbet where the stop does not exceed 5/8" (16mm) in height. All of the screw holes are in a straight line, requiring as little as 1-1/4" (32mm) of frame reveal to mount bracket and maintain good closer arm geometry. Where the frame soffit is as wide as 2" (51mm), this soffit plate may be used to clear weather-stripping that is up to 1-3/8" (35mm) wide and 5/8" (16mm) in height.



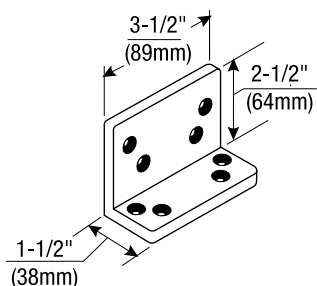
**Mounting Between Doors - #2018 Soffit Bracket:** For use where insufficient space between companion doors does not permit use of other soffit plates. This bracket permits mounting of the closer between doors with as little as 3" (76mm) of header space. Permits closer arm to clear up to 5/8" (16mm) high stop.



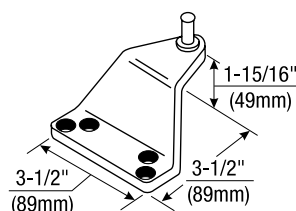
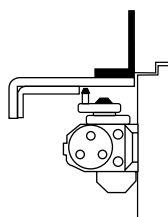
**Blade/Applied Stop - #2018D Soffit Plate:** For use where a blade or applied stop does not permit installation of the standard soffit plate. Mounts to either the frame soffit or rabbet. Since this soffit plate projects 7/8" (22mm) less than a standard soffit plate, it requires a minimum frame reveal of 1-1/2" (38mm). Permits closer to clear up to a 5/8" (16mm) high frame stop.

PARALLEL ARM

Brackets for Non-Hold Open Arms (continued)

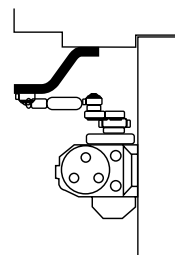


**Flush Transom - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of a soffit plate. Used in combination with the 1618A soffit plate, or may be used in combination with the 2018S soffit plate when it is necessary for the closer arm to clear a separate overhead door holder.

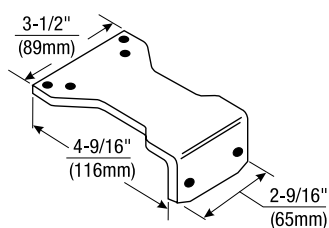


**Extra-Clearance - #2018S Offset Soffit Plate:** For use where the need for additional clearance prevents use of the standard soffit plate. This plate mounts to the frame soffit to provide up to 2" (51mm) of clearance when a separate overhead door holder is used.

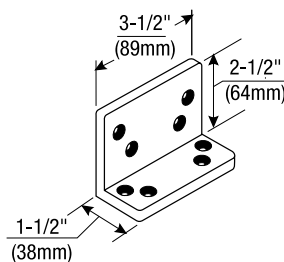
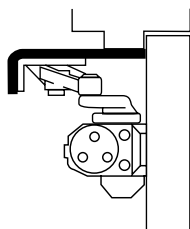
Standard mounting requires a 2-5/8" (67mm) wide frame soffit. It may also be used where unusually high frame stops or weatherstripping prevents the use of other soffit plates.



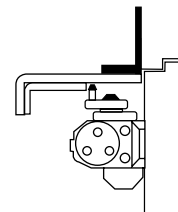
Brackets for Hold Open Arms



**Parallel Hold Open - #1628H Adapter Plate:** This Adapter Plate is supplied standard with all parallel arm hold open closers. It can also be used to convert regular arm or top jamb hold open arms to parallel arm installation. It can be mounted where the frame soffit is as narrow as 1" (25mm).



**Flush Transom Hold Open - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of the standard 1628H hold open adapter plate. It is used in combination with the 1628H adapter plate.



## Closer Mounting Plate

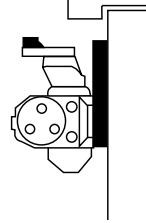
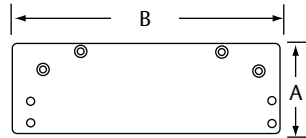
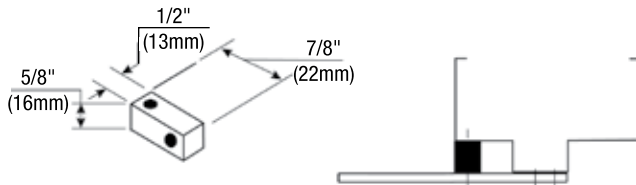


Plate No.	Dimensions	
	A (width)	B (length)
1688	3-1/4" (83mm)	9-3/4" (248mm)
1688C	4-1/8" (105mm)	9-7/8" (251mm)

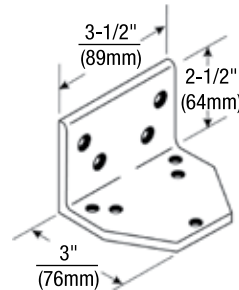
**Note:** #1688C - To be used when optional cover is specified.

**Narrow Top Rail - #1688 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-5/8" (67mm) in height.

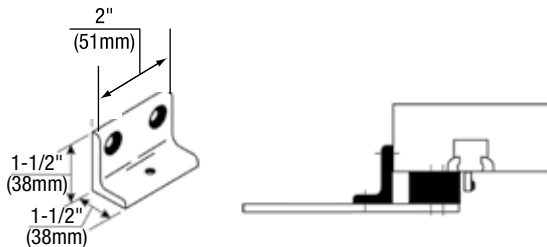
## Brackets for Non-Hold Open Arms & Hold Open Arms



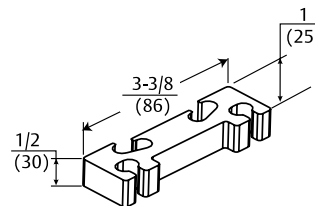
**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all parallel rigid arm closers. For use on frame with either 1/2" (13mm) or 5/8" (16mm) high frame stop.



**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the arm's soffit plate.

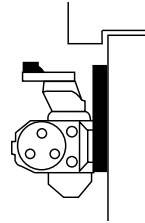
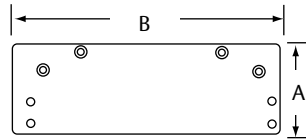


**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop. Used on frame where frame stop does not exceed 5/8" (16mm) in height.



**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard 2019S Spacer Block to provide clearance of the blade stop. For clearance of 5/8" (16mm) high-frame stop.

## Closer Mounting Plate

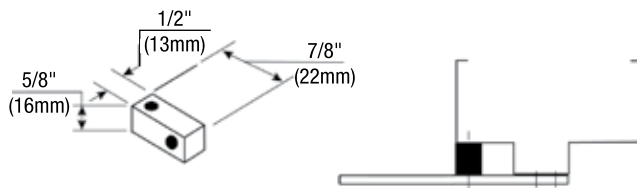


**Narrow Top Rail - #1688 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-5/8" (67mm) in height.

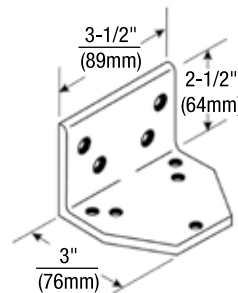
Plate No.	Dimensions	
	A (width)	B (length)
1688	3-1/4" (83mm)	9-3/4" (248mm)
1688C	4-1/8" (105mm)	9-7/8" (251mm)

**Note: #1688C - To be used when optional cover is specified.**

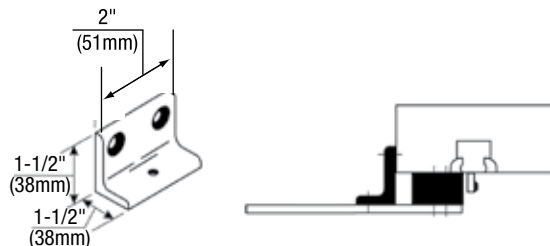
## Brackets for Non-Hold Open Arms & Hold Open Arms



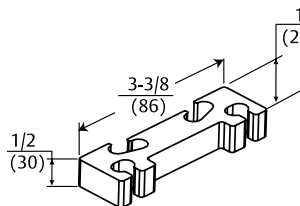
**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all CloserPlus® arm closers. For use on frame with either 1/2" (13mm) or 5/8" (16mm) high frame stop.



**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the arm's soffit plate.



**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop. Used on frame where frame stop does not exceed 5/8" (16mm) in height.



**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard 2019S Spacer Block to provide clearance of the blade stop. For clearance of 5/8" (16mm) high-frame stop.

## Closer Mounting Plate (for Parallel Arm)

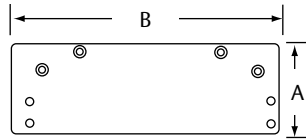
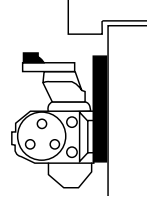


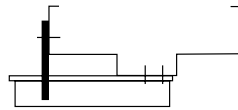
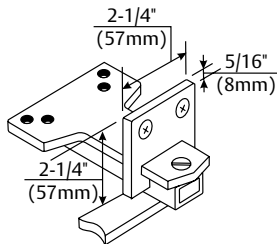
Plate No.	Dimensions	
	A (width)	B (length)
1688	3-1/4" (83mm)	9-3/4" (248mm)
1688C	4-1/8" (105mm)	9-7/8" (251mm)

**Note: #1688C - To be used when optional cover is specified.**

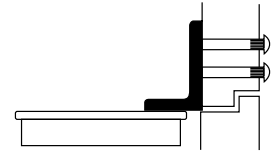
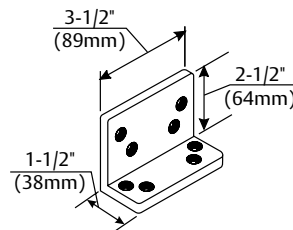


**Narrow Top Rail - #1688 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-5/8" (67mm) in height.

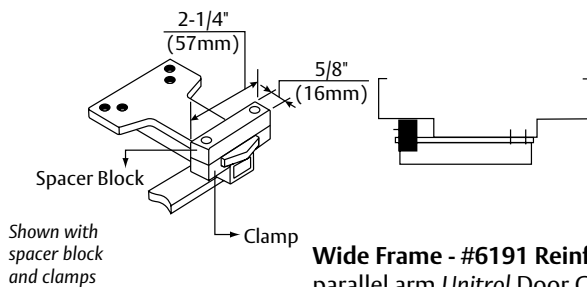
## Soffit Plate Reinforcing Brackets (for Parallel Arm)



**Additional Support - #6190 Reinforcing Bracket:** Standard for use with all parallel arm *Unitrol* Door Controls. Provides additional support to the soffit plate on installations with door frame reveals from 1-7/8" to 4-5/8" (48 to 117mm).

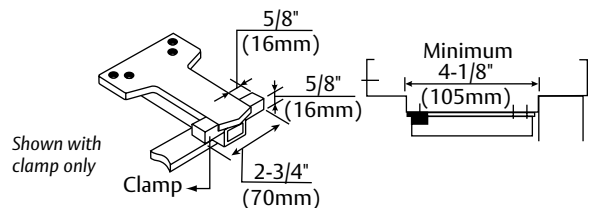


**Flush Rabbeted Transom - #2022 Angle Bracket:** Optional for use with all parallel arm *Unitrol* Door Controls. For use where rabbeted or flush transom conditions prevent installation of the soffit plate assembly. This bracket fastens to the overhead transom to provide a mounting surface for the soffit plate assembly.



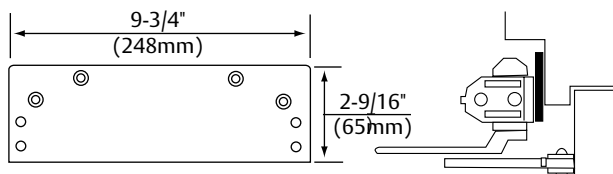
Shown with spacer block and clamps

**Wide Frame - #6191 Reinforcing Kit:** Optional for use with all parallel arm *Unitrol* Door Controls. Used to support the soffit plate on installations with deep frames. Clamps may be used with or without the spacer block, depending on frame conditions.



Shown with clamp only

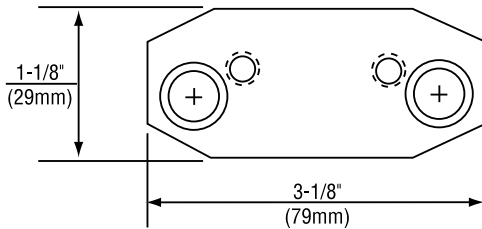
## Closer Mounting Plate (for Top Jamb)



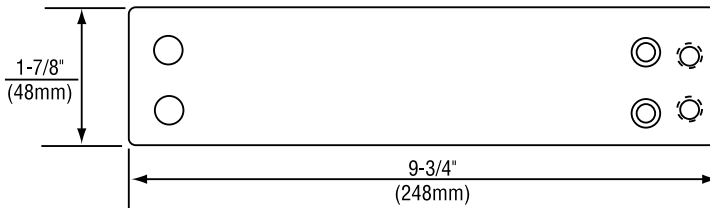
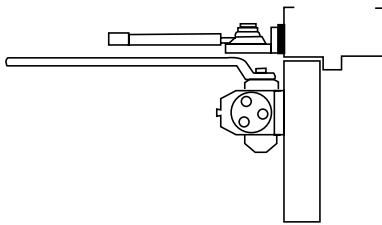
**Low Ceiling Clearance - #1687 Drop Plate:** For use where the ceiling clearance is between 1-3/4" and 2-5/8" (44 and 67mm). This places the centerline of the arm mounting screws at 2-5/8" (67mm) from the top of door.



SPECIAL  
ACCESSORIES



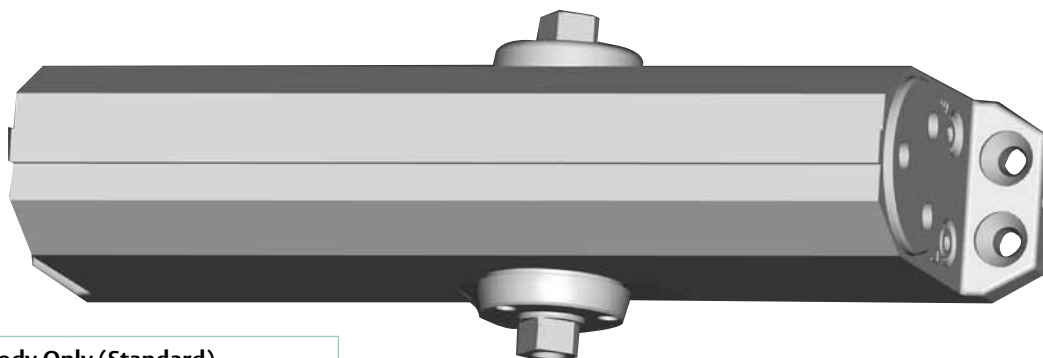
**Converting Old Hold Open Installations - #2017 Adapter Plate:** For use on old hold open installations with 2-1/2" (64mm) hole spacing on the holder bracket. Plate uses existing holes in either door or frame and accepts the new hold open bracket with 1-3/4" (44mm) hole spacing. For regular arm or top jamb installations.



**1699 Adapter Plate:** Converts old 1602/1603 closer installations with 3/4" (19mm) x 8-3/16" (208mm) - spacing to new 1602, 1603 or 1601BF using existing mounting holes in door or frame.

# 1600BC/1601 Series Door Closers

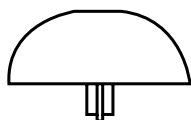
**PARTS**



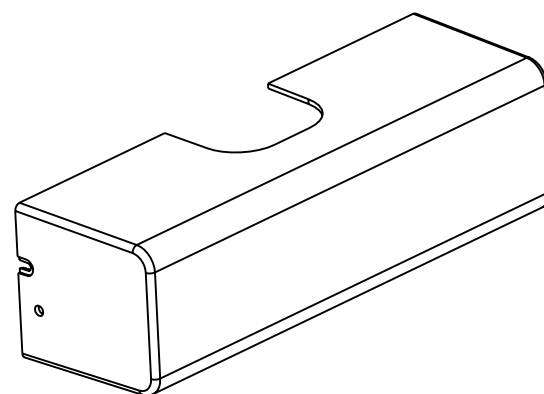
Body Only (Standard)	
160*BCLAP	Sized Closer
1601LAP	Multi-sized
1601BFLAP	Barrier Free
1601SSLAP	Stainless Steel

**Note:** Mounting hardware included with all parts orders.

LAP = Less All Parts  
\* Specify closer size. Pinion cap and mounting screws supplied.



1639 Pinion Cap

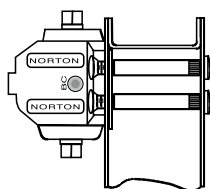


## Optional Cover - 1600P

For regular arm and parallel arm applications. 2-7/8" (73mm) height x 3-1/6" (78mm) deep x 9-7/8" (251mm) long. To order with closer use "P" suffix; i.e. 1604BCP.

## Steel Door Application

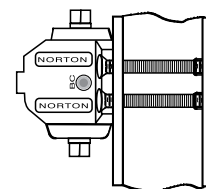
Sex-nut / Sleeve-nut : "SN" (4 per pack) or  
Sex-nut / Sleeve-nut & Screw: "SNB" (4 per pack)



Door	SN's	SNB's
1-3/4"	SN-134	SNB134-38
2"	N/A	SNB200-38
2-1/4"	SN-214	SNB214-38
S.S. SNB's 1-3/4"	SN-134SS	SNB134SS-38

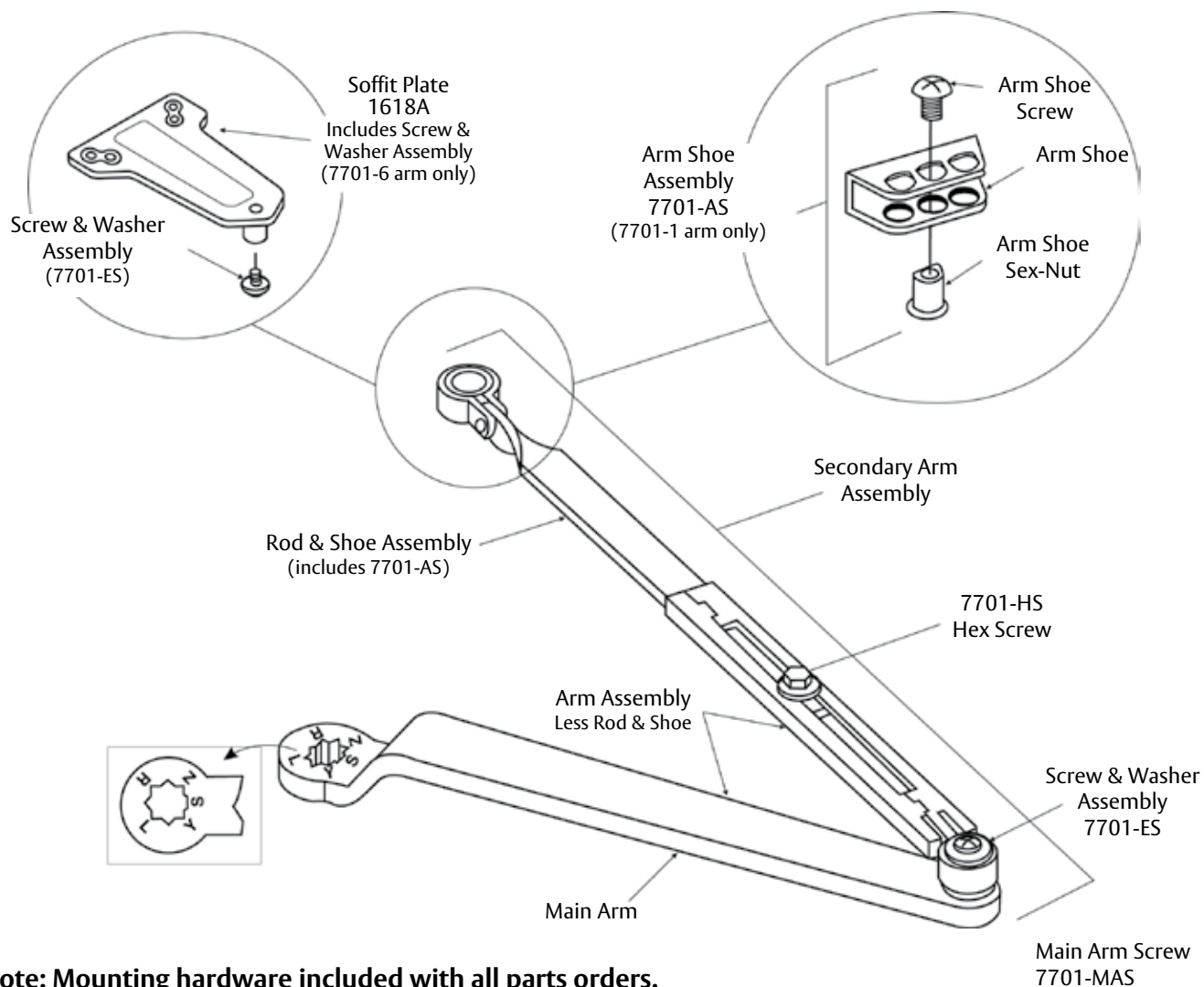
## Aluminum and Wood Door Application (Aluminum Door Shown)

Thru Bolt & Grommet Nut : "TBGN" (4 per pack)



Door	TBGN's
1-3/8"	TBGN138-38
1-3/4"	TBGN134-38
2-1/4"	TBGN214-38

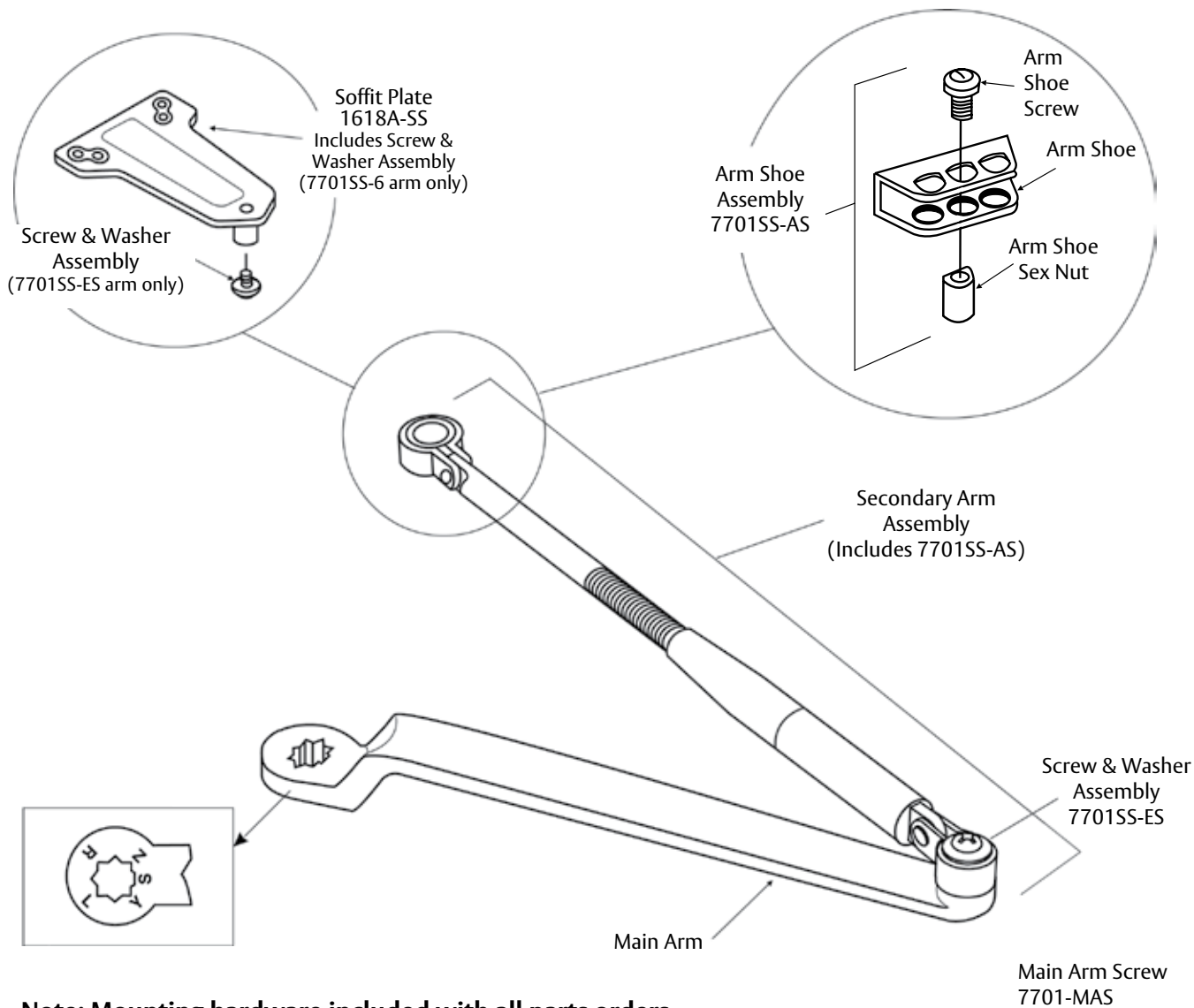
**NON-HOLD OPEN  
ARM ASSEMBLY**



**Note: Mounting hardware included with all parts orders.**

Closer Series	Complete Arm Assembly	Main Arm Assembly¹ (length)(mm) (includes 7701-ES)	Secondary Arm Assembly (includes 7701-ES)	Arm Assembly Less Rod and Shoe	Rod & Shoe² Assembly (length)(mm)
1600BC/1601	7701-1	7701-1M (11)(279)	7701-111	7701-1W	7701-11 (8-7/8)(225)
J1600BC/J1601	7701-1A		7701-121		7701-11A (12-1/2)(318)
P1600BC/P1601	7701-6		7701-116		7701-16 (8-7/8)(225)
P1600BC/P1601³	7701-6A		7701-116A		7701-16A (12-1/2)(318)
1600BC/1601	7701-26 (Tri-Style® includes 7701-1 plus 1618A plate)	1. C to C length shown in parentheses. 2. C of connecting link to end of rod shown in parentheses. 3. For 180° door swing when using a special template for doors hung on 6" to 8" (162mm to 203mm) wide throw hinges.			

# 1600BC/1601 Series Door Closers

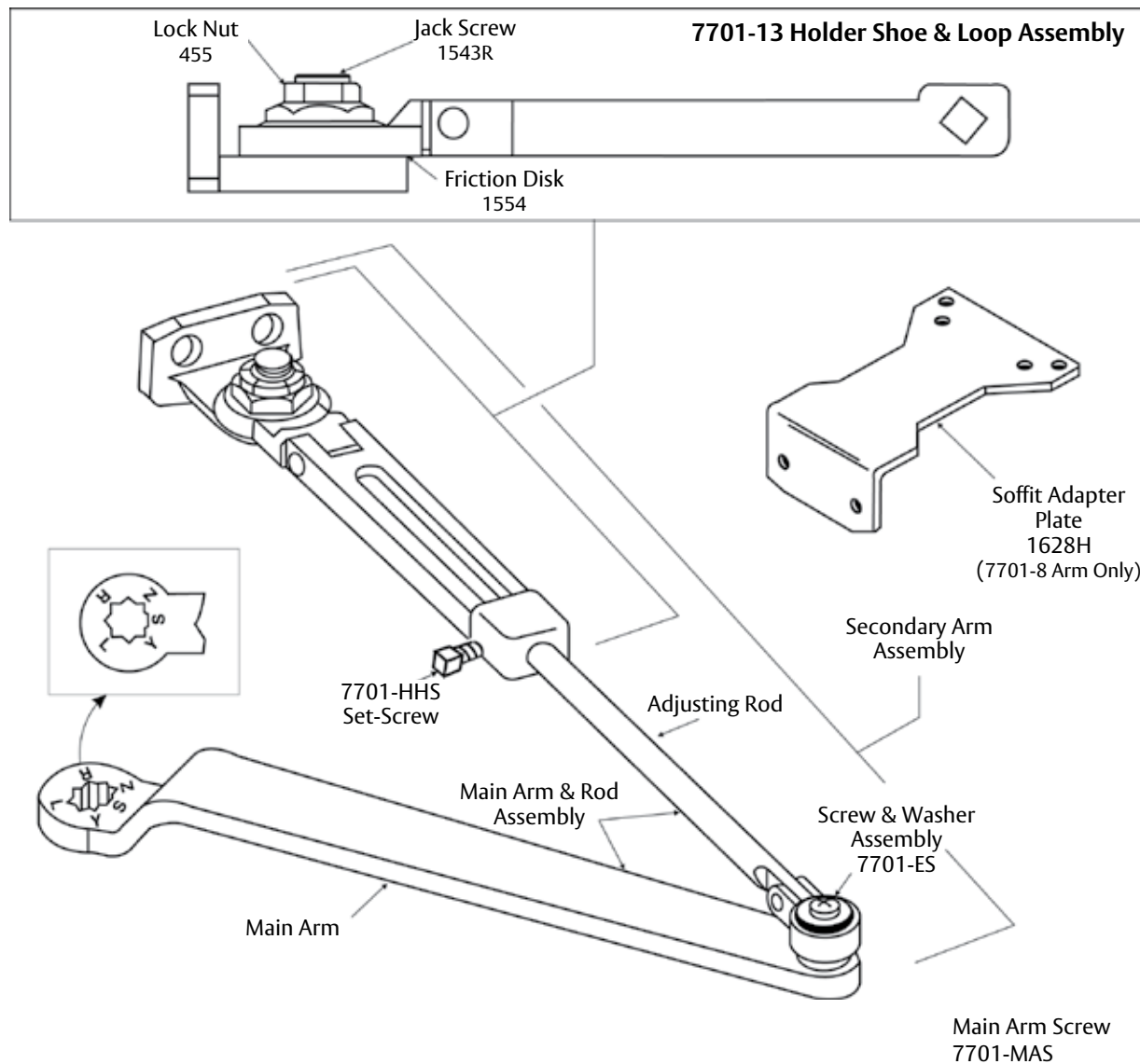


**Note: Mounting hardware included with all parts orders.**

Closer Series	Complete Arm Assembly	Main Arm Assembly <sup>1</sup> (length)(mm) (includes 7701SS-ES)	Secondary Arm Assembly (includes 7701SS-ES)
1601SS	7701SS-1	7701SS-1M (11)(279)	7701SS-111 (8-7/8)(225)
J1601SS	7701SS-1A		7701SS-121 (12-1/2)(318)
P1601SS	7701SS-6		7701SS-116 (8-7/8)(225)

1. C to C length shown in parentheses.

**HOLD OPEN  
ARM ASSEMBLIES**

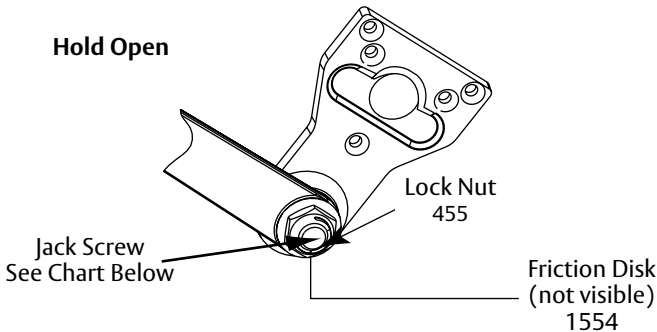
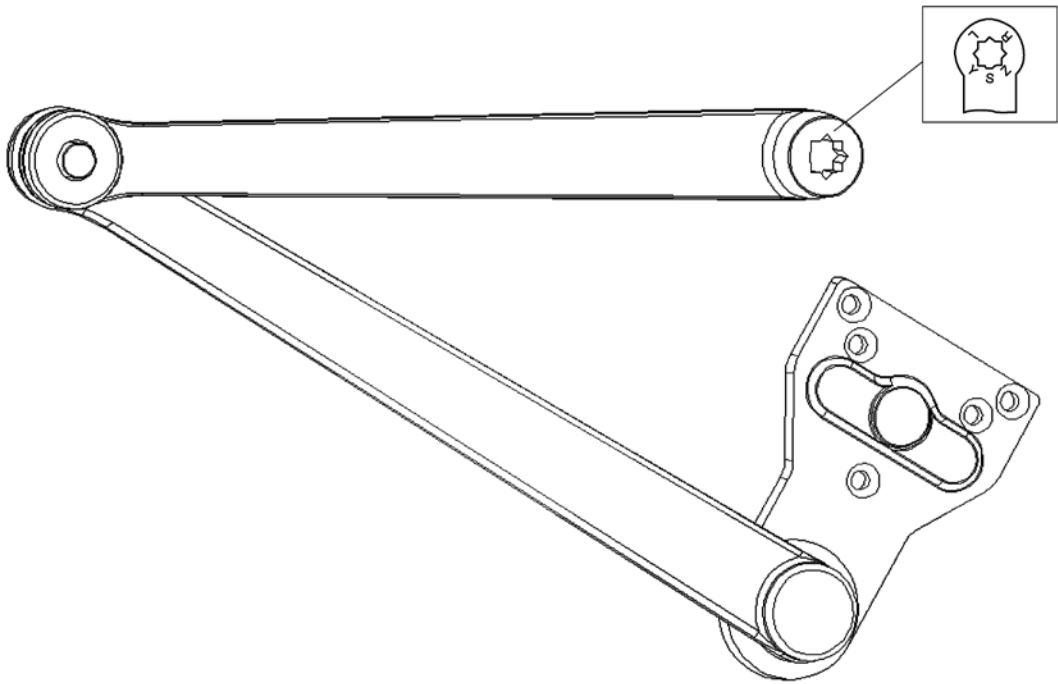


**Note: Mounting hardware included with all parts orders.**

Closer Series Assembly	Complete Arm Assembly	Main Arm <sup>1</sup> (Length)(mm) (includes 7701-ES)	Secondary Arm (includes 7701-ES)	Main Arm & Rod Assembly	Holder Shoe & Loop Assembly	Adjusting Arm <sup>2</sup> (Length)(mm)
1600BCH/1601H	7701-3/7701-8 <sup>3</sup> Reg./Par.	7701-1M (11) (279)	7701-113/7700-118 Reg./Par.	7701-3W	7701-13/7701-18 <sup>4</sup> Reg./Par.	7701-31 (7-3/8) (187)
J1600BCH/J1601H	7701-3A		7701-123	7701-3WA		7701-31A (10-13/16) (275)

1. C to C length shown in parentheses.
2. C of connecting link to end of rod shown in parentheses.
3. Same as 7701-3 but includes #1628H soffit adapter plate.
4. Same as 7701-13 but includes #1628H soffit adapter plate.

Non-Hold Open Arm

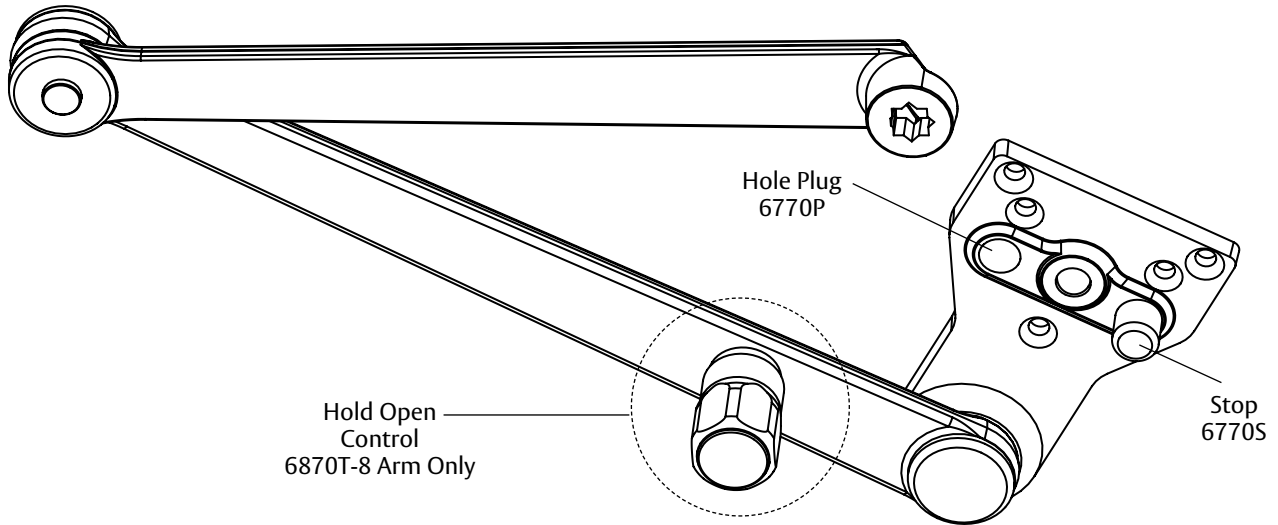


**Note: Mounting hardware included with all parts orders.**

Arm Function	Complete Arm Assembly	Jack Screw
Non-Hold Open	PR7701-5	N/A
Hold Open	PR7701-8R (right hand)	1543R
	PR7701-8L (left hand)	1543L

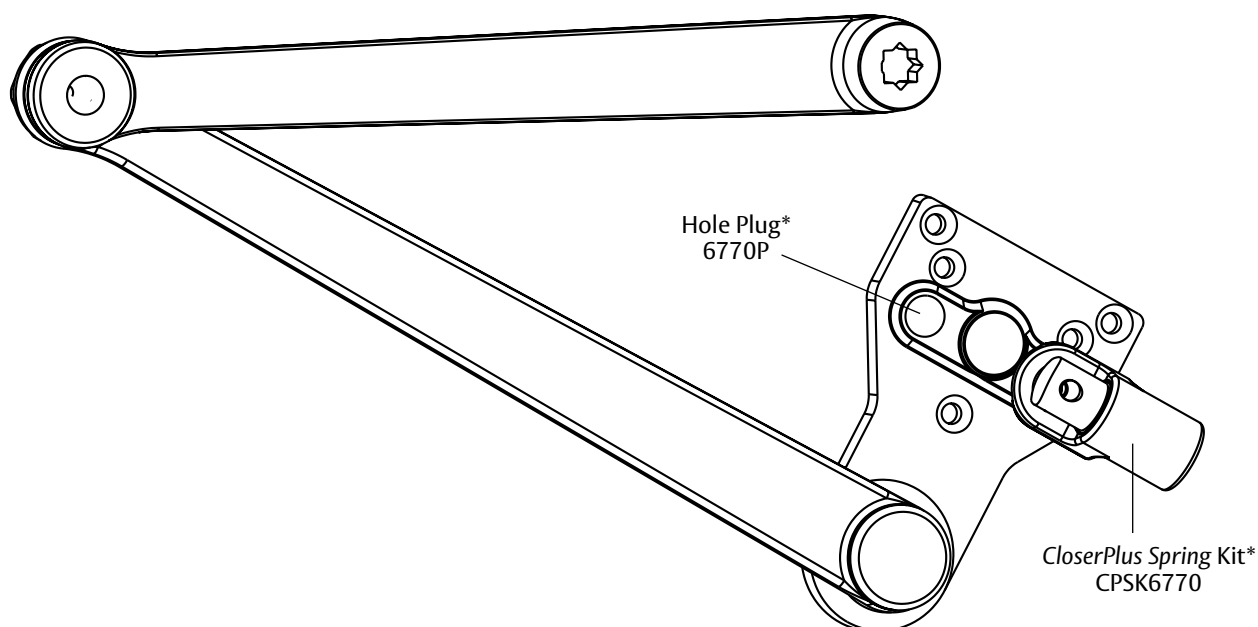


Hold Open Arm shown (CLP-T)



**Note: Mounting hardware included with all parts orders.**

Arm Function	Complete Arm
Non-Hold Open	6770-5
Thumbturn Hold Open	6870T-8



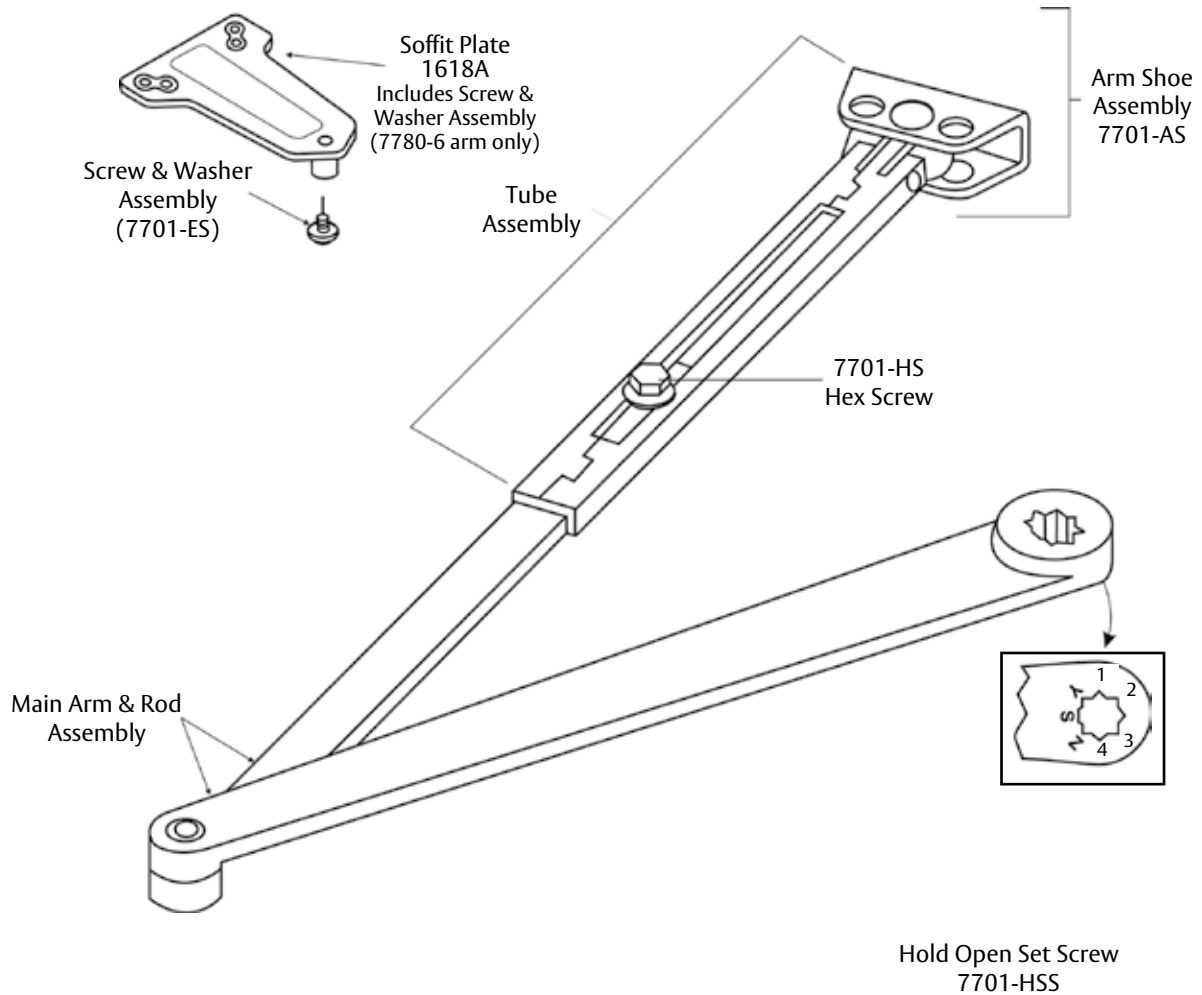
Arm Function	Complete Arm Package
Non-Hold Open	CPS6770-5
Thumbturn Hold Open	CPS6870T-8

\* These parts and screw pack are included with complete arm assemblies.

**Note: Mounting hardware included with all parts orders.**

**LOW PROFILE  
ARM ASSEMBLIES**

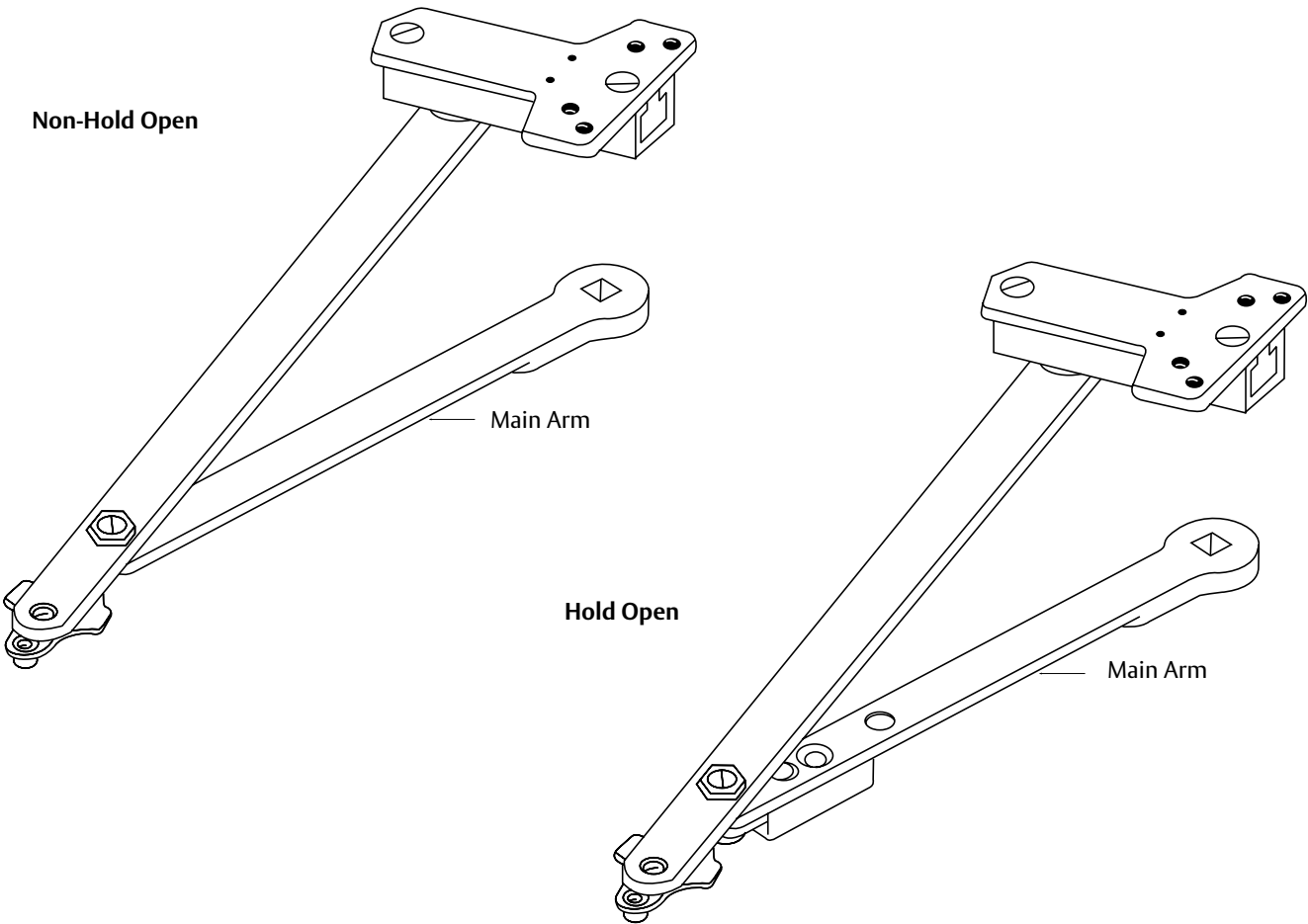
**Non-Hold Open Arm shown**



**Note: Mounting hardware included with all parts orders.**

Arm Application	Complete Arm Assembly	Main Arm & Adjusting Rod Assembly	Tube & Shoe/Soffit Rod Assembly
Regular Arm	7780-1	7780-1MR	7780-1TS (with 7701-AS)
Parallel Arm	7780-6		7780-6TS (with 1618A)
Tri-Style®	7780-26		

Parallel Arm

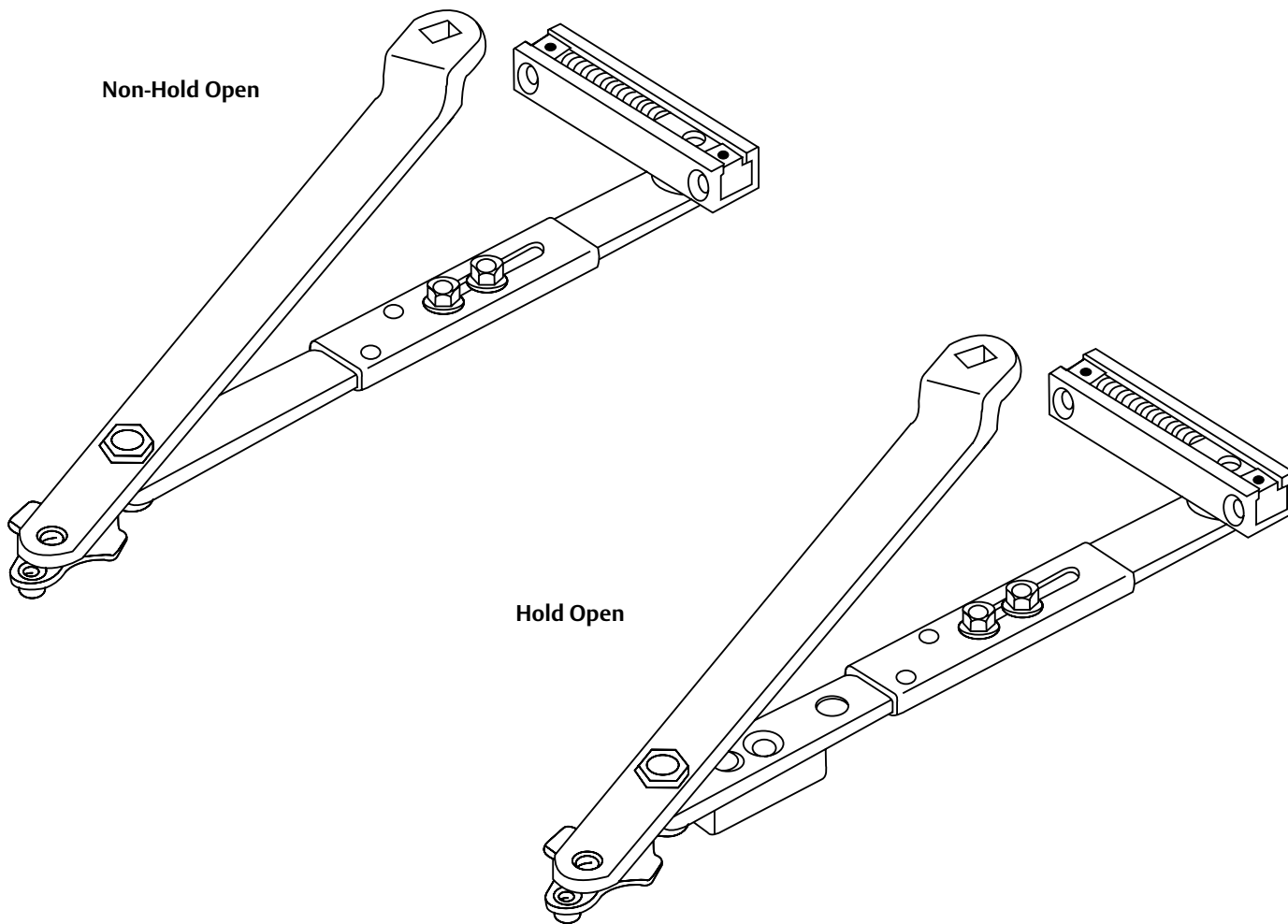


**Note:** Mounting hardware included with all parts orders.

Complete Arm Assembly			
Door Width (cm)	Main Arm Length* (mm)	Non-Hold Open	Hold Open
28" - 32" (71 - 81)	9-1/2" (241)	6100-11	6100-1
33" - 41" (84 - 104)	11" (279)	6100-13	6100-3
42" - 48" (107 - 122)	12-1/2" (318)	6100-14	6100-4

\* Center to center length.

## Top Jamb



**Note: Mounting hardware included with all parts orders.**

Non-Hold Open	Hold Open	For Frame Reveals (mm)
J6100-4	J6100-7	2-1/8" - 3-1/4" (54 - 83)
J6200-4	J6200-7	1/2" - 2" (13 - 51)
J6400-4	J6400-7	3-3/8" - 4-1/4" (86 - 108)
J6500-41	J6500-71	4-3/8" - 5-3/8" (111 - 137)
J6500-42	J6500-72	5-1/2" - 6-3/8" (140 - 162)
J6500-43	J6500-73	6-1/2" - 7-3/8" (165 - 187)
J6600-4	J6600-7	0 - 3/8" (0 - 10)



NOTES







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**ASSA ABLOY**

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Monroe, NC 28112  
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Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**  
160 Four Valley Drive  
Vaughan, Ontario, L4K 4T9 Canada  
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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

**Norton®**

ASSA ABLOY

# 1700 Series

## Light Commercial Door Closers



ASSA ABLOY, the global leader  
in door opening solutions

## OVERVIEW

Norton® 1700 Series Door Closers are multi-feature closers whose compact design is ideal for application on interior doors. This narrow-stile closer has distinctive lines that harmonize with most decors. It is available with a full cover to provide an installation with compatible appearance to other door closers with covers. The Norton 1700 Series Door Closer offers an economical alternative for those installations where a more heavy-duty closer is not necessary.

### Standard Features

- Tri-Style® packaging: closer tri-packed for regular arm, top jamb or parallel arm installation.
- Non-handed
- Aluminum alloy shell
- Rack & pinion operation
- Adjustable closing speed
- Adjustable latch speed
- Non-hold open

### Optional Features

- Adjustable backcheck cushioning: independent regulating valve; order 1700BC series.
- Full molded cover: order 1700COV/1700BCCOV.
- Hold open: order 1700H/1700BCH

## SPRAYED FINISHES

Description	Specify Norton (BHMA) Designation	Complements the following finishes	Old Norton Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat*	600		SRI

\*600 is a special rust-inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 1704 x 600 x 689).

## TABLE OF CONTENTS

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Parallel Arm Installation .....	7



# 1700 Series Door Closer

## HOW TO ORDER

**None** - Closer installs regular arm, parallel arm or top jamb 0" to 4-7/8" (0 to 24mm) reveals.

**J** - Top jamb closer with frame reveal from 4-7/8" to 6-7/8" (124 to 175mm).

**J**  
PREFIXES

**170**  
FIRST THREE DIGITS  
Defines the Basic  
1700 Series Closer

This digit specifies  
closer size.  
(Refer to sizing chart  
below.)

**2**  
FOURTH DIGIT

**COV**  
SUFFIXES

"H" - Hold open arm  
"BC" - Backcheck  
cushioning  
"COV" - Molded full  
cover

**x Finish**  
(See page 1700-2)



### Fasteners

Through-bolts, grommet nuts and sex nuts are available to special order.

### Suggested Specifications

Closers for interior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closer shall be non-handed to permit installation on either hand of door. Closer to be supplied with brackets to allow regular arm, parallel arm or top jamb mounting. Closer to have non-critical valves to independently regulate sweep speed (and) latch speed (and backcheck cushioning.) The forearm bracket shall permit a 15% power adjustment by rotating the forearm and bracket 180° at the door or frame. (Closer shall be enclosed in a molded full cover.) Closer to be Norton 1700/1700BC Series, 1700COV/1700BCCOV Series.

### Compliance Standards

All series 1700 comply with ANSI/BHMA A156.4 Grade 2 specification.   All Norton series 1700 closers with non-hold open arms are listed by Underwriters' Laboratories for labeled fire doors. This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility.

## SIZING CHART

Model Number		Interior Doors: Maximum Size Wood or Metal (cm)		
		Type of Installation		
Non-Hold Open	Hold Open	Regular Arm	Parallel Arm	Top Jamb
1701(BC)	1701(BC)H	The 1701 closer (size 1) is intended for use on doors with a minimum clear opening width of 2'8" (81cm) to provide less than 5.0 lbs. (22.2N) of door opening resistance.		
1702(BC)	1702(BC)H	30" (76)	30" (76)	30" (76)
1703(BC)	1703(BC)H	36" (91)	32" (81)	36" (91)
1704(BC)	1704(BC)H	42" (107)	36" (91)	42" (107)

Door width information is based on 1-3/4" (44mm) x 7" (2.13m) standard weight doors swinging 110°. Other conditions (such as door height, weight, or draft conditions) may require a larger size closer.

Note: Contact factory if door weight exceeds 250 lbs.

## ACCESSORIES

Part Number	Description
1700-1	Arm Assembly - Non-Hold Open
1700-3	Arm Assembly - Hold Open
17P	Cover
1739	Pinion Cap
1788	Parallel Arm Adapter Plate (Hold Open)
1789	Parallel Arm Bracket
170XBCLAP	Closer Body*

\*X = specify closer size

### Door Plates

For narrow top rails, narrow frame faces, and top jamb hold open installations. Plates vary in size when the closer is ordered with or without a full molded cover. Order drop plates from the chart. Specify finish when ordering separately.

Type Of Installation	Drop Plate Model Number	
	Without Cover	With Cover
Regular Arm	1746	1756
Top Jamb	1746	1757
Parallel Arm	1748	1758

For drop plate requirements, see Dimensional Information pages 5-7.

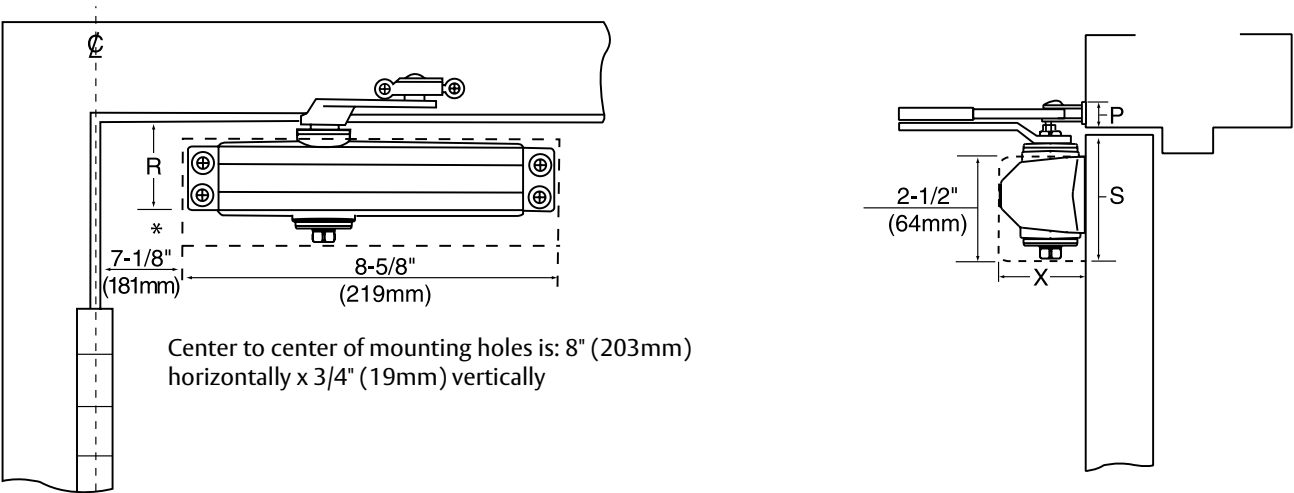
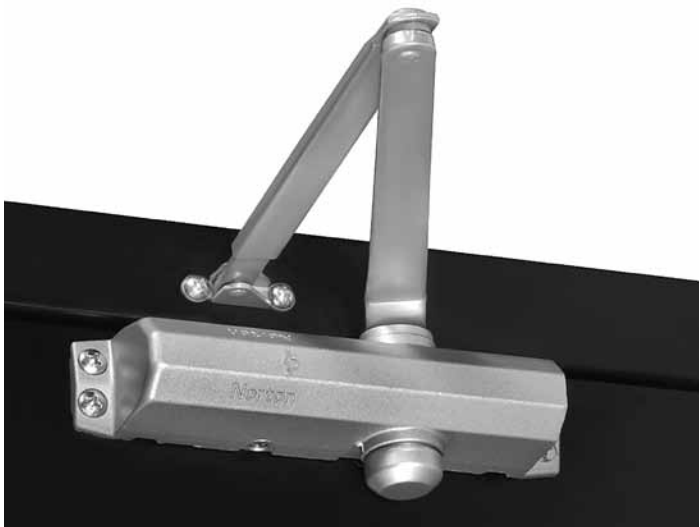
### Molded Full Cover

Molded of high-impact U.L. Listed material for completely enclosing the closer body, mounting screws and the unused pinion shaft. This cover is non-handed. It has two notches; one for clearance of the pinion shaft. An insert is included for insertion into the unused notch. Four molded catches engage the closer body for easy yet secure installation. To order this cover separately, specify 17P x finish.

# 1700 Series Door Closer

REGULAR ARM  
INSTALLATION

Closer mounts on door;  
Arm bracket on frame face.



\*When templated for 100° door opening.

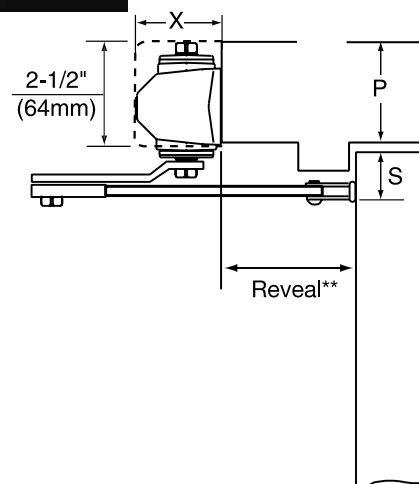
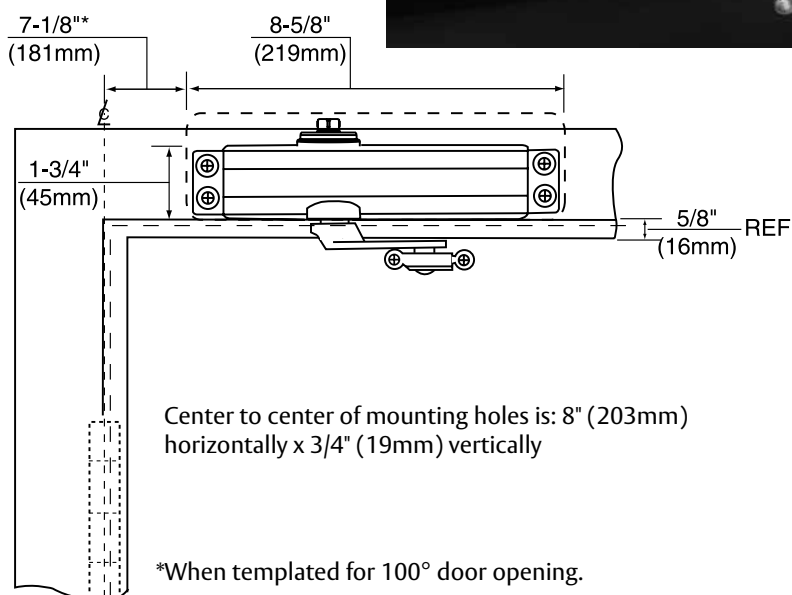
R Minimum Top Rail				S Minimum Top Rail Clearance		P Minimum Ceiling Clearance Without Drop Plate		X Closer Projection	
Without Drop Plate		With 1746/1756 Drop Plate							
Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Without Cover	With Cover
2" (51)		1-1/4" (32)		3" (76)	2-7/8" (73)	1" (25)	1-3/8" (35)	1-15/16" (49)	2-1/16" (52)

Sizes based upon door 7'0" (2.13m) x 1-3/4" (44mm)



TOP JAMB  
INSTALLATION

Closer mounts on push side of frame; arm shoe mounts to door.



S Minimum Top Rail Clearance			P Minimum Ceiling Clearance				X Closer Projection	
Without Drop Plate	With 1746/1757 Drop Plate		Without Drop Plate		With 1746/1757 Drop Plate			
Non-Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Without Cover	With Cover
1-1/4" (32)	2-1/4" (57)	2-5/8" (67)	2-1/2" (64)	N/A***	1-3/4" (44)		1-15/16" (49)	2-1/16" (52)

Sizes based upon door 7'0" (2.13m) x 1-3/4" (44mm)

**\*\*Reveal Information**

The standard 1700 Series non-hold open closers and 1700H Series hold open closers (Top Jamb mount) accommodate frame reveals for 0" to 4-7/8" (0 to 124mm).

J1700 Series non-hold open closers and J1700H Series hold open closers accommodate frame reveals from 4-7/8" to 6-7/8" (124 to 175mm). These closers are not supplied with "Tri-Style® installation" hardware.

\*\*\*Use of hold open arm requires use of a drop plate.

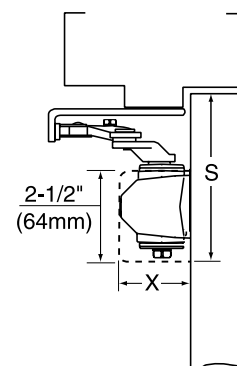
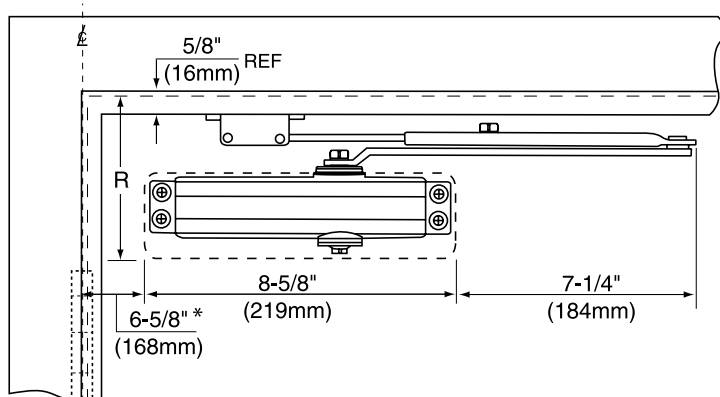
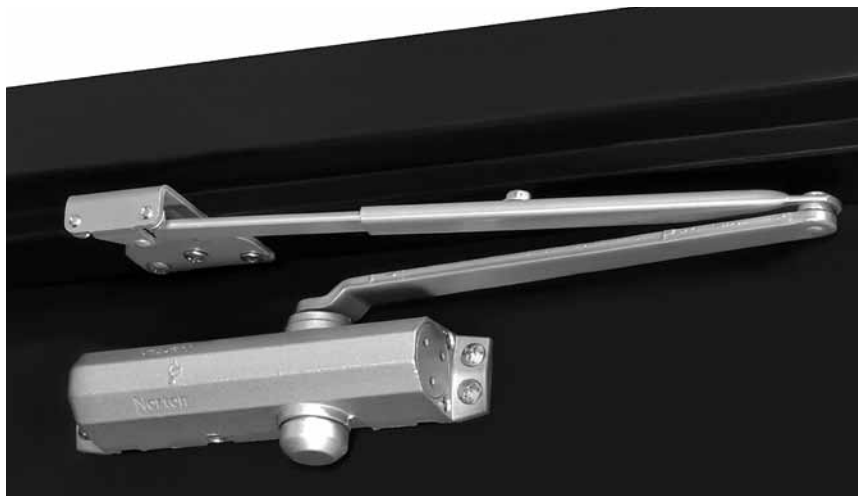
# 1700 Series Door Closer

**Norton**

ASSA ABLOY

PARALLEL ARM  
INSTALLATION

Closer Mounts on Door;  
Bracket on frame soffit.



Center to center of mounting holes is: 8" (203mm)  
horizontally x 3/4" (19mm) vertically

\*When templated for 100° door opening.

R Minimum Top Rail				S Minimum Top Rail Clearance		X Closer Projection	
Without Drop Plate		With 1748/1758 Drop Plate					
Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Without Cover	With Cover
4" (102)	4-1/4" (108)	2-1/4" (57)		4-3/4" (121)	5" (127)	1-15/16" (49)	2-1/16" (52)



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**Norton®**

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# 2800ST Series

## Cam Action Door Closer



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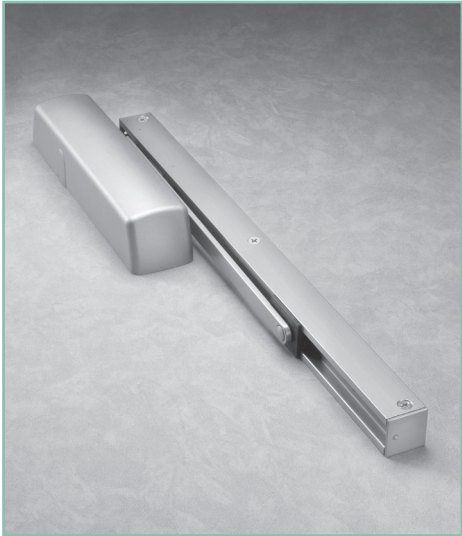
**INTRODUCTION**

The 2800ST Series is a cam action door closer for slide arm and track applications. The cam action design is ideal, as it provides much greater efficiency than a rack and pinion door closer for slide track applications. The cam action provides much lower opening resistance while delivering optimum closing force and control. The door closer's wide range of adjustable closing power permits use in the most demanding situations. The efficiency and flat power curve comply with the opening force requirements of the Americans with Disabilities Act (ADA).

These door closers come standard with adjustable sweep speed and latch speed, closing control and adjustable backcheck cushioning in the opening cycle. The unobtrusive design is a good choice for architects and designers.

**Applications:**

- Hospitals
- Universities
- Office Buildings



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# 2800ST Series Cam Action Door Closer

## OVERVIEW

### Features

- Smooth operation; efficient, powerful, heavy-duty
- Easier to open than rack-and-pinion door closers with track arms
- Slide track application with regular arm operating efficiency
- Slide track standard
- Adjustable spring size 1 through 6
- Adjustable closing force
- Adjustable closing and latching speed
- Backcheck standard
- Non-handed
- Push or pull side installation
- Cast aluminum body

### Optional Features

- Hold open
- Sleeve Nuts

## DOOR SIZES

- Suitable for exterior and interior doors
- Recommended maximum interior door width 54" (137cm)
- Recommended maximum door weight 250 lbs.
- Standard opening range:
  - Push Side = 110°
  - Pull Side = 110°

**Note:** Door openings greater than 110° can be achieved when an auxiliary door stop (by others) is used. Consult factory for details and templates.

## CERTIFICATIONS

- 10-year warranty (refer to current Norton® price book for terms & conditions)
- Meets requirements for Americans with Disabilities Act (ADA)
- UL and UL10C listed
- ANSI/BHMA A156.4 certified



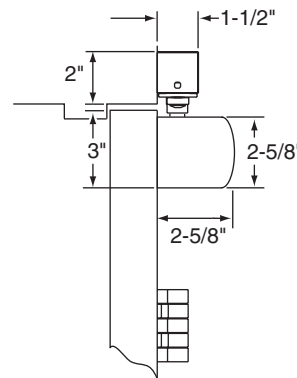
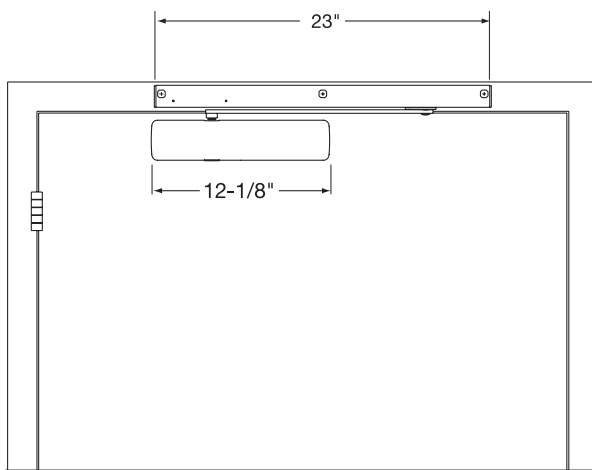
## STANDARD APPLICATIONS



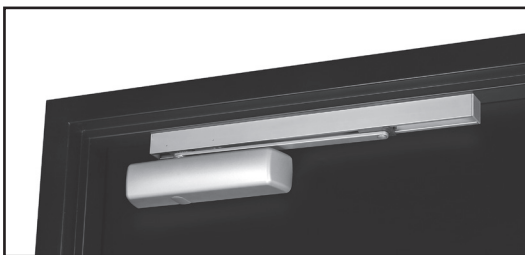
### 2800ST HINGE (PULL) SIDE OF DOOR

- Maximum interior door width 54" (137cm).
- An auxiliary stop (by others) is suggested where severe conditions exist.
- 110° swing (trim permitting)

**Note:** Door openings to 160° can be achieved if an auxiliary door stop (by others) is installed to dead stop the door. Consult factory for details.



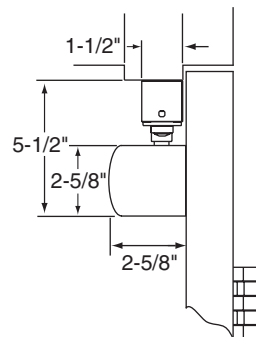
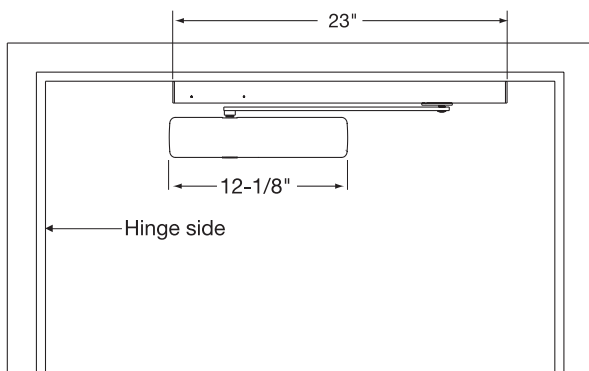
**NOTE:** Contact factory for use on doors exceeding 250 lbs.



### PS2800ST STOP (PUSH) SIDE OF DOOR

- Minimum frame reveal is 1-1/2" (13mm).
- An auxiliary door stop is suggested when severe conditions exist.
- 110° swing (trim permitting)

**Note:** Door openings up to 120° can be achieved if an auxiliary door stop (by others) is installed to dead stop the door. Consult factory for details.

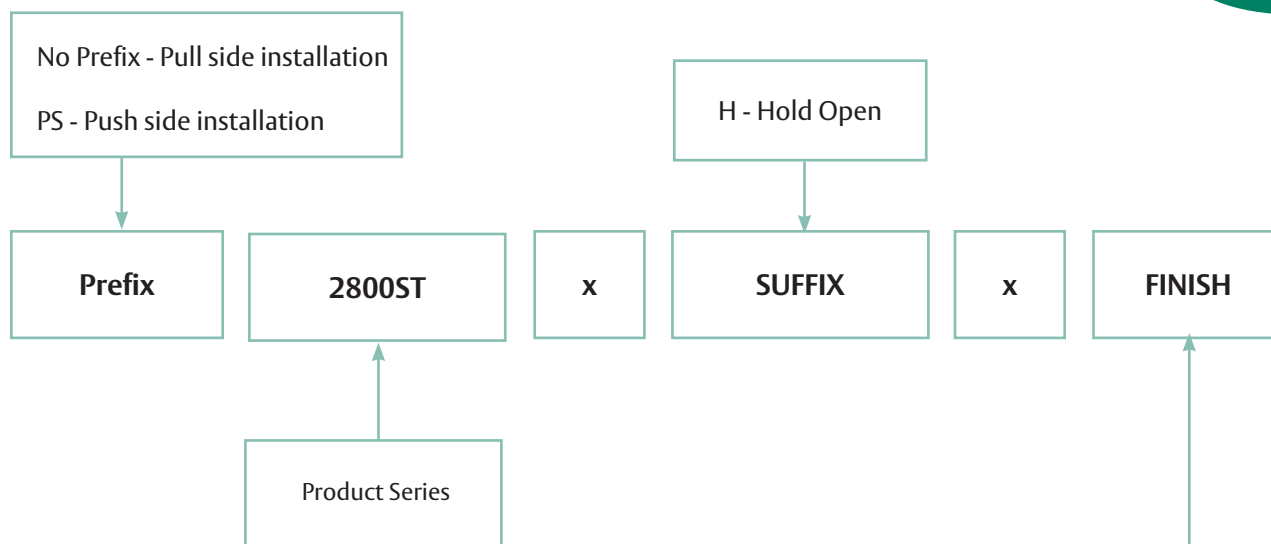


**NOTE:** Contact factory for use on doors exceeding 250 lbs.



# 2800ST Series Cam Action Door Closer

## HOW TO ORDER



**Note: Sleeve Nuts are optional.**

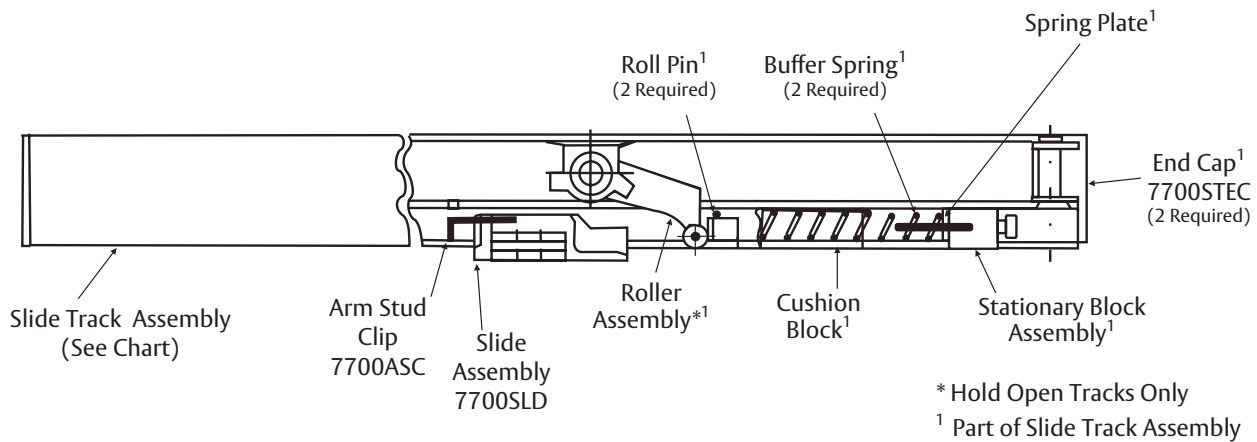
**FINISHES**  
Product will be sprayed with a combination of waterborne acrylic and polyester powder coat.

Description	Specify Designation (BHMA)	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat	600*		SRI

\*600 is a special rust-inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 2800ST x 600 x 689).

**PARTS LIST**

Track Assemblies			Arm Assembly
Description	Pull Side	Push Side	
Non-Hold Open	7701ST-1T	7701ST-5T	2800ST-1A
Hold Open	7701ST-3T	7701ST-8T	



Screw Packs	
SP2800B	Closer Mounting Package
SP2800T	Track Mounting Package
SP2800S	Spline Kit Package

Closer Body Only
2800LAP (includes closer body screws only)

Cover Package
2800P

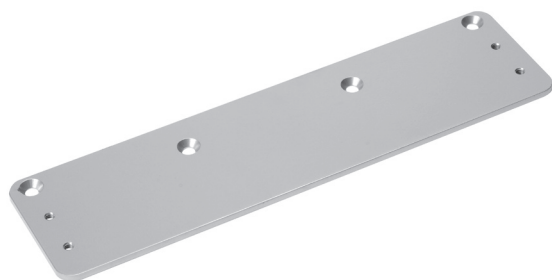
Door Thickness	Sleeve Nuts
1-3/4"	SN-134
2-1/4"	SN-214

**Note: Sleeve Nuts are optional.**

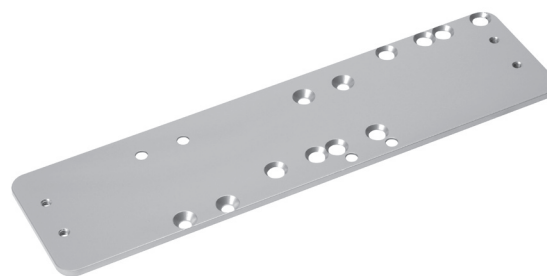
# 2800ST Series Cam Action Door Closer

## ACCESSORIES

**Narrow Top Rail - #2888 Drop Plate:** For use where the narrow top rail of the door prevents the closer from being mounted directly to the door surface. This drop plate must be used for closer mounted on a top rail between 1-7/8" and 3-3/8" (48mm and 86mm) in height.



**Retrofit Plate – RP28-4040** allows the 2800ST cam closer to replace the 4040 regular arm or parallel arm closers without modifying the existing hole patterns in the door.



## ARCHITECTURAL SPECIFICATIONS

### General Specifications

Door Controls \_\_\_\_ (interior) (exterior) swinging door(s) shall be cam and roller design contained within a precision cast aluminum housing. Door closing force shall be adjustable to ensure adequate closing control. Door closing speed shall be controlled by independent hydraulic adjustment valves in the sweep and latch range of the closing cycle. Door closer shall have an adjustable hydraulic backcheck valve to cushion the door speed if door is opened violently. Maximum door open shall be templated to (85°), (90°), (100°), (110°), conditions permitting. Door closer shall have hold open capability with an on/off selector and tension adjustment. Non-hold open units shall be U.L. Listed for self-closing door. Unit shall be in compliance with the requirements of the Americans With Disabilities Act (ADA). ANSI standards A117.1. Units shall meet C-UL US.



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# 7500/7700 Series Institutional Door Closers



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## OVERVIEW

### Features

- Non-handed
- Rack-and-pinion design
- Cast aluminum body
- 2-3/16" (56mm) projection
- 1-1/2" (38mm) diameter piston
- 5/8" (16mm) diameter pinion journals
- Spring Force Indicator (7500 Series only)
- Staked valves
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Backcheck positioning valve
- NorGlide® fluid
- Molded plastic cover
- All standard arm applications allow doors to swing 180°, conditions permitting
- Self-drilling screws
- Full-size template
- 10-year limited warranty
- Heavy-duty arms: Regular Rigid, Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- Slide Tracks: push or pull side mounting

### Optional Features

- Corrosion resistant model (non-hold open only). Specify 7500SS
- Metal cover. Specify M suffix
- Lead lined metal cover. Specify MLL suffix
- Enhanced backcheck. Specify EBC suffix
- Delayed action with pressure relief valve
- Retrofit plates

Features	7500	7700
Adjustable spring sizes 1 through 6 (ADA Compliant)	X	
Sized springs 2,3,4,5,6 with 50% power adjustment		X
Tri-Style® packaging; tri-packed for regular, top jamb or parallel arm mounting	X	
Bi-packed for regular or top jamb mounting		X

### Compliance Standards

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure
- ADA Compliant (7500)
- New York City, MEA 41-60-5M



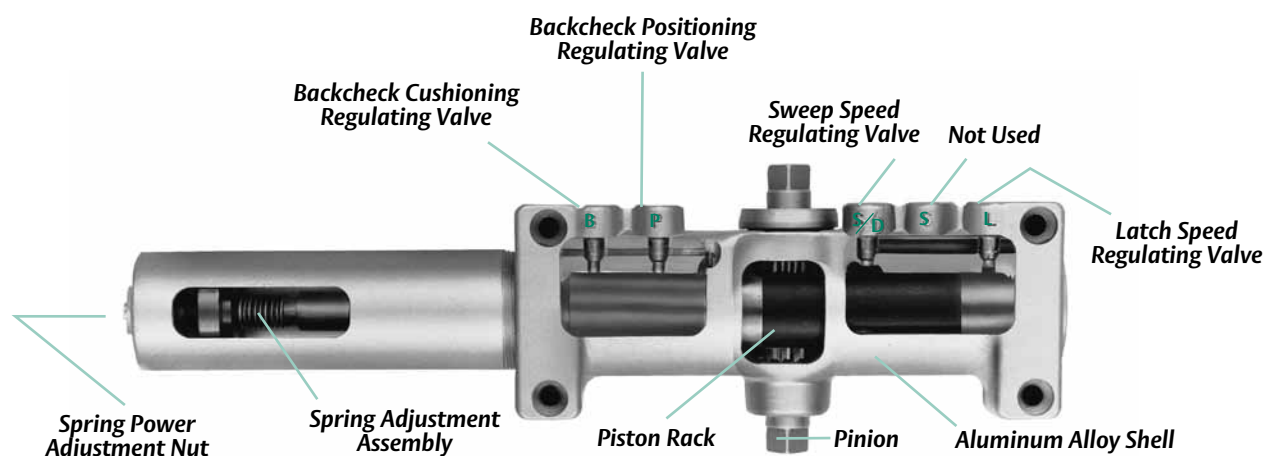
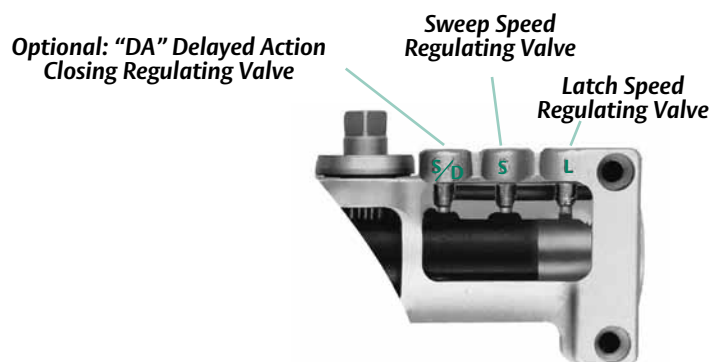
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## Cutaway View

## Optional Delayed Action Valving



## COMPLIANCE STANDARDS

 The series 7500 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI standard A117.1. All series 7500/7700 door closers are ANSI/BHMA A156.4 Grade 1 certified.  All Norton series 7500/7700 closers with non-hold open arms are listed by Underwriters' Laboratories for labeled fire doors.  This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are also listed by the New York City Materials and Equipment Acceptance Division.

### Windstorm

Norton 7500 door closers are UL certified for inswing and outswing single and pair (up to 8'0" x 8'0") door assemblies to ICC 500 for Storm Shelters. Additionally, the 7500 meets FEMA 361 guidelines.

7500 is part of a complete ASSA ABLOY tornado and hurricane shelter solutions utilizing Ceco StormPro 361, Curries StormPro 361, Fleming F5 doors and frames and McKinney SP hinges.

### CAUTION: Door Closers for Low Opening Force Applications:

Door closers installed in openings required to meet the requirements of the Americans With Disabilities Act or ANSI Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.



## HOW TO ORDER

NOTE: For optimum protection of door and frame assemblies, always use auxiliary wall, floor, or overhead door stop.

### No Prefix

7700 series designates bi-packed (regular & top jamb). (Top jamb up to 3" reveal. For frame face less than 3", order 7786 backplate.)  
7500 series designates Tri-Style® packaging (tri-packed).

- J** - Top jamb installation. Supplied with 7786 backplate 2-3/4" - 7" reveal, 150° swing.
- JL** - Top jamb Installation. Supplied with 7786 back plate 2-3/4" - 7" reveal, 180° swing.
- P** - 7700 parallel arm only.
  - 7500 parallel arm units with specialty brackets.
  - 7580 low-profile closer.
  - 7500SS corrosion-resistant closer.
- PR** - Parallel rigid arm (parallel arm only); specify hand for hold open functions.
- PRO** - Parallel rigid arm with offset soffit plate (parallel arm only); specify hand for hold open applications.
- PS** - 7500ST / 7540ST / 7700ST / 7740ST for push side mounting only.
- R** - Rigid heavy-duty regular arm. (Torx® screws not included) (N/A in stainless steel)
- CLP** - CloserPlus® arm (parallel arm only).
- CPS** - CloserPlus Spring™ arm (parallel arm only).
- UNI** - Unitol® arm (parallel arm only - specify **door width**).  
Frame reveals 1-7/8" to 4-5/8" (48mm-117mm) standard.
- UNIJ** - Unitol arm (top jamb only - specify **frame reveal**). 7-3/8" (187mm) maximum.

### JL PREFIXES

### 75 FIRST & SECOND DIGIT Defines closer series

### 0 THIRD DIGIT Specifies some options

77 = 7700 sized closer  
75 = 7500 multi-sized closer

- 0** - Specifies standard arm.
- 3** - Indicates top jamb (J prefix) for frame reveal 0 to 3" (0-76mm). 7786 back plate included.
- 4** - Specifies shallow 11/16" (17mm) depth slide track for closer with "ST" suffix.
- 7** - Specifies closer having a security arm, security cover and Torx® security screws (specify hand).
- 8** - Specifies low-profile arm (use prefix "P" parallel arm or "J" for top jamb). Non-hold open only.

Sizing charts provided on pages 13-25 are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110°. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.

**0** - Series 7500 power range 1 through 6

### Series 7700

- "2" - ANSI size 2
- "3" - ANSI size 3
- "4" - ANSI size 4
- "5" - ANSI size 5
- "6" - ANSI size 6

### 0 FORTH DIGIT Closer power sizing

### H SUFFIXES

- None** - Non-hold open arm function
- H** - Hold open arm function (specify hand when "PR" prefix is ordered)
- M** - Metal cover (cover is handed for top jamb applications)
- MLL** - Lead lined metal cover
- DA** - Optional delayed action feature
- EBC** - Optional enhanced backcheck
- HOSP** - 7703 or 7704 only. Hospital hold open (specify hand)
- COUP** - 7702 or 7703 only. Coupon both hold open (specify hand)
- TEL** - 7702 only - Telephone booth function (non-handed)
- ST** - Slide track - single lever arm (auxiliary stop recommended). For push side - prefix PS
- ST-180** - Slide track - single lever arm, pull side track without buffer assembly for maximum door swing (auxiliary stop required)
- ST-DE** - Slide track - pull side double egress
- SS** - Series 7500 only. Corrosion-resistant closer. Available with non-hold open adjustable arm only; for regular arm, top jamb "J" prefix or parallel arm "P" prefix
- STP** - 7706 and 7706EP door closers only, slide track for pocket door application
- EP** - Extra power door closer (for 7706 closer only)
- T** - Thumbturn hold open on CloserPlus® (CLP) or CloserPlus Spring™ (CPS) arm
- G** - ABS cover

### Note:

- Door closer warranty becomes void if it is installed on the exterior side of a door in the exterior wall of a building
- It is strongly recommended, and it is required on fire door assemblies, that doors having a door closer be hung on ball-bearing or anti-friction hinges or pivots
- Failure to use the correct type and size fasteners may void factory warranty
- Fasteners for fire/smoke door assemblies must conform to NFPA 80. In some applications additional fasteners may be mandated by NFPA 80 that are not shipped with Norton's standard product, such as sleeve nuts or through-bolts and grommet nuts
- Sizing charts provided on pages 13-25 are based on 1-3/4" (44mm) x 7' (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight; or wind/draft conditions) may require a larger size closer.

# 7500/7700 Series Door Closers

## Fasteners

Type	Description	Arm								
		RA	PA	TJ	Low Profile	PR	CLP/ CPS	UNI	UNI-J	Slide Track
DOOR										
SDST	Self Drilling Self Tapping	S	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S	S
SN	Sleeve Nut	O	O	O	O	S	S	S	S	S
TBGN	Thru Bolts & Grommet Nuts	O	O	O	O	O	O	O	O	O
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O	O
TORX®	Torx Drive Security Screw	O	O	O	O	O	O	O	O	O
FRAME										
SDST	Self Drilling Self Tapping	S	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S	S
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O	O
TORX	Torx Drive Security Screw	O	O	O	O	O	O	O	O	O

**S = standard; O = optional**

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for thru bolting on wood doors. SN are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57mm) thick doors.

**TBGN** are an alternative to SN for wood doors. TBGN are supplied standard for 1-3/4" (44mm) thick doors. They can be specified for 1-3/8" (35mm) thick doors.

**SMS** - when specified, closer will be packed with sheet metal screws for the door AND sheet metal screws plus machine screws for the frame.

**TORX** screws with security pin are standard with 7570/7770 Security Door Closers. Torx may be specified for all other series applications. Torx are only available with machine screw threads. Sheet metal screw threads are not available.

**Finishes:** Product will be painted with a combination of waterborne acrylic and polyester powder coat. Closers will withstand 100 hours of salt spray. ANSI requires 25 hours.

Sprayed Finishes	Specify BHMA Designation	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat*	600	—	SRI

\*600 is a special rust-inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 7500 x 600 x 690).

Plated Finishes	Specify BHMA Designation (Metal Covers Only)	Old Designation
Bright Brass	605E	US3
Satin Brass	606E	US4
Bright Bronze	611E	US9
Satin Bronze	612E	US10
Oxidized Oil Rubbed Bronze	613E	US10B
Bright Chrome	625E	US26
Satin Chrome	626E	US26D

Finishes other than those listed above may be available on special order. A sample will be required.

**When a plated finish is ordered, arm and cover will be plated unless "cover only" is specified.**

## FEATURES

**Aluminum Alloy Housing**

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interactive steel components and operating conditions.

**Rack & Pinion Operation**

Provides a smooth constant control of the door through its full opening and closing cycle. 180° door swing can be achieved when door, frame, hardware and arm function do not interfere.

**Non-handed**

With few exceptions all series 7500 and 7700 door closers are non-handed and can be installed on either right or left hand swing doors. Pinion shaft extends vertically through the closer body in both directions. Some options, as noted on pages 6-8, will require that the hand of the closer be specified.

**Sweep Speed Control Valve**

Allows adjustment of door speed from the door's full open position down to approximately 10° from the closed position.

**Latch Speed Control Valve**

Allows adjustment of door speed from approximately 10° down to the door's fully closed position.

**Tri-Style® Packing**

7500 comes with screws, brackets and soffit plates to allow for regular, top jamb, and parallel arm installations.

**Adjustable Backcheck Cushion Valve**

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It slows/cushions the door opening, when the door is forcibly opened beyond its pre-adjusted limits.

**Adjustable Backcheck Position Valve**

Allows the door opening position, where backcheck cushioning begins, to be adjusted to a greater door angle, up to a maximum of 20° farther (approximately 95°).

**Standard Molded Cover**

Molded of high-impact U.L. listed material and covers the entire closer body assembly. This cover is non-handed for all applications.

**Warranty**

These closers carry a limited ten-year warranty against defect, and life of the building on the aluminum housing.

**Spring Force Indicator**

This visual indicator enables the installer to quickly set and verify the spring size on the closer, eliminating the guesswork of setting the spring force. Standard on all 7500 Series door closers.

**Closer Fluid**

NorGlide® closer fluid is a specially formulated multi-viscosity hydraulic fluid that contains lubricity and anti-oxidation agents that provide optimum performance and efficiency. This fluid complements the interaction of the door closer's aluminum housing with its steel and brass components, while maintaining stable viscosity to allow the door closer to perform in temperatures ranging from extremely high to as low as -40° F.

**Door Closer Power Options****Series 7700 Sized Door Closer**

Available in five different power sizes (2, 3, 4, 5 or 6). Each power size is adjustable up to 50% stronger than the minimum closing force for that size, as outlined in ANSI/BHMA specification A156.4.

**Series 7500 Multi-Sized Door Closer**

Adjustable through the entire power range of door closer sizes 1 through 6, as outlined in ANSI/BHMA standard A156.4.

The series 7500 also conforms to the minimum opening force requirements of the Americans with Disabilities Act (A.D.A.) and ANSI/BHMA standard A117.1 for interior doors.

## OPTIONAL FEATURES

**Corrosion-Resistant Door Closer**

The series 7500SS door closers with molded plastic cover are available for use where corrosive conditions exist. This series is provided with brass adjustment valves, a 440 grade stainless steel pinion shaft, an all-aluminum body and bronze closer arm bushings; all other components are of 302/303 grade stainless steel. Fasteners are 8-18 stainless steel. This product is available for standard regular arm, top jamb and parallel arm, non-hold open, applications only.

**Optional Metal Cover**

This steel cover is non-handed for regular and parallel arm applications, but is handed for top jamb applications. Cover is available in sprayed or architectural plated finishes.

**Security Cover**

Supplied standard with all series 7570/7770 door closers. This deep drawn steel cover is handed for all applications. The cover is fastened to the closer body at two points on top and to the door closer body stand-offs at two points on the bottom.

**Optional ABS Cover**

Consult factory for details

OPTIONAL  
FEATURES

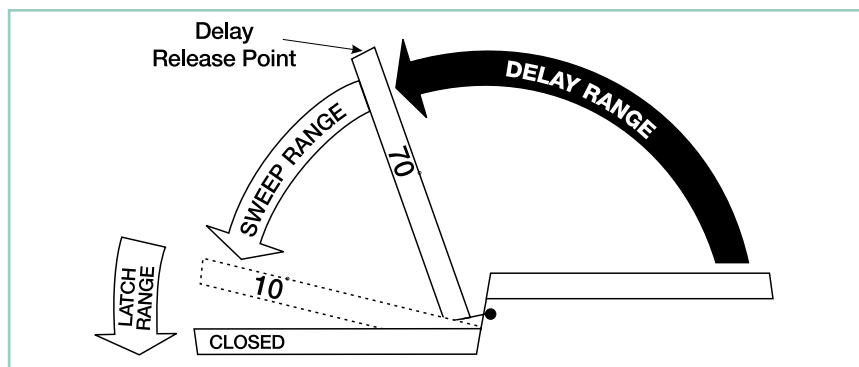
## Enhanced Backcheck

This feature provides adjustable backcheck intensity beginning at approximately 15 degrees of the door opening cycle. It is intended for use in situations where the standard backcheck beginning at approximately 75° of door opening allows too much unrestricted door travel to obtain control of the door without the fear of peripheral damage to the door closer, door, frame, hinges or pivots; or adjacent walls or structures. This feature is most frequently used in schools and detention facilities. Specify suffix EBC.

## Adjustable Delayed Action Closing

An optional hydraulic feature that adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened and Released at	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds



## Pressure Relief Safety Valve

The delayed action hydraulic system contains a pressure relief valve. Any time the door is forced toward the closed direction while it is in the closing cycle, the valve will open and permit the door to close. This prevents damage to door, frame and closer.

## Suggested Applications

Delayed Action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can

accommodate the facility's staff with movement of food service carts, beds, and other wheeled traffic.

Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/warehouse facilities, doors to workshops or laboratories, to kitchen and food processing areas, etc.

OPTIONAL  
FEATURES ARMS

## Non-Hold Open

Self-closes door every time door is opened. Auxiliary stop (by others) required except when using the CloserPlus®, CloserPlus Spring™ or Unitrol® arms.

## Hold Open

Achieved by means of friction or ball and detent/roller. Friction hold open has a range of 90° to 180° using template location and mechanical adjustment. Ball and detent or roller hold open is effective in a range of 85° to 110°.

Hold open arm door closers are not permitted to be used on fire door assemblies.

### Door Opening Degrees

Arm Function	Regular Arm, Top Jamb Parallel Arm	Parallel Rigid Arm	CloserPlus® Parallel Arm	CloserPlus Spring™ Parallel Arm	Unitrol® Parallel Arm	Unitrol Top Jamb	Low Profile Regular, Parallel	Slide Track
Non-Hold Open	✓	✓	85° to 110°	85° to 110°	85° to 110°	85° to 110°	✓	85° to 110°/180°
Hold Open	90° to 180°	85° to 180°	85° to 110°	85° to 110°	85° to 110°	85° to 110°	N/A	85° to 110°

✓=180° trim and template permitting

SPECIAL  
FUNCTION DOOR  
CLOSER

## 7700 Special Function Door Closers

## Telephone Booth Operation

Closer holds the door to the telephone booth open at 5° from the closed position. This prevents the light switch from being activated and allows the booth to be ventilated. It also indicates to users that the booth is unoccupied. Available in size 2 only for regular arm or top jamb application only.

## Coupon Booth Hold Open

Most commonly used on doors to safe deposit box inspection cubicles. Closer holds the door to the booth open at 15° to indicate that the booth is available for use by a safe-deposit-box renter. When the door is opened beyond 70°, the closer will close the door and engage the lock, providing the occupant with the desired privacy. Available in sizes 2 and 3 only for regular arm, top jamb or parallel arm application. Specify hand.

## Hospital Hold Open

Closer will hold door open at approximately 15° for ventilation, 45° for observation and beyond 90° for full access.

Closer is supplied with a standard hold open arm for the beyond 90° hold open position. Available in sizes 3 and 4 only for regular arm, top jamb or parallel arm application. Specify hand.

SUGGESTED  
SPECIFICATIONS

## 7500 Series

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy body. Closers shall be surface mounted and shall project no more than 2-3/16" (55mm) from the surface of the door. Closers shall be non-handed to permit installation on doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have multi-size spring power adjustment to permit setting of spring from size 1 through size 6. Closer shall have visual indicator noting spring size. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have backcheck cushioning controlled by a hex key adjusted valve. Closers shall have backcheck position controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed-action closing controlled by a hex key adjustable valve.]

[Closers shall be highly corrosion resistant and shall have all external body components of aluminum, brass or stainless steel material and all fasteners of stainless steel.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+/- 7-1/2%) power adjustment. \*\*Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover]. Closers to be Norton [7500] [7500M] [7500SS].

\*\*For special arms insert the appropriate specification from column three on this page.

## 7700 Series

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-3/16" (55mm) from the surface of the door. Closers shall be non-handed to permit installation of doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have power adjustment to permit a 50% increase in power over the minimum closing force for each size. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have backcheck cushioning controlled by a hex key adjusted valve. Closers shall have backcheck position controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed action closing controlled by a hex key adjustable valve.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+/- 7-1/2%) power adjustment. \*\*Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover]. Closers to be Norton [7700] [7700M].

\*\*For special arms insert that specification here (see column three on this page).

## \*\*Unitrol® Arm

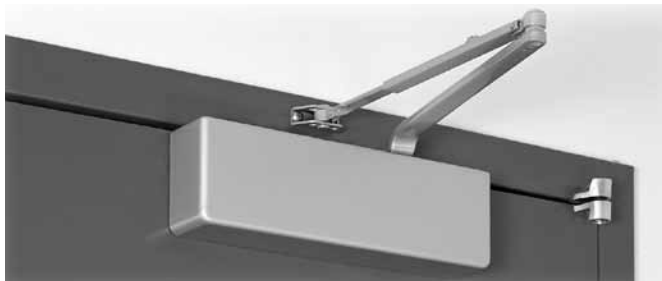
Door closers shall have a fixed door stop feature effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop shall be cushioned by a shock-absorbing heavy-duty spring action effective at the [soffit plate] [arm shoe] pivot. [Closers shall be provided for parallel arm installation using rigid steel main arm and secondary arm lengths proportional to the door width.] [Closers shall be provided for top jamb installation using steel, rigid main arm and telescoping secondary arm adequate for the frame reveal of the openings.]

## \*\*CloserPlus® Arm

Door closers shall have a field reversible door stop. Door closer shall have a feature with selectable on and off ball and detent hold open. Hold open tension shall be adjustable effective at one point selected at installation, from 85° - 110° in five degree increments. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel arm installation using a forged rigid steel main arm and secondary arm.

## \*\*CloserPlus Spring™ Arm

Door closers shall have built-in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall be reversible and have a buffer spring that engages prior to the dead stop feature, reducing shock loads to the door and frame assembly. Door stop mechanism shall be attached to soffit plate. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel installation using a forged rigid steel main arm and secondary arm.



Non-hold open arm shown

## Regular Arm

This is the only pull-side application where a double lever arm is used. It is the most power efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.

Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.



Non-hold open arm shown

## Top Jamb

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 2-1/8" (54mm). This application provides the best door control for doors in exterior walls that swing out of a building.

The entire door closer and arm assembly project from the frame, similar to the regular arm application, where matters of appearance and malicious abuse can be of concern. Consideration must be given to depth of frame reveal.

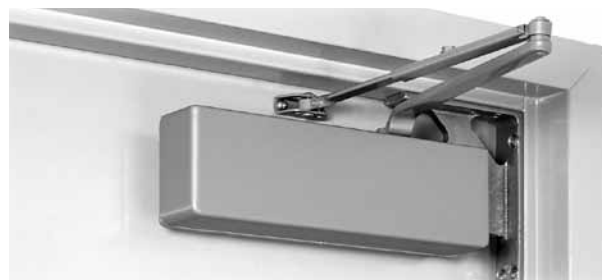


Non-hold open arm shown

## Parallel Arm

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This also makes it beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

Due to the geometry of the arm it is approximately 25% less power-efficient than a regular arm application. The entire closer and arm assembly are mounted below the frame stop, requiring a top rail clearance on the door of between 6-5/8" (168mm), when using a low profile arm, to 7-1/4" (184mm), when using the hold open arm.



Non-hold open arm shown

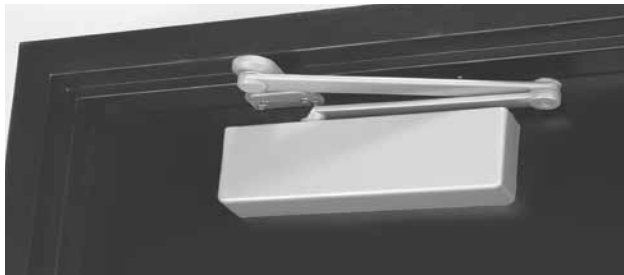
## Corner Bracket

This application can be used where top jamb and parallel arm application will not accommodate the door and frame conditions. Requires minimal top rail on the door; however, vertical clearance to the floor within the door opening should be checked to ensure code compliance.

The close proximity, for this application, of the door closer to the door's pivot point reduces the door closer's power efficiency by approximately 25% when compared to a regular arm. The projection of the arm from the door face might pose questions regarding design parameters.



### APPLICATIONS

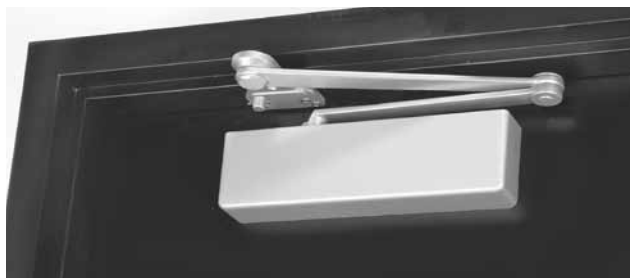


Non-hold open arm shown

#### **Parallel Rigid Arm**

An enhanced variation of the standard parallel arm assembly that is intended for use in heavy traffic areas where auxiliary door stops are installed.

Hold open available - specify hand when ordering.



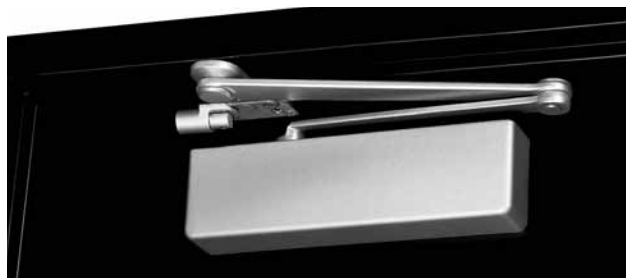
Non-hold open arm shown

#### **CloserPlus® Arm**

Similar to the Parallel Rigid arm, this arm incorporates a stop at the arm's soffit plate to dead stop the door at a predetermined degree of door swing between 85° and 110°, in 5° increments. Prior to dead stop the door closer's backcheck feature slows the door speed to reduce the impact of the stop action.

The *CloserPlus* arm is intended for use where an auxiliary door stop cannot be utilized and no more than moderate abuse is anticipated. Where more extreme conditions are expected, use of a *Unitrol*® arm is recommended.

Thumbturn hold open available. (Hold open strength is adjustable.)



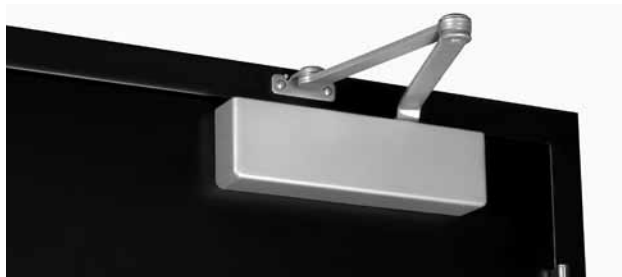
Non-hold open arm shown

#### **CloserPlus Spring™**

This arm has all of the characteristics of the *CloserPlus* arm with an additional steel buffer spring that provides greater protection at the end of the door opening cycle.

For extreme conditions, use of a *Unitrol* arm is recommended. Available with or without hold open.





### Regular Rigid Heavy-Duty Arm

This double lever arm features a non-adjustable secondary arm. Orbitally riveted joints prevent tampering or disassembly. Prefix "R" to model number. Available non-hold open only.



Non-hold open arm shown

### Parallel Rigid Offset Arm

This heavy-duty parallel rigid arm provides additional vertical clearance. It is well suited for applications where weather-stripping or other hardware prevents the use of the standard Parallel Rigid (PR) soffit plate. The non-hold open and hold arms allow 1-1/4" clearance. When used in conjunction with a #6891 spacer block, the PRO arm provides 1-7/8" clearance to accommodate the use of a surface overhead stop/holder.



Unitrol® Parallel Arm



Unitrol® Top Jamb

### Unitrol® Arm

Can be used for either parallel arm or top jamb applications. *Unitrol* arms combine the features of a double lever arm overhead door stop/holder with the backcheck feature of the door closer to reduce door stopping shock loads to a minimum. The *Unitrol* uses a compression spring buffer at the soffit plate/arm shoe that will absorb 30 lbf. of force, 5° prior to the door's dead stop. Coupled with the door closer's backcheck feature, this arm provides the most controlled stop available with a surface door closer.

For parallel arm applications there are three different length arm assemblies. Each length is designed for a specific range of door widths to provide precise door control. This further lessens the dead stop impact on the door's hinges/pivots.

### APPLICATIONS



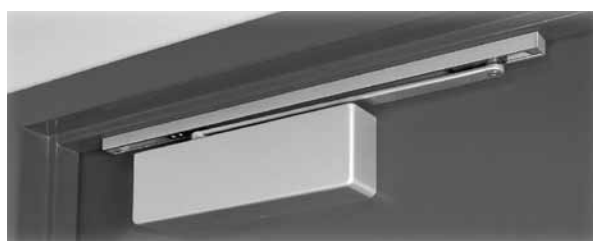
Pull Side



Low Profile Pull Side



Push Side



Low Profile Push Side

#### Slide Track

Whether pull or push side mounted, slide track applications provide the designer with the smoothest lines available in a surface mounted door closer. The single lever arm allows components to be located in a stack configuration to minimize projection and eliminate obtrusive arm angles. The arm geometry reduces door closer power efficiency by approximately 25% from that of a regular arm.

A variation of the standard slide track application is available for pocket doors, where it is desirable to have the door closer completely concealed when the door is in the 90° open position. See page 26 for details.

#### Standard Unit:

- Adjustable 85° to 110° (hold open and non-hold open). Track is supplied with a spring buffered stop. An auxiliary stop, by others, is recommended.
- Specify if hold open unit is required.
- 180° swing (non-hold open, pull side only) is also available. This track assembly requires that a door stop, by others, be supplied to stop the door.



**Regular Arm** - Regular Arm allows closer to be installed where there is as little as 1" (25mm) of frame face or ceiling clearance.



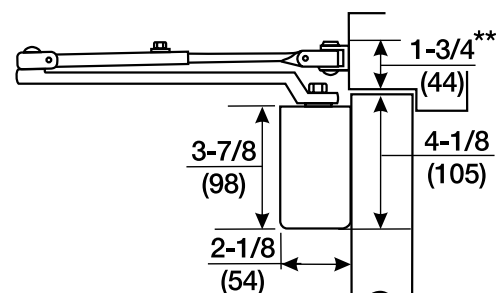
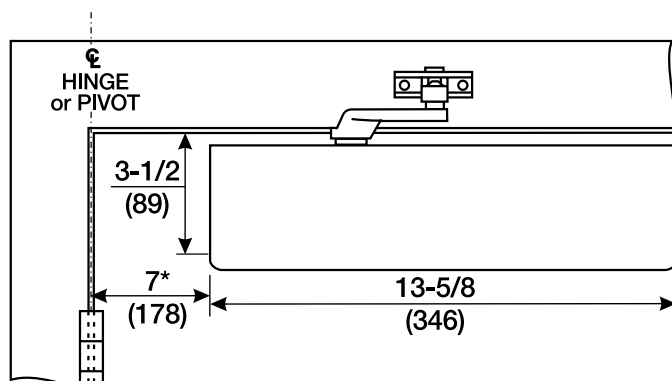
**Parallel Arm** - Parallel Arm allows closer to be installed 1/2" (13mm) higher up on door than standard parallel arm application.

#### Low Profile Arm

Supplied with 7580/7780 series door closers for non-hold open installations only. Low profile arms have a reduced height elbow joint and a straight main arm. This enables the door closer to be installed in less vertical space.

# 7500/7700 Series Door Closers

## REGULAR ARM



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

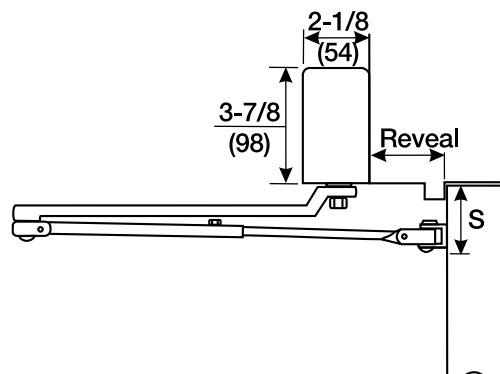
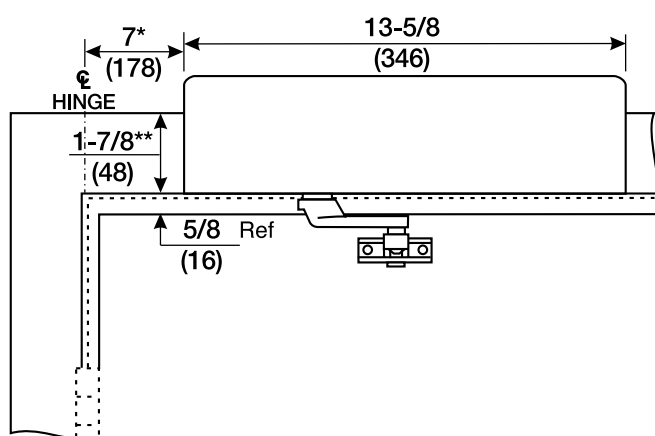
\* For doors opening up to 100°

\*\* This dimension will vary. Standard non-hold open arm illustrated.

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	30" (76)	7702	7702H	7500	7500H
38" (97)	34" (86)	7703	7703H		
48" (122)	42" (107)	7704	7704H		
54" (137)	48" (122)	7705	7705H		
Unusual Conditions		7706	7706H		

Note: Contact factory if door weight exceeds 250 lbs.

**TOP JAMB ARM**



Mounting holes for closer body are spaced 2-3/8" (86mm) vertically x 6-3/4" (171mm) horizontally.

\* For doors opening up to 100°

\*\* Minimum frame face with 7786 drop plate. 3-1/4" (83mm) required when drop plate is not used.

Model Number		Reveal Range Inches	Maximum Door Opening
Multi-Sized	Sized	Non-Hold Open Arm	
7500/7500M	7700/7730M	0" to 3" (0 to 76mm)	180°
J7500	J7700	2-3/4" to 7" (70 to 178mm)	150°
JL7500	JL7700	2-3/4" to 7" (70 to 178mm)	180°
J7580 x 7787	J7780 x 7787	0" to 2-3/4" (0 to 70mm)	180°
Multi-Sized	Sized	Hold Open Arm	
J7500/J7530MH	J7700H/ J7730MH	0" to 3" (0 to 76mm)	180°
J7500H	J7700H	2-3/4" to 6-3/4" (70 to 171mm)	150°
JL7500H	JL7700H	2-3/4" to 6-3/4" (70 to 171mm)	180°

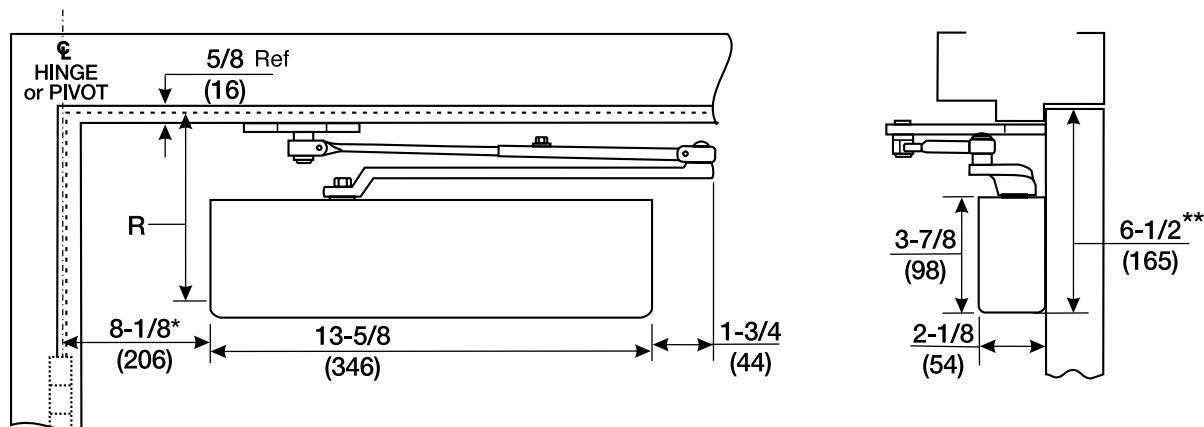
Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
		Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
Interior	Exterior				
32" (81)	30" (76)	J7702 JL7702	J7702H JL7702H	7500 J7500 JL7500	7500H J7500H JL7500H
38" (97)	34" (86)	J7703 JL7703	J7703H JL7703H		
48" (122)	42" (107)	J7704 JL7704	J7704H JL7704H		
54" (137)	48" (122)	J7705 JL7705	J7705H JL7705H		
Unusual Conditions		J7706 JL7706	J7706H JL7706H		

S Minimum Top Rail of Door					
Without Drop Plate or with 7786 Back Plate (mm)			With 7787 Drop Plate (mm)		
J7700/ J7730M J7700 J7500/ J7530M J7500	J7700H/ J7730MH J7700H J7500H/ J7530MH J7500H	J7780 J7580	J7700/ J7730M J7700 J7500/ J7530M J7500	J7700H/ J7730MH J7700H J7500H/ J7530MH J7500H	J7780 J7580
2" (51mm)	2-1/2" (64mm)	N/A	4-1/8" (105mm)	4-5/8" (117mm)	3-5/8" (92mm)

Note: Contact factory if door weight exceeds 250 lbs.

# 7500/7700 Series Door Closers

## PARALLEL ARM



Mounting holes for closer body are spaced 2-3/8" (86mm) vertically x 6-3/4" (171mm) horizontally.

\* For doors opening up to 100°.

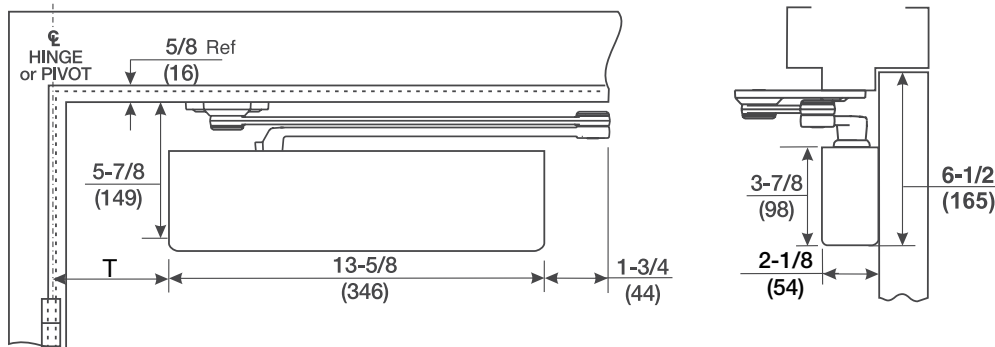
\*\* This dimension will vary. Standard non-hold open arm illustrated.

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
		Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
Interior	Exterior				
30" (76)	—	P7702	P7702H	7500	7500H
36" (91)	30" (76)	P7703	P7703H		
42" (107)	36" (91)	P7704	P7704H		
48" (122)	42" (107)	P7705	P7705H		
54" (137)	48" (122)	P7706	P7706H		

R (inches/mm) Minimum Top Rail of Door with 5/8" (16mm) Frame Stop				
Without Drop Plate			With 7788 Drop Plate	
P7700	P7700H	P7780	P7700H	P7780
5-7/8" (149)	6-1/4" (159)	5-3/8" (137)	2-3/4" (70)	1-7/8" (48)

Note: Contact factory if door weight exceeds 250 lbs.

**PARALLEL RIGID  
ARM**



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

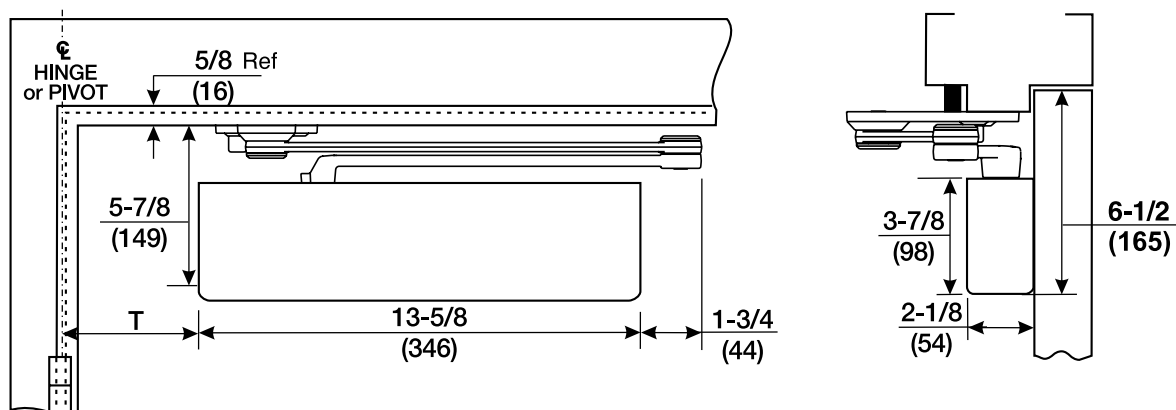
T (inches/mm) Template Position Hold Open or Non-Hold Open		
0° to 100°	101° to 120°	121° to 180°
8-1/8" (206)	7-1/8" (181)	6-1/8" (156)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open*	Non-Hold Open	Hold Open*
30" (76)	—	PR7702	PR7702H	PR7500	PR7500H
36" (91)	32" (81)	PR7703	PR7703H		
42" (107)	36" (91)	PR7704	PR7704H		
48" (122)	42" (107)	PR7705	PR7705H		
—	48" (122)	PR7706	PR7706H		

\*Specify hand when ordering.

Note: Contact factory if door weight exceeds 250 lbs.

# 7500/7700 Series Door Closers



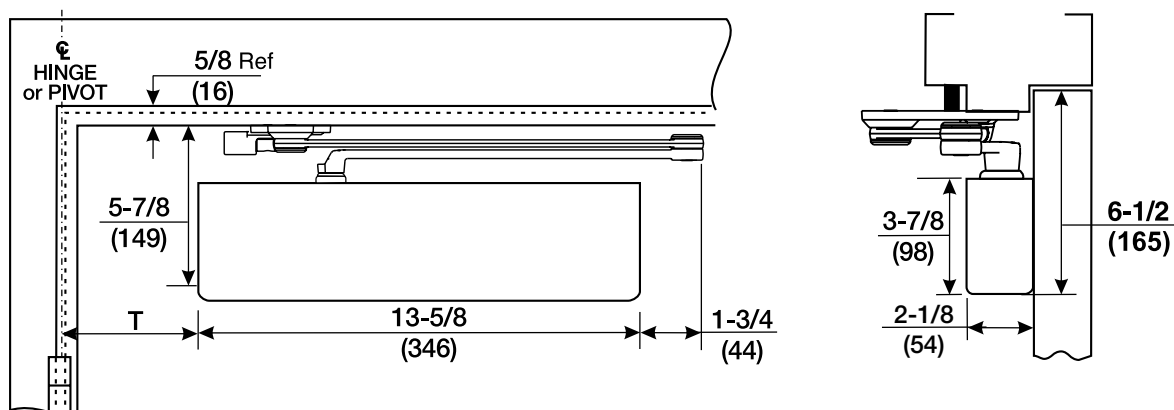
Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

T (inches/mm) Template Position for Hold Open or Stop at Listed Angle					
85°	90°	95°	100°	105°	110°
9-5/8 (244)	8-3/4 (222)	8-1/4 (210)	7-3/8 (187)	6-7/8 (175)	6-1/4 (159)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Thumbturn Hold Open	Non-Hold Open	Thumbturn Hold Open
30" (76)	—	CLP7702	CLP7702T	CLP7500	CLP7500T
36" (91)	32" (81)	CLP7703	CLP7703T		
42" (107)	36" (91)	CLP7704	CLP7704T		
48" (122)	42" (107)	CLP7705	CLP7705T		
—	48" (122)	CLP7706	CLP7706T		

Note: Contact factory if door weight exceeds 250 lbs.





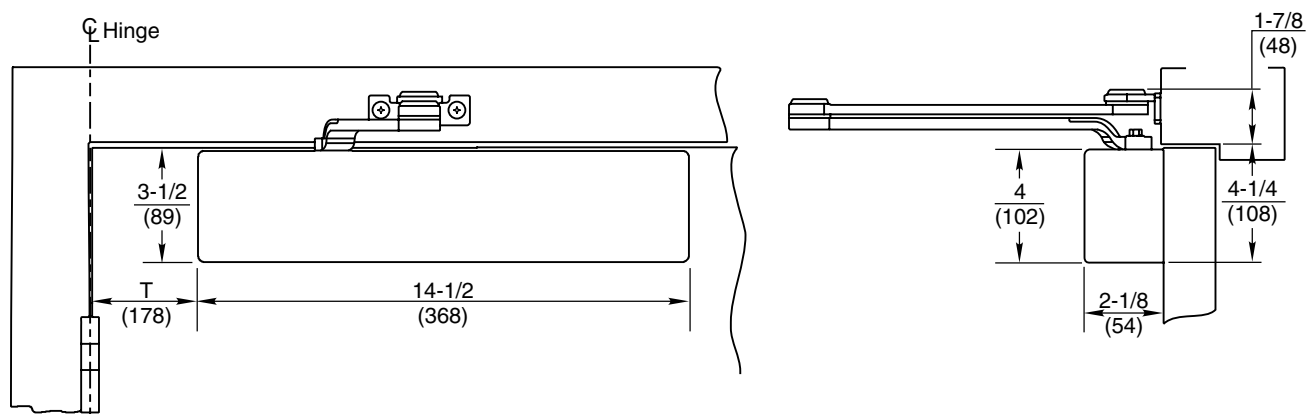
Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

T (inches/mm) Template Position for Hold Open or Stop at Listed Angle					
85°	90°	95°	100°	105°	110°
9-5/8 (244)	8-3/4 (222)	8-1/4 (210)	7-3/8 (187)	6-7/8 (175)	6-1/4 (159)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Thumbturn Hold Open	Non-Hold Open	Thumbturn Hold Open
30" (76)	—	CPS7702	CPS7702T	CPS7500	CPS7500T
36" (91)	32" (81)	CPS7703	CPS7703T		
42" (107)	36" (91)	CPS7704	CPS7704T		
48" (122)	42" (107)	CPS7705	CPS7705T		
—	48" (122)	CPS7706	CPS7706T		

Note: Contact factory if door weight exceeds 250 lbs.

# 7500/7700 Series Door Closers



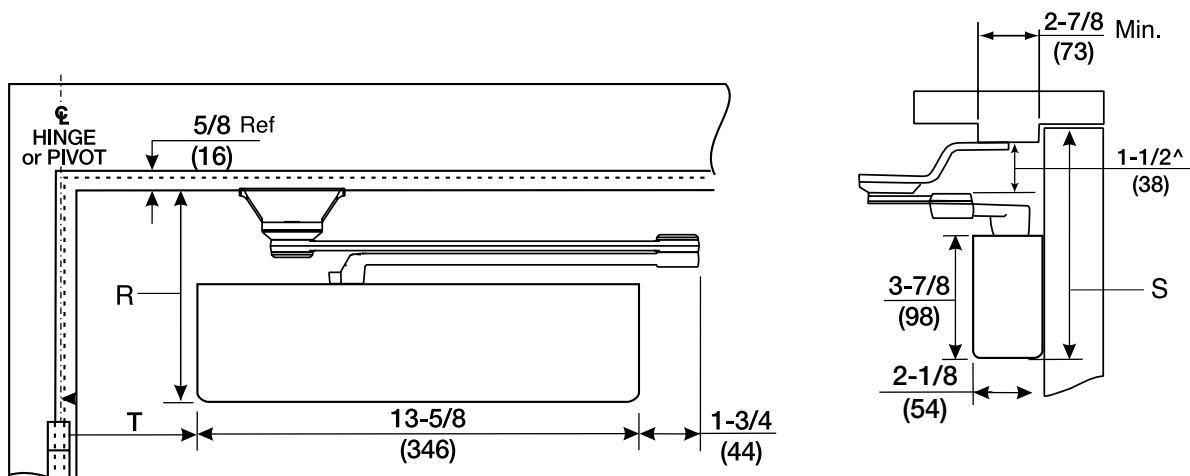
Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

Door Opening	T (inches/mm) Template Position for Hold Open or Stop at Listed Angle
to 100°	6-3/8" (182)
100° to 120°	5-3/8" (137)
121° to 150°	3-3/8" (86)
151° to 180°	3-1/8" (79)

Maximum Door Width Inches (cm)		Model Number	
		Non-Hold Open Only	
Interior	Exterior	Sized Closers	Multi-Sized Closers
36" (91)	30" (76)	R7702	R7500
42" (107)	36" (91)	R7703	
46" (122)	42" (107)	R7704	
54" (137)	48" (122)	R7705	
—	52" (132)	R7706	

Note: Contact factory if door weight exceeds 250 lbs.

**PARALLEL RIGID  
OFFSET ARM**



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

^ If clearance greater than 1-1/2" is needed, 6891 spacer block is required.

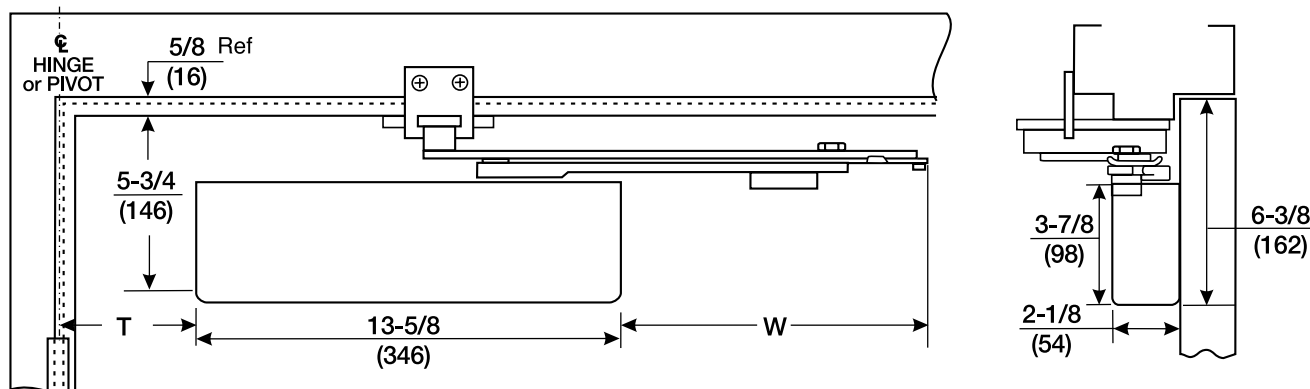
R (inches/mm) Minimum Top Rail of Door with 5/8" (16mm) Frame Stop		S Minimum Top Rail of Door		T (inches/mm) Template Position Hold Open or Non-Hold Open		
Without 6891 Spacer	With 6891 Spacer	Without 6891 Spacer	With 6891 Spacer	0° to 100°	101° to 120°	121° to 180°
7-1/8" (181)	7-5/8" (194)	7-5/8" (194)	8-1/8" (206)	8-1/8" (206)	7-1/8" (181)	6-1/8" (156)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open*	Non-Hold Open	Hold Open*
30" (76)	—	PRO7702	PRO7702H	PRO7500	PRO7500H
36" (91)	32" (81)	PRO7703	PRO7703H		
42" (107)	36" (91)	PRO7704	PRO7704H		
48" (122)	42" (107)	PRO7705	PRO7705H		
—	48" (122)	PRO7706	PRO7706H		

\*Specify hand when ordering.

Note: Contact factory if door weight exceeds 250 lbs.

# 7500/7700 Series Door Closers



Mounting holes for closer body are spaced 2-3/8" (86mm) vertically x 6-3/4" (171mm) horizontally.  
**Door width must be specified when ordering.**

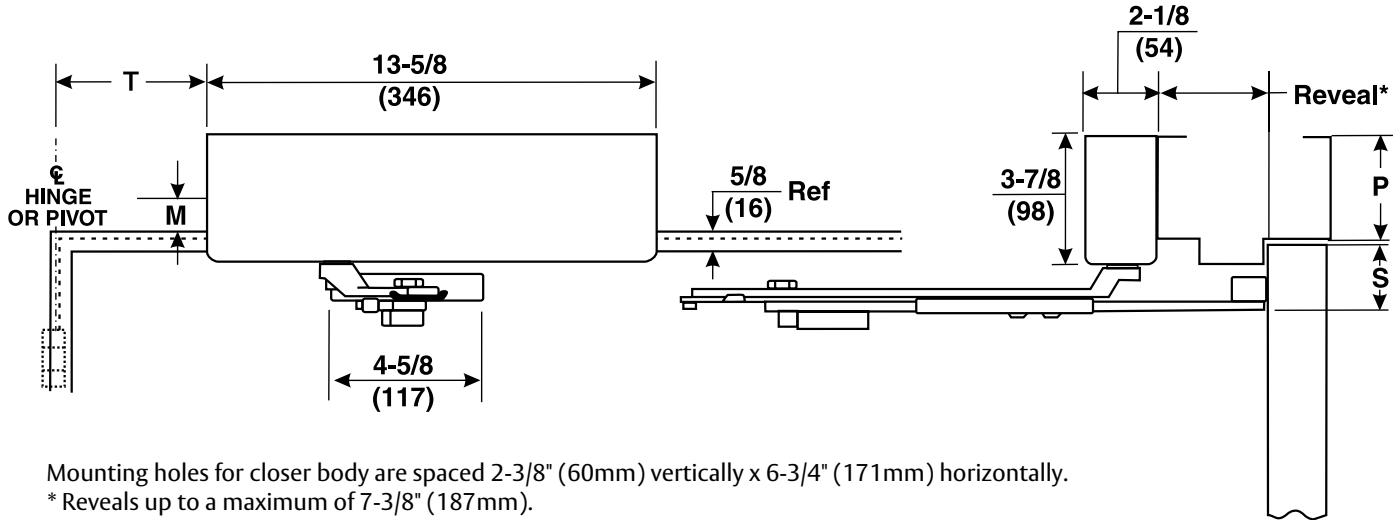
Use 6190 bracket for reveals 1-7/8" - 4-5/8" (48 to 117mm). Reveals in excess of 4-5/8" (117mm) require use of a 6191 reinforcing kit. Reveals to 1/8" (3mm) require use of a 2019L angle bracket.

Door Width inches/cm	T (inches/mm) Template Position for Hold Open at Listed Angle or Dead Stop at Listed Angle Plus 5°						W Arm Extension Beyond Closer
	85°	90°	95°	100°	105°	110°	
28-32" (71-81)	4" (102)	3-3/8" (86)	2-7/8" (73)	2-1/2" (64)	2-1/8" (54)	1-3/4" (44)	8-5/8" (219)
33-41" (84-104)	6-3/8" (162)	5-3/4" (146)	5-1/8" (130)	4-5/8" (117)	4-1/8" (105)	3-3/4" (95)	10-1/8" (257)
42-48" (107-122)	8-5/8" (219)	7-7/8" (200)	7-1/4" (184)	6-5/8" (168)	6-1/8" (156)	5-5/8" (143)	11-1/2" (292)

Maximum Door Width Inches (cm)		Model Number				x Specify Door Width
		Sized Closers		Multi-Sized Closers		
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	
30" (76)	—	UNI7702	UNI7702H	UNI7500	UNI7500H	
36" (91)	30" (76)	UNI7703	UNI7703H			
42" (107)	36" (91)	UNI7704	UNI7704H			
48" (122)	42" (107)	UNI7705	UNI7705H			
—	48" (122)	UNI7706	UNI7706H			

Note: Contact factory if door weight exceeds 250 lbs.

TOP JAMB  
UNITROL® ARM



Backplates	M Minimum Frame Face	P Minimum Ceiling Clearance	S Minimum Top Rail Clearance	T Template Position for Hold Open at Listed Angle or Hold Open at Listed Angle Plus 5°					
				85°	90°	95°	100°	105°	110°
7786 <sup>^</sup>	1-5/8" (41)	3-1/8" (79)	2-1/4" (57)						
7787	1-7/8" (48)	3-1/2" (89)	9-1/8" (232)	8-1/2" (216)	7-7/8" (200)	7-3/8" (187)	7" (178)	6-5/8" (168)	

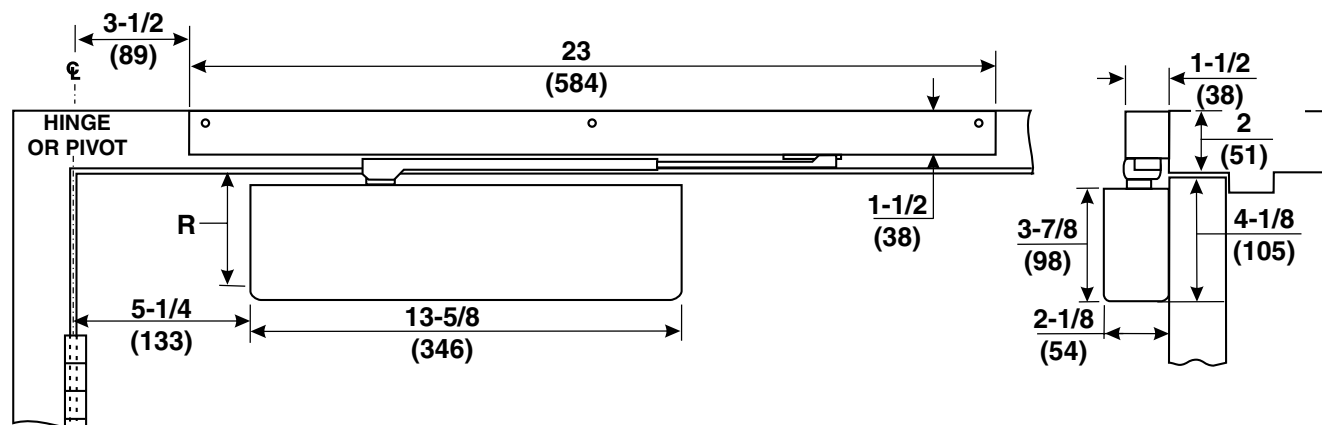
<sup>^</sup> supplied standard with closer

Maximum Door Width Inches (cm)		Model Number				
		Sized Closers		Multi-Sized Closers		
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	
34" (86)	—	UNIJ7702	UNIJ7702H	UNIJ7500	UNIJ7500H	x Specify Frame Reveal
42" (107)	34" (86)	UNIJ7703	UNIJ7703H			
48" (122)	42" (107)	UNIJ7704	UNIJ7704H			
54" (137)	48" (122)	UNIJ7705	UNIJ7705H			
—	54" (137)	UNIJ7706	UNIJ7706H			

Note: Contact factory if door weight exceeds 250 lbs.

# 7500/7700 Series Door Closers

PULL SIDE  
SLIDE TRACK



Mounting holes for closer body are spaced 2-3/8" (86mm) vertically x 6-3/4" (171mm) horizontally.

R (inches/mm) Minimum Top Rail of Door with Frame Stop	
Without Drop Plate	With 7786 Drop Plate
3-1/2" (111)	2-5/8" (67)

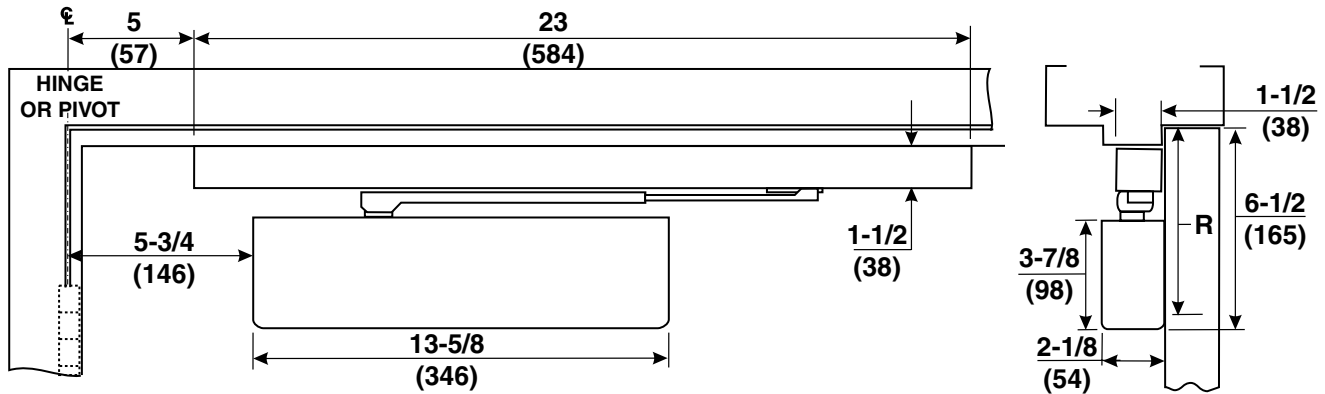
Maximum Door Width Inches (cm)		Model Number <sup>1,2</sup>					
		Sized Closers			Multi-Sized Closers		
		Non-Hold Open		Hold Open	Non-Hold Open		Hold Open
Interior	Exterior	85°-100°	85°-180°	85°-100°	85°-100°	85°-180°	85°-100°
32" (81)	—	7704ST	7704ST-180	7704STH	7500ST	7500ST-180	7500STH
38" (97)	32" (81)	7705ST	7705ST-180	7705STH			
48" (122)	38" (97)	7706ST	7706ST-180	7706STH			

1- Units can also be mounted with the closer body on the jamb. Prefix the model number with a "J". Where the frame face is less than 3-3/8" (86mm) a number 7786JP backplate will be required.

2- Units can also be installed on double egress doors using a handed arm that will accommodate the frame profile. Suffix the model number with "DE". For reveal ranges 1/4" to 3" (6 to 76mm).

Note: Contact factory if door weight exceeds 250 lbs.

**PUSH SIDE  
SLIDE TRACK**



Mounting holes for closer body are spaced 2-3/8" (86mm) vertically x 6-3/4" (171mm) horizontally.

R (inches/mm) Minimum Top Rail of Door with Frame Stop	
Without Drop Plate	With 7788 Drop Plate
6" (152)	2-5/8" (67)

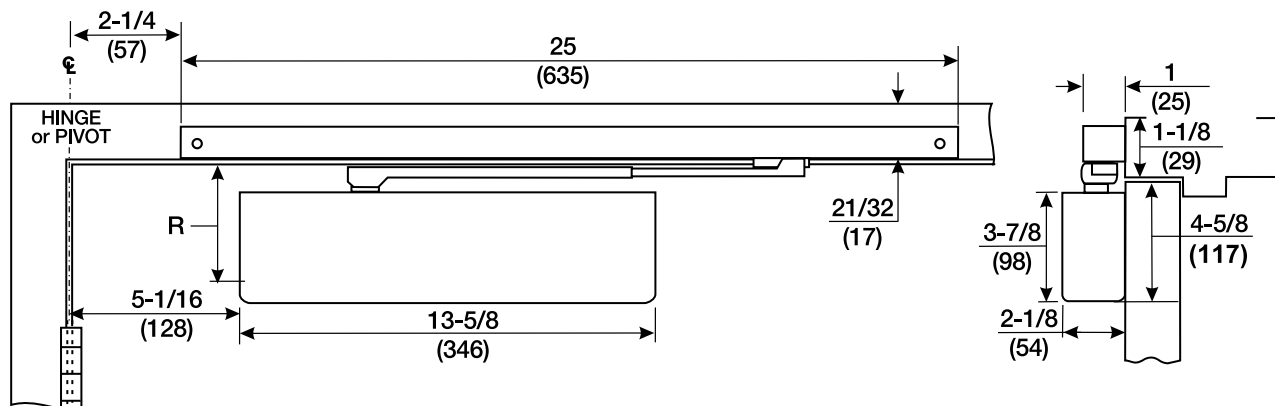
Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open 85°-110°	Hold Open 85°-110°	Non-Hold Open 85°-100°	Hold Open 85°-100°
32" (81)	—	PS7704ST	PS7704STH	PS7500ST	PS7500STH
38" (97)	32" (81)	PS7705ST	PS7705STH		
48" (122)	38" (97)	PS7706ST	PS7706STH		

Note: Contact factory if door weight exceeds 250 lbs.



# 7500/7700 Series Door Closers

LOW PROFILE PULL  
SIDE SLIDE TRACK



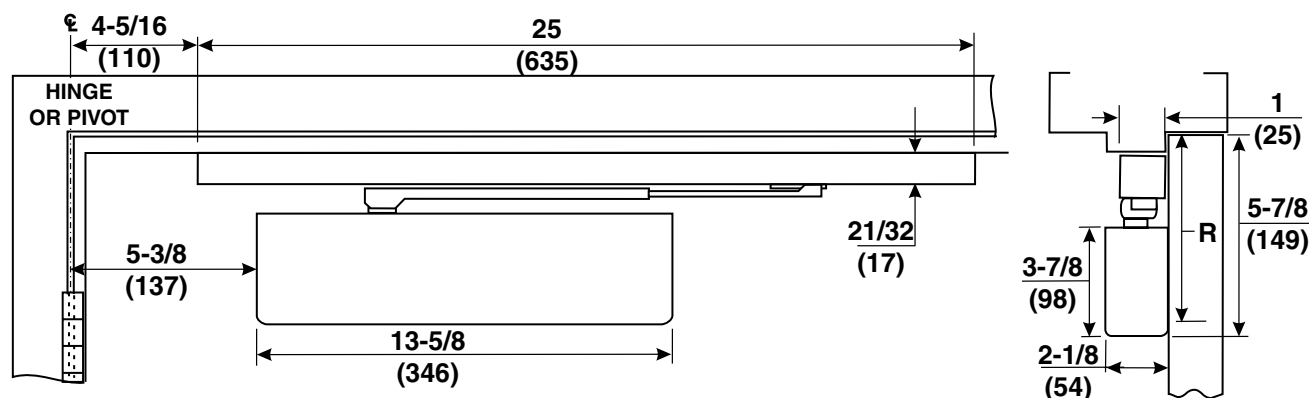
Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

R (inches/mm) Minimum Top Rail of Door with Frame Stop	
Without Drop Plate	With 7786 Drop Plate
3-1/2" (89)	2" (51)

Maximum Door Width Inches (cm)	Model Number			
	Sized Closers		Multi-Sized Closers	
Interior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	7744ST	7744STH	7540ST	7540STH
38" (97)	7745ST	7745STH		
48" (122)	7746ST	7746STH		

Note: Contact factory if door weight exceeds 250 lbs.

**LOW PROFILE PUSH  
SIDE SLIDE TRACK**



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

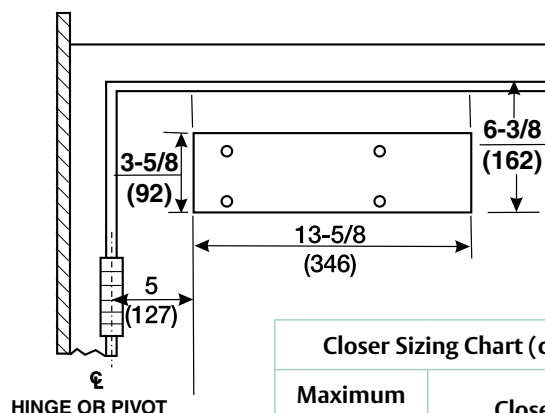
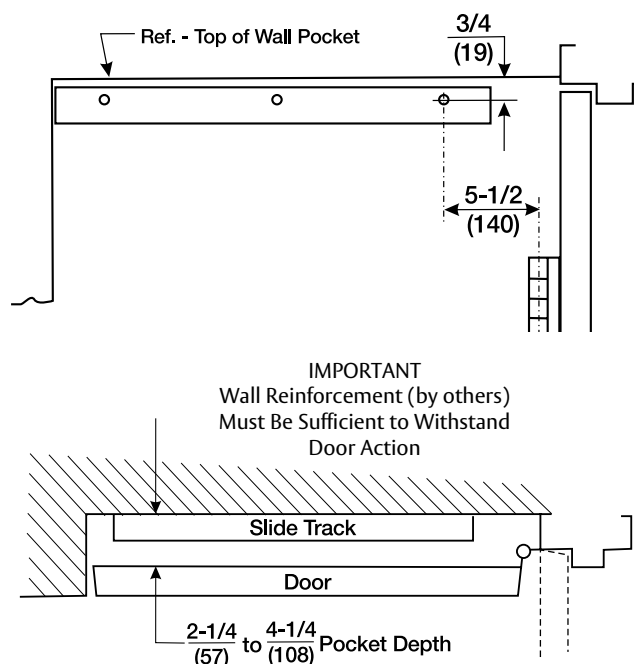
R (inches/mm) Minimum Top Rail of Door with Frame Stop	
Without Drop Plate	With 7788 Drop Plate
5-1/4" (133)	3-5/8" (92)

Maximum Door Width Inches (cm)	Model Number			
	Sized Closers		Multi-Sized Closers	
Interior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	PS7744ST	PS7744STH	PS7540ST	PS7540STH
38" (97)	PS7745ST	PS7745STH		
48" (122)	PS7746ST	PS7746STH		

Note: Contact factory if door weight exceeds 250 lbs.

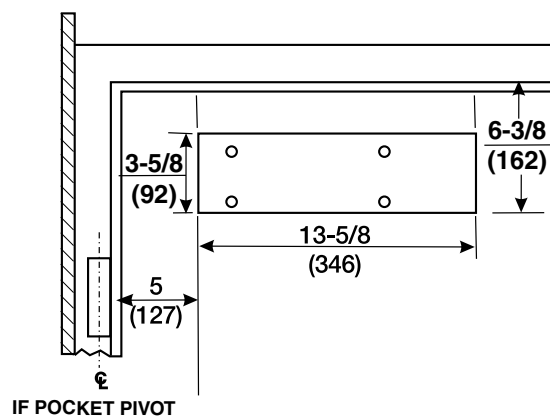
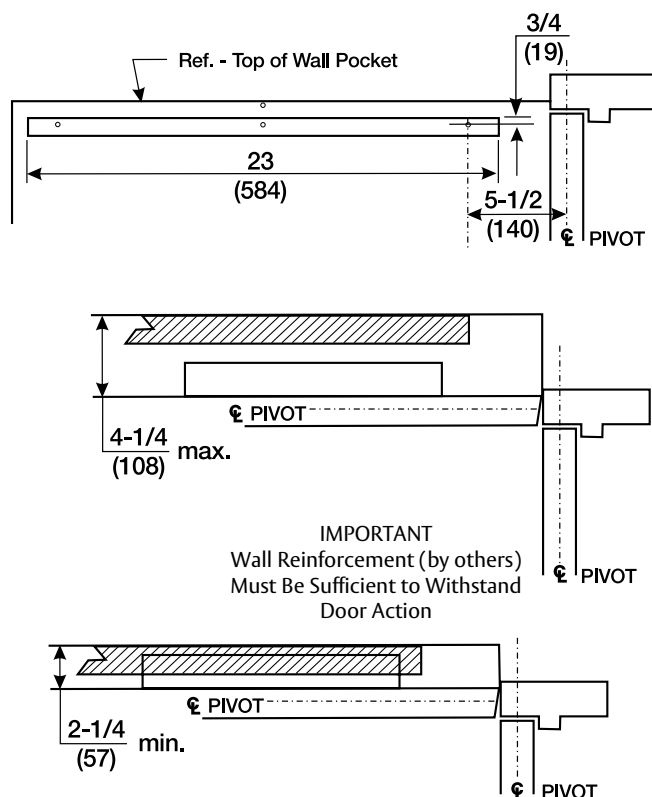
# 7500/7700 Series Door Closers

**POCKET DOOR  
7706STP**



Closer Sizing Chart (cm)	
Maximum Door Width	Closer
42" (107)	7706STP
48" (122)	7706EP-STP

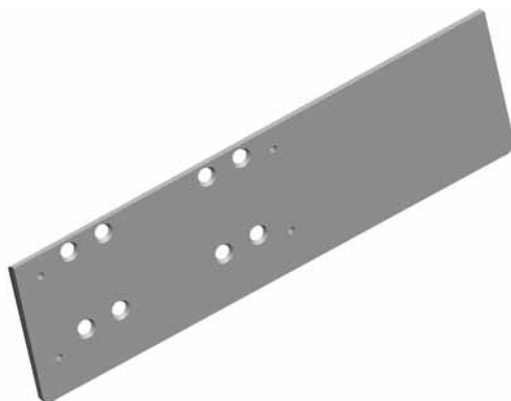
**7706STP or 7706EP-STP Series Closers**  
Slide Track Closer for 90° Wall Pocket Installation  
For Pocket Depths 2-1/4" to 4-1/4" (57mm to 108mm)  
(See Chart for Closer Sizing)



See chart (above) for closer sizing.

Note: Contact factory if door weight exceeds 250 lbs.

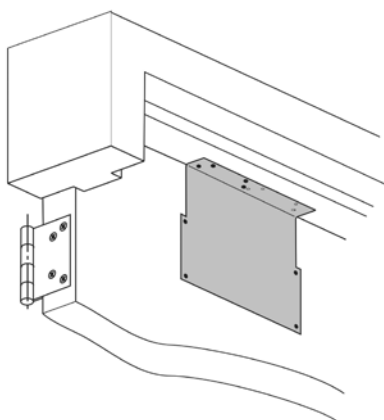
### RETROFIT PLATE



The retrofit plates allow the 7500 door closers to replace the 4040 or 4010 closers without modifying the existing hole pattern in the door. The plates will work with regular and parallel arm applications.

**Note:** The location of the arm shoe on the frame will change, therefore the frame must be patched.

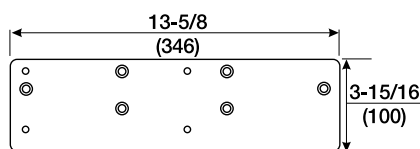
Model Number	Replaces
RP75-4040	LCN-4040
RP75-4010	LCN-4010
RP75-M2020	Rixson® M2020



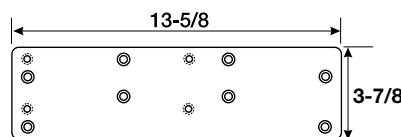
Metal templates help the installer locate the correct mounting holes for several parallel arm applications.

Model Number	Arm Applications
P77MT	Parallel Arm (NHO only) Parallel Rigid, CloserPlus®, CloserPlus Spring™

## Closer Mounting Plate

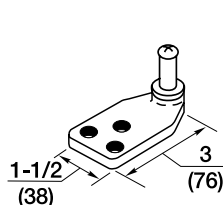


**Narrow Top Rail - #7786 Drop Plate:** For use where the narrow top rail of the door prevents the closer from being mounted directly to the door surface. This drop plate must be used for closer mounted on a top rail between 1-7/8" and 3-3/8" (48mm and 86mm) in height.

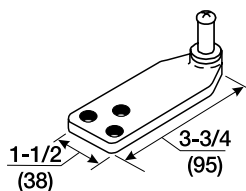


**Overhead Door Holder - #7786OH Drop Plate:** For use where a surface or concealed overhead door holder prevents normal arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 2-7/8" (73mm) from the top of the door.

## Brackets for Non-Hold Open Arms

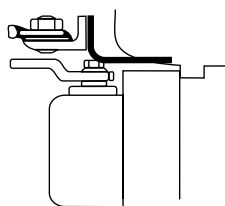
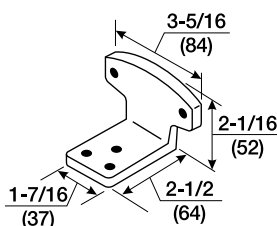


**Molded/Bull Nose Trim - #2403 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard non-hold open shoe. The bracket is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a frame rabbet up to 2" (51mm) deep.



**Molded/Bull Nose Trim - #2403-3/4 Bracket:** This bracket is similar to - but longer than - the 2403 bracket. It is designed to accommodate frame rabbets from 2" to 2-7/8" (51mm to 73mm) deep.

## Brackets for Hold Open Arms

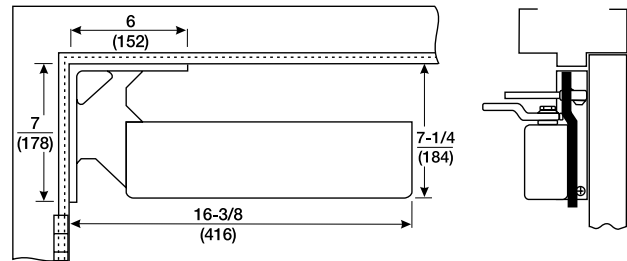
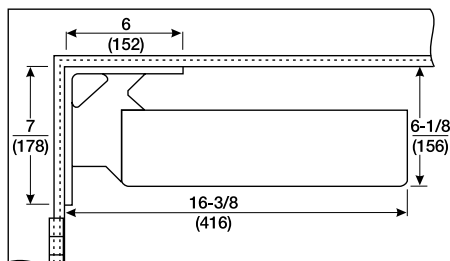


**Molded/Bull Nose Trim - #80 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard hold open shoe. It is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a rabbet up to 2" (51mm) deep. This bracket is used in combination with the standard hold open mounting shoe.

**REGULAR ARM**

**Corner Brackets for Closer Mounting**

For closer sizing information use the Parallel Arm Sizing Chart on page 15. The use of a corner bracket requires a door closer of the opposite hand from that of the door when ordering handed closers.

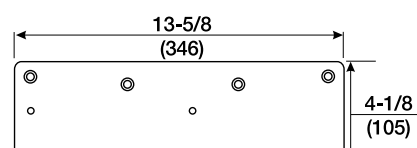
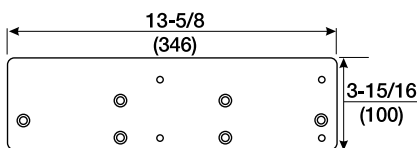


**Mounting Opposite Hinge Side - #7798 Standard Drop Corner Bracket:** For use where it is desired to mount a regular arm non-hold open closer.

**Extra-Drop Mounting Opposite Hinge Side - #7797 Corner Bracket:** For use where it is desired to mount a regular arm hold open closer, or where it is necessary for a regular arm non-hold open closer to clear a separate overhead door holder. This bracket drops the closer 1-1/8" (29mm) lower than the #7798 Corner Bracket.

**TOP JAMB**

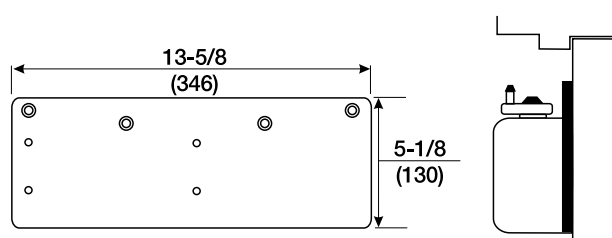
**Closer Mounting Plates**



**Narrow Frame - #7786 Back Plate:** For use where a narrow frame face prevents the closer from being mounted directly to the frame. This back plate must be used for closer mounted on a frame between 1-7/8" and 3-1/8" (48mm and 79mm) in height.

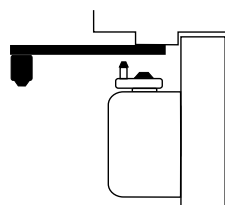
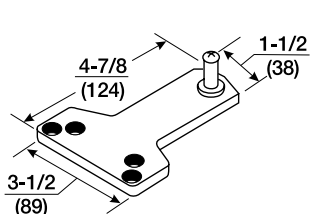
**Low Ceiling Clearance - Overhead Door Holder - #7787 Drop Plate:** For use where the ceiling clearance is between 1-7/8" and 3-7/8" (48mm and 98mm) or where a surface or concealed overhead door holder prevents normal top jamb mounting. This plate drops the closer and allows the arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 3-1/8" (79mm) from the top of the door.

## Closer Mounting Plate

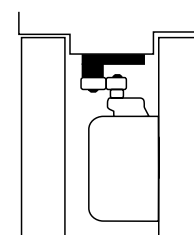
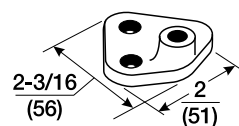


**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-1/2" (64mm) in height.

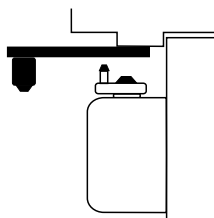
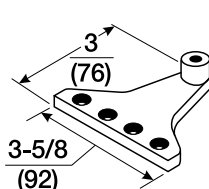
## Brackets for Non Hold Open Arms



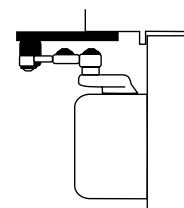
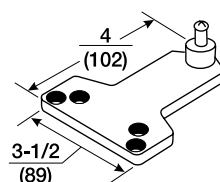
**Standard Installation - #1618 Soffit Plate:** Supplied standard with parallel arm closers. It can be mounted where the frame soffit is as narrow as 1" (25mm). Specify **1618A-SS** for stainless steel soffit plate.



**Mounting between Doors - #2018 Soffit Bracket:** For use where insufficient space between companion doors does not permit use of other soffit plates. This bracket permits mounting of the closer between doors with as little as 3" (76mm) of header space. Permits closer arm to clear up to 5/8" (16mm) high stop.



**Narrow Frame/Removable Stop - #2018B Soffit Plate:** For use where a narrow frame or frame with removable stop does not permit use of the standard soffit plate. This soffit plate may be mounted on the frame soffit or the frame rabbet where the stop does not exceed 5/8" (16mm) in height. All of the screw holes are in a straight line, requiring as little as 1-1/4" (32mm) of frame reveal to mount bracket and maintain good closer arm geometry. Where the frame soffit is as wide as 2" (51mm), this soffit plate may be used to clear weather-stripping that is up to 1-3/8" (35mm) wide and 5/8" (16mm) in height.

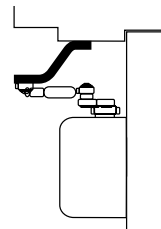
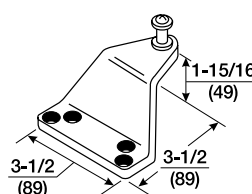
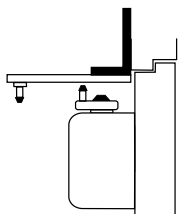
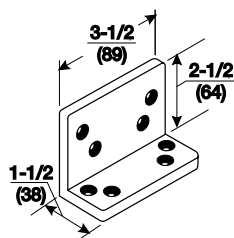


**Blade/Applied Stop - #2018D Soffit Plate:** For use where a blade or applied stop does not permit installation of the standard soffit plate. Mounts to either the frame soffit or rabbet. Since this soffit plate projects 7/8" (22mm) less than a standard soffit plate, it requires a minimum frame reveal of 1-1/2" (38mm). Permits closer to clear up to a 5/8" (16mm) stop.



**PARALLEL ARM**

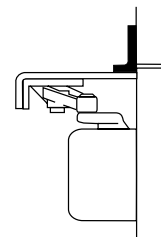
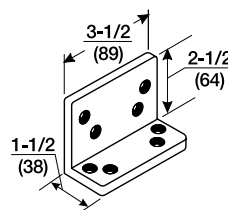
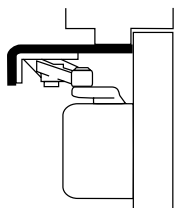
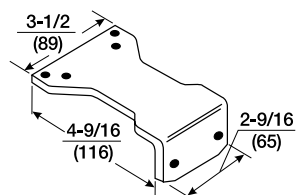
**Brackets for Non Hold Open Arms (continued)**



**Flush Transom - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of a soffit plate. Used in combination with the 1618 soffit plate, or may be used in combination with the 2018S soffit plate when it is necessary for the closer arm to clear a separate overhead door holder.

**Extra-Clearance - #20185 Offset Soffit Plate:** For use where the need for additional clearance prevents use of the standard soffit plate. This plate mounts to the frame soffit to provide up to 2" (51mm) of clearance when a separate overhead door holder is used. Standard mounting requires a 2-5/8" (67mm) wide frame soffit. It may also be used where unusually high frame stops or weather-stripping prevent the use of other soffit plates.

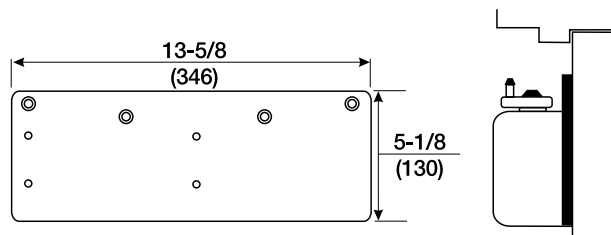
**Brackets for Hold Open Arms**



**Parallel Hold-Open - #1628H Adapter Plate:** Supplied standard with all parallel arm hold-open closers. It can also be used to convert regular arm or top jamb hold-open arms to parallel arm installation. It can be mounted where the frame soffit is as narrow as 1" (25mm).

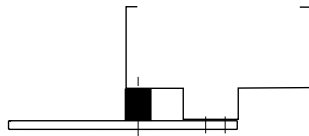
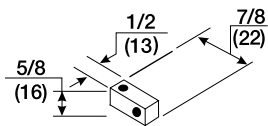
**Flush Transom Hold-Open - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of the standard 1628H hold-open adapter plate. It is used in combination with the 1628H adapter plate.

## Closer Mounting Plate

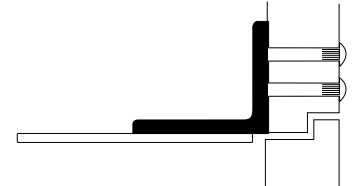
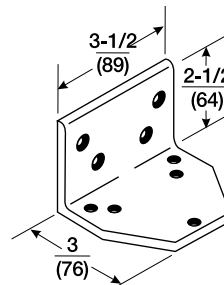


**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-1/2" (64mm) in height.

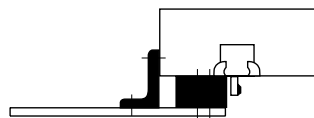
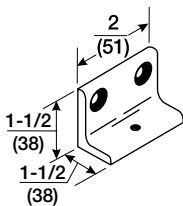
## Brackets for Non-Hold Open Arms & Hold Open Arms



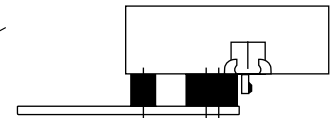
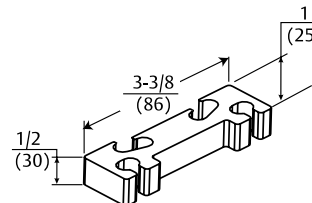
**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all parallel rigid arm closers.



**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the standard soffit plate.

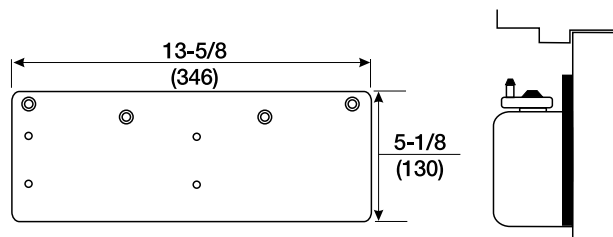


**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow, and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop. Used on frames where the frame stop does not exceed 5/8" (11mm) in height.



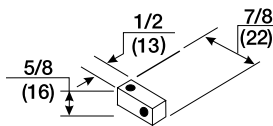
**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard spacer block to provide clearance of the blade stop.

Closer Mounting Plate

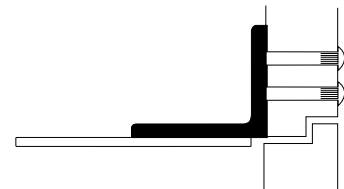
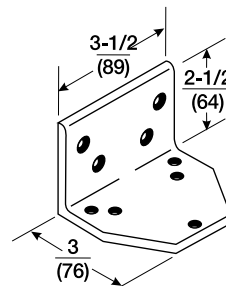


**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-1/2" (64mm) in height.

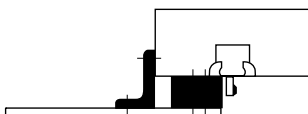
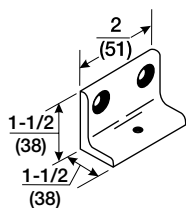
Brackets for Non-Hold Open Arms & Hold Open Arms



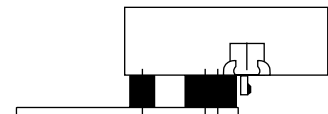
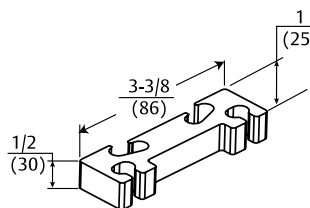
**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all parallel rigid arm closers.



**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the standard soffit plate.



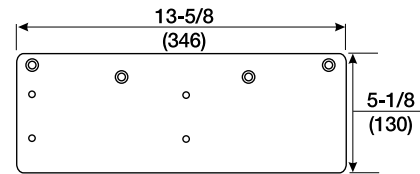
**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow, and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop. Used on frames where the frame stop does not exceed 5/8" (11mm) in height.



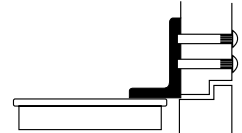
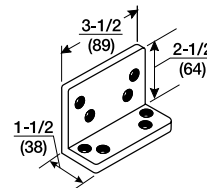
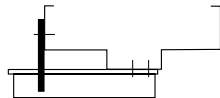
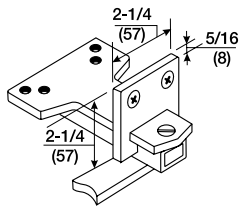
**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard spacer block to provide clearance of the blade stop.

## Closer Mounting Plate (for Parallel Arm)

**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-3/8" (60mm) in height.

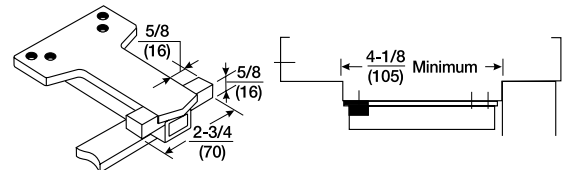
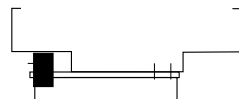
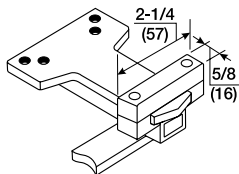


## Soffit Plate Reinforcing Brackets (for Parallel Arm)



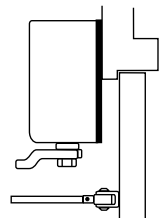
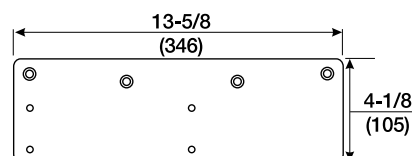
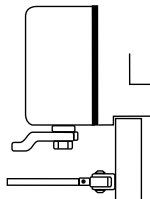
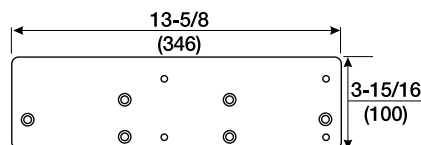
**Additional Support - #6190 Reinforcing Bracket:** Standard for use with all Parallel Arm *Unitrol* Door Controls. Provides additional support to the soffit plate on installations with door frame reveals from 1-7/8" to 4-5/8" (48mm to 117mm).

**Flush Rabbeted Transom - #2022 Angle Bracket:** Optional for use with all Parallel Arm *Unitrol* Door Controls. For use where rabbeted or flush transom conditions prevent installation of the soffit plate assembly. This bracket fastens to the overhead transom to provide a mounting surface for the soffit plate assembly.



**Wide Frame - #6191 Reinforcing Kit:** Optional for use with all Parallel Arm *Unitrol* Door Controls. Used to support the soffit plate on installations with wide frames. Clamps may be used with or without the spacer block, depending on frame conditions.

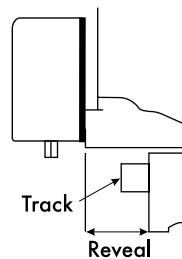
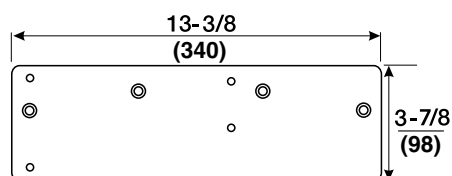
## Closer Mounting Plate (for Top Jamb)



**Standard Installation - #7786 Back Plate:** Can be mounted where a frame face is as narrow as 1-5/8" (41mm) in height.

**Minimum Ceiling Clearance - #7787 Drop Plate:** For use where the ceiling clearance is as little as 1-7/8" (48mm).

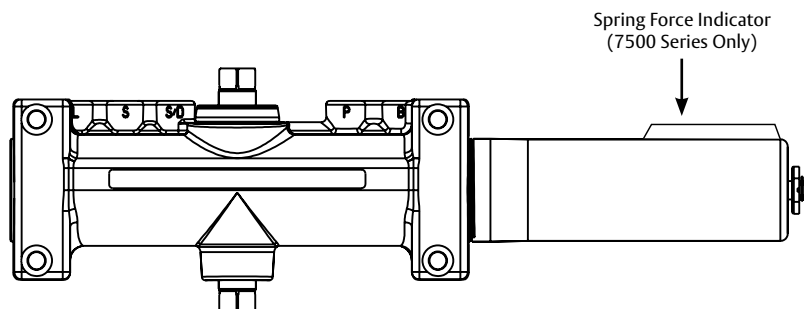
### SLIDE TRACK



**Slide Track - #7786JP Back Plate:** Required for frames with standard 2" (51mm) profile face. Without plate, minimum 4" (102mm) face frame required.

# 7500/7700 Series Door Closers

**DOOR CLOSER  
BODY ASSEMBLIES**



Model Number	Description
7500LAP	Multi-Size Closer Body
7500SSLAP	Corrosion Resistant Closer Body
770*LAP	Sized Closer Body

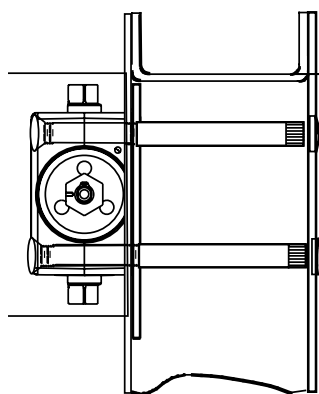
LAP = Less All Parts  
\*Specify Size When Ordering

Torx® Screw Pack	
Arm Type	Model Number
Regular, Top Jamb & Parallel	TX47
Parallel Rigid, CloserPlus® CloserPlus Spring™	PRTX47
Regular Rigid Heavy-Duty	RTX47
Unitrol® Arm	UNITX47

Closer Series	Cover Material	Model No.	Dimensions (Inches/mm)
7500/7700	Plastic	7700P & 7700PG	13-3/4 (349) x 4" (102) x 2-1/8" (54)
	Metal	7700M	13-5/8" (346) x 3-7/8" (98) x 2-3/16" (56)

## Steel Door Application

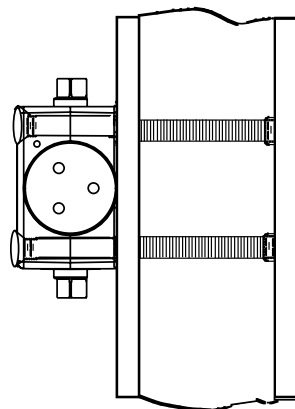
Sleeve Nut: "SN" (4 per pack)  
or  
Sleeve Nut & Screw: "SNB" (4 per pack)



Door Thickness	SN's	SNB's
1-3/4"	SN-134	SNB134-47
2"	NA	SNB200-47
2-1/4"	SN-214	SNB214-47
S.S. SNB'S 1-3/4" (Stainless Steel)	SN-134SS	SNB134SS-47

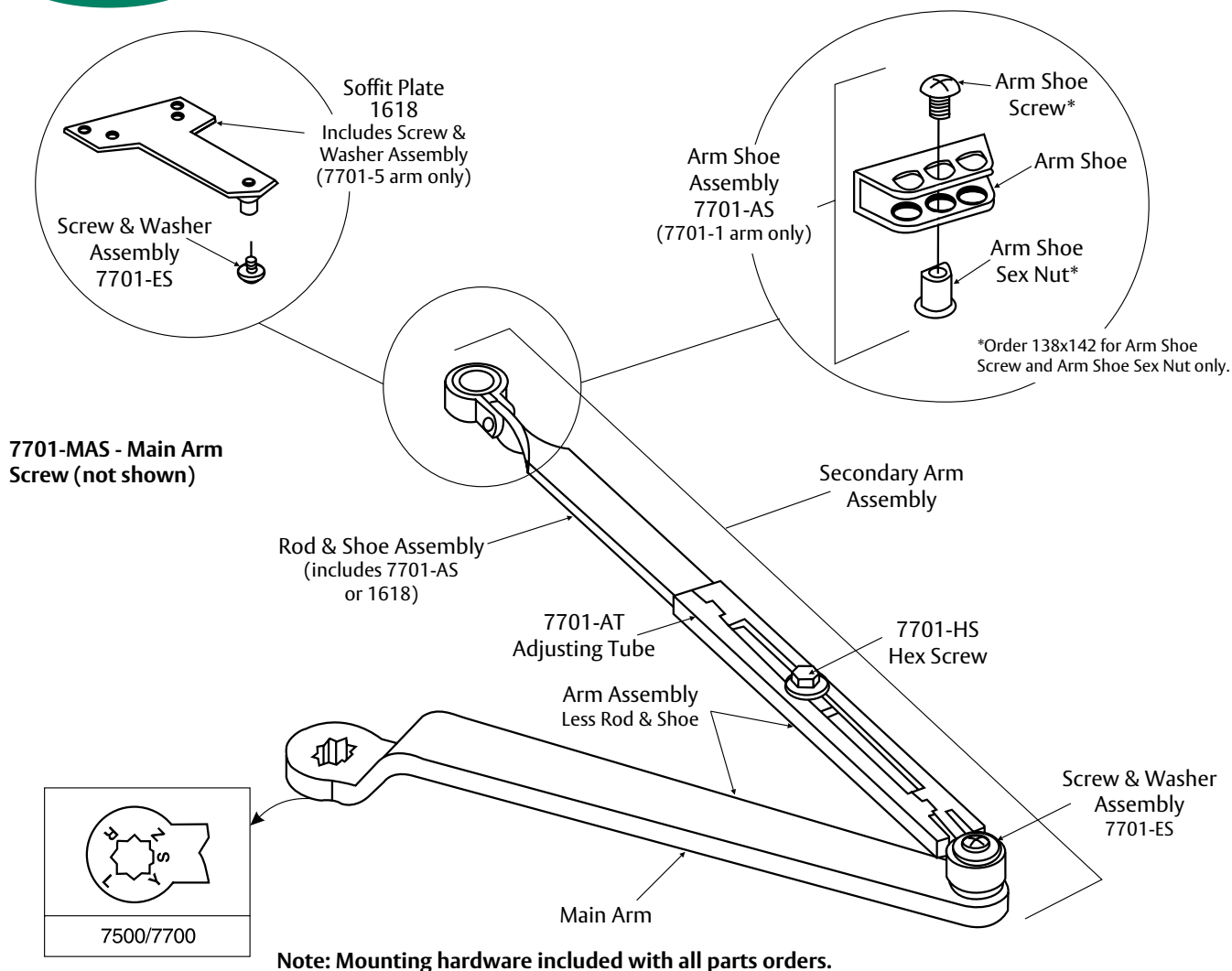
## Aluminum and Wood Door Application (Aluminum Door Shown)

Through-Bolt & Grommet Nut:  
"TBGN" (4 per pack)



Door Thickness	TBGN's
1-3/8"	TBGN138-47
1-3/4"	TBGN134-47

**NON-HOLD OPEN  
ARM ASSEMBLIES**

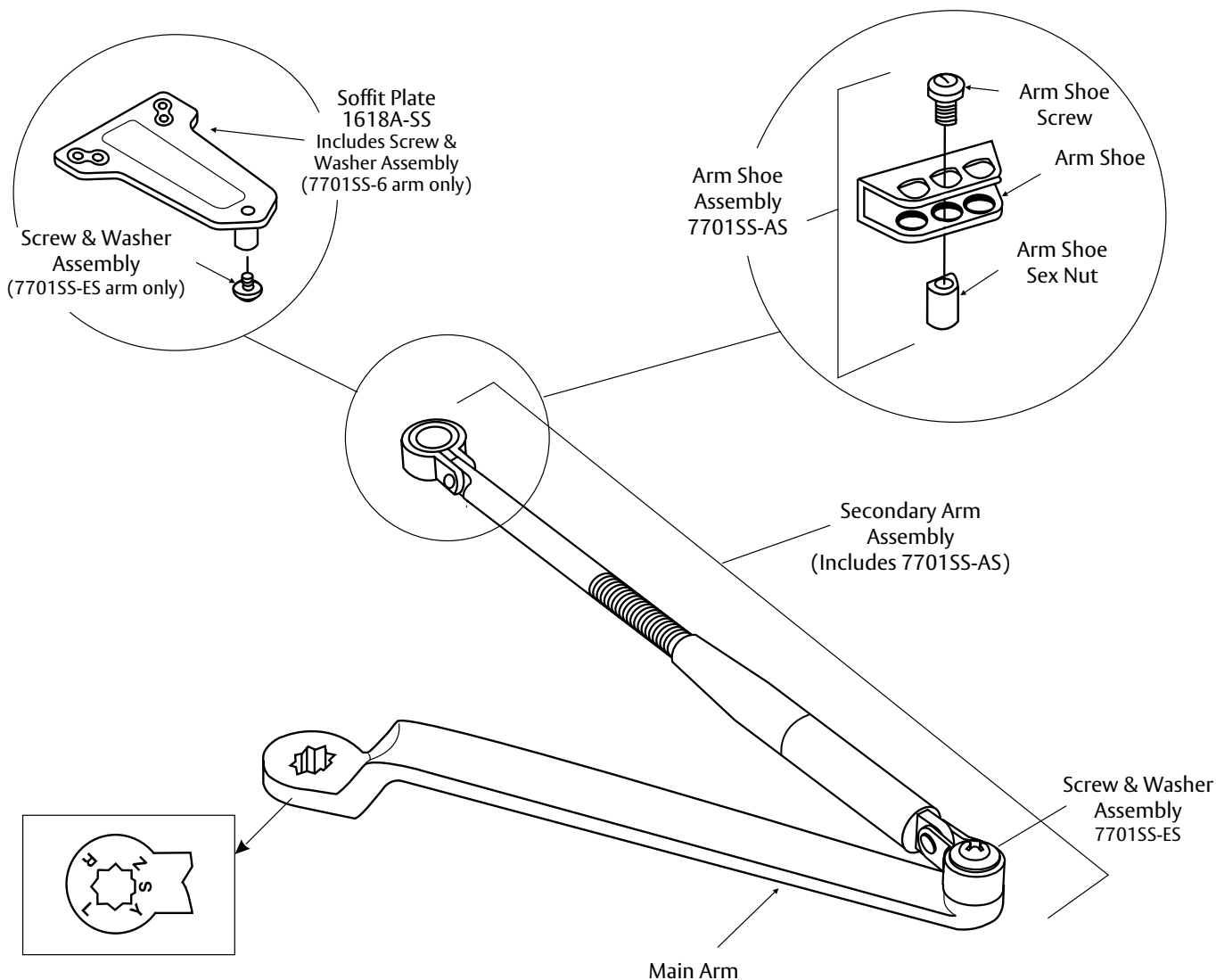


Closer Series	Complete Arm Assembly	Main Arm Assembly <sup>1</sup> (length)(mm) (includes 7701-ES)	Secondary Arm Assembly (includes 7701-ES)	Arm Assembly Less Rod and Shoe	Rod & Shoe Assembly <sup>2</sup> (length) (mm)
7500/7700	7701-1	7701-1M (11)(279)	7701-111	7701-1W	7701-11 (8-7/8)(225)
J7500/J7700	7701-1A		7701-121		7701-11A (12-9/16)(319)
JL7500/JL7700	7701-1B	7701-2M (13-1/2)(343)	7701-131	7701-2W	7701-11B (15-3/16)(386)
P7500/P7700	7701-5	7701-1M (11)(279)	7701-115	7701-1W	7701-15 (8-7/8)(225)
P7500/P7700 <sup>3</sup>	7701-5A		7701-115A		7701-15A (12-9/16)(319)
7500	7701-25 (tri-packed includes 7701-1 plus 1618 plate)	1. C to C length shown in parentheses. 2. C of connecting link to end of rod shown in parentheses. 3. For 180° door swing when using a special template for doors hung on 6" to 8" (152mm to 203mm) wide throw hinges.			



# 7500/7700 Series Door Closers

## STAINLESS STEEL ARM ASSEMBLIES

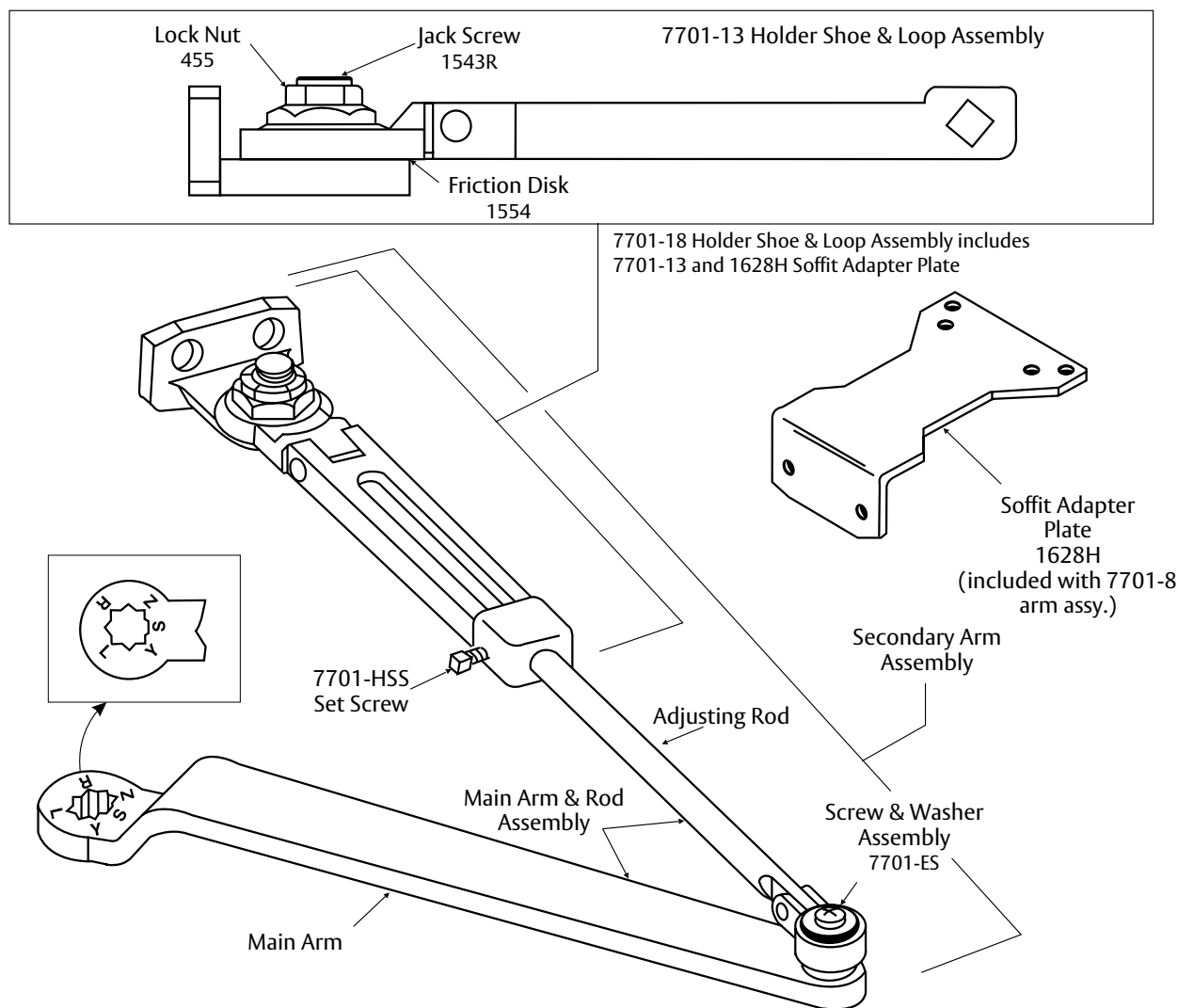


Closer Series	Complete Arm Assembly	Main Arm Assembly (length)(mm) (includes 7701SS-ES)	Secondary Arm Assembly (includes 7701SS-ES)
7500SS	7701SS-1	7701SS-1M (11)(279)	7701SS-111
J7500SS	7701SS-1A		7701SS-121
P7500SS	7701SS-6		7701SS-116

**Note:** Mounting hardware included with all parts orders.

1. C to C length shown in parentheses

## HOLD OPEN ARM ASSEMBLIES

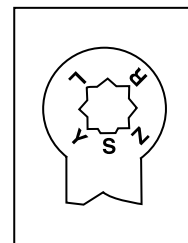
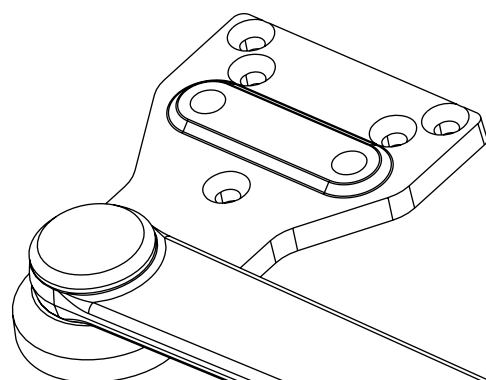


**Note:** Mounting hardware included with all parts orders.

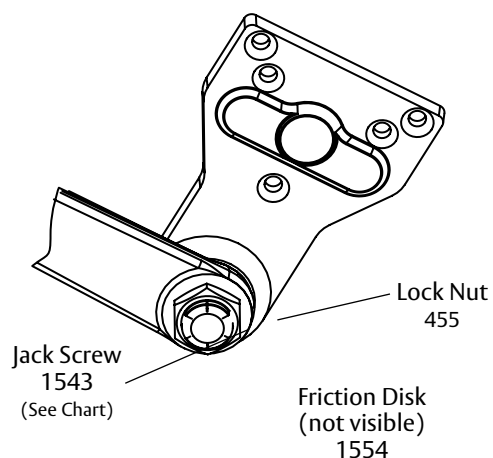
Closer Series Assembly	Complete Arm Assembly	Main Arm <sup>1</sup> (Length)(mm) (includes 7701-ES)	Secondary Arm (includes 7701-ES)	Main Arm & Rod Assembly	Holder Shoe & Loop Assembly	Adjusting Rod <sup>2</sup> (Length)(mm)
7500H/7700H	7701-3/7701-8 <sup>3</sup>	7701-1M (11)(279)	7701-113/7700-118 (Reg.)/(Par.)	7701-3W	7701-13	7701-31 (7-3/8)(187)
J7500H/J7700H	7701-3A		7701-123	7701-3WA		7701-31A (10-13/16)(275)
JL7500H/JL7700H	7701-3B	7701-2M (13-1/2)(343)	7701-133	7701-3WB		7701-31B (12-7/8)(327)

1. C to C length shown in parentheses.
2. C of connecting link to end of rod shown in parentheses.
3. Same as 7701-3 but includes #1628H soffit adapter plate.

## Non-Hold Open Arm Shown



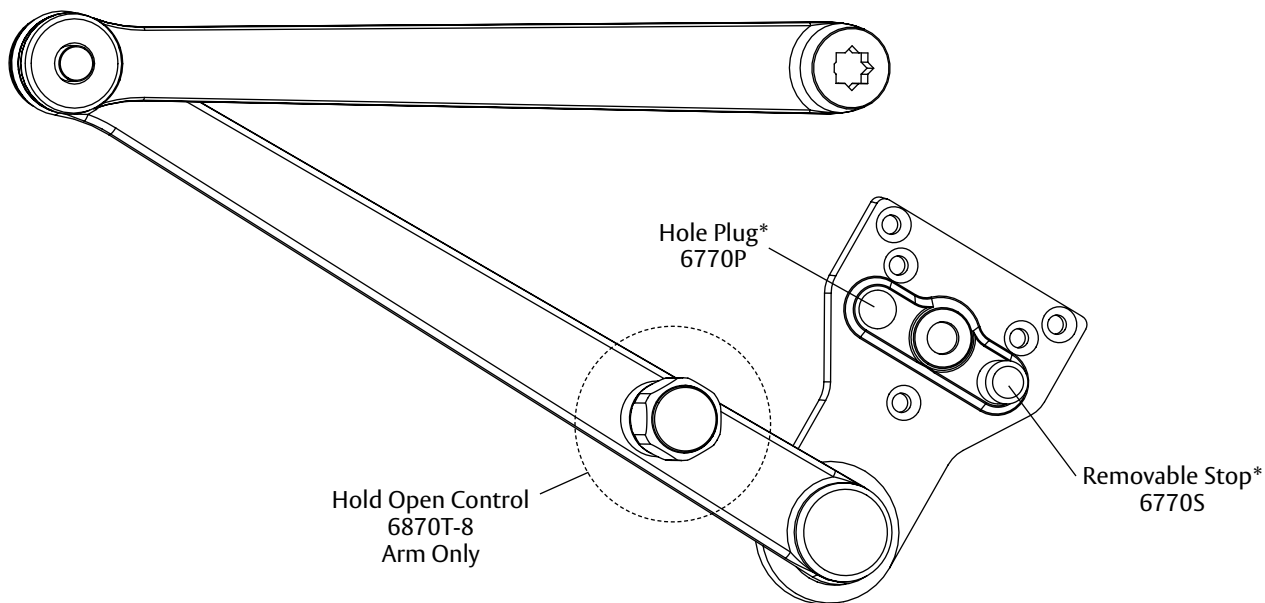
## Hold Open Arms Only



Arm Function	Complete Arm Assembly	Jack Screw
Non-Hold Open	PR7701-5	N/A
Hold Open	PR7701-8R (Right Hand)	1543R
	PR7701-8L (Left Hand)	1543L

**Note:** Mounting hardware included with all parts orders.

**Hold Open Arm Shown (CLP-T)**

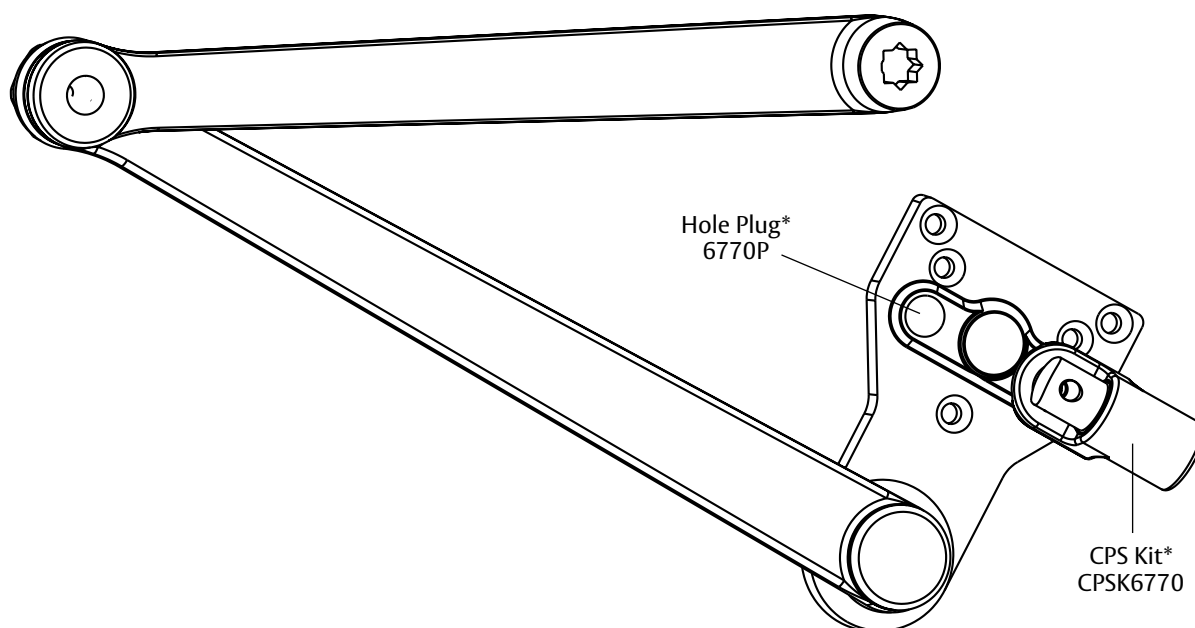


**Note: Mounting hardware included with all parts orders.**

Arm Function	Complete Arm Package
Non-Hold Open	6770-5
Thumbturn Hold Open	6870T-8

**\* These parts and screw pack are included with complete arm assemblies.**

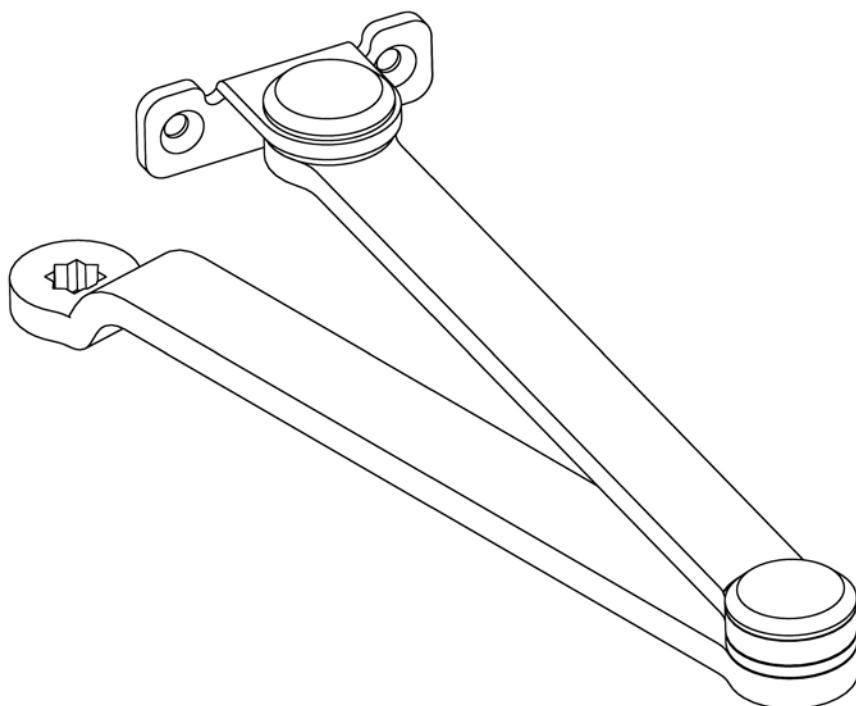
## Non-Hold Open Arm Shown



**Note:** Mounting hardware included with all parts orders.

Arm Function	Complete Arm Package
Non-Hold Open	CPS6770-5
Thumbturn Hold Open	CPS6870T-8

**\*These parts and screw pack are included with complete arm assemblies.**

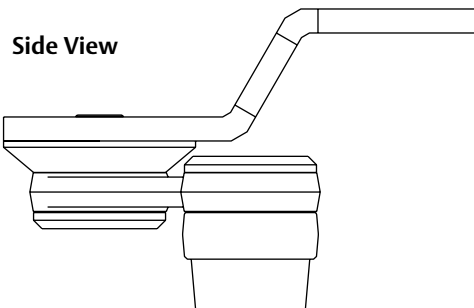
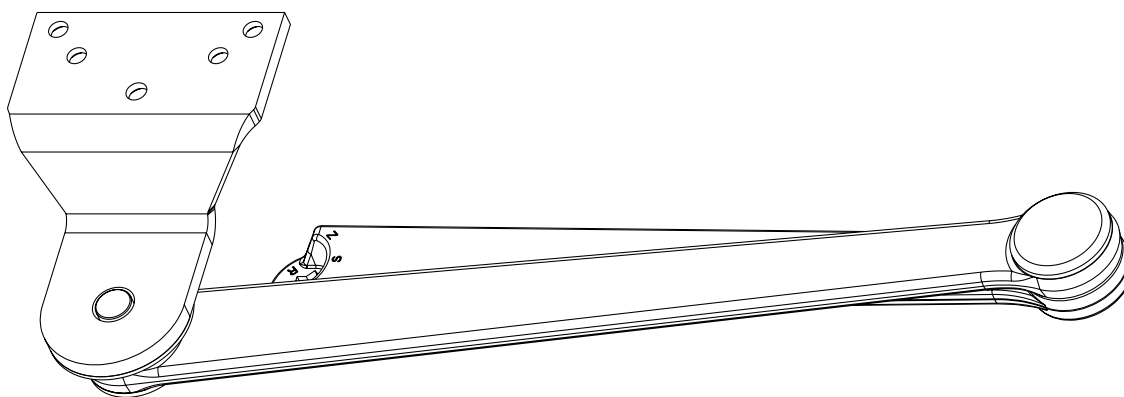


**Note: Mounting hardware included with all parts orders.**

Closer Series	Arm Function	Complete Arm Package
R7700 / R7500	Non-Hold Open	R7701-1 Furnished with standard fasteners
7770 / 7570*		7771-1 Furnished with Torx fasteners

\* Refer to Norton's Security Closer Catalog.

## Non-Hold Open



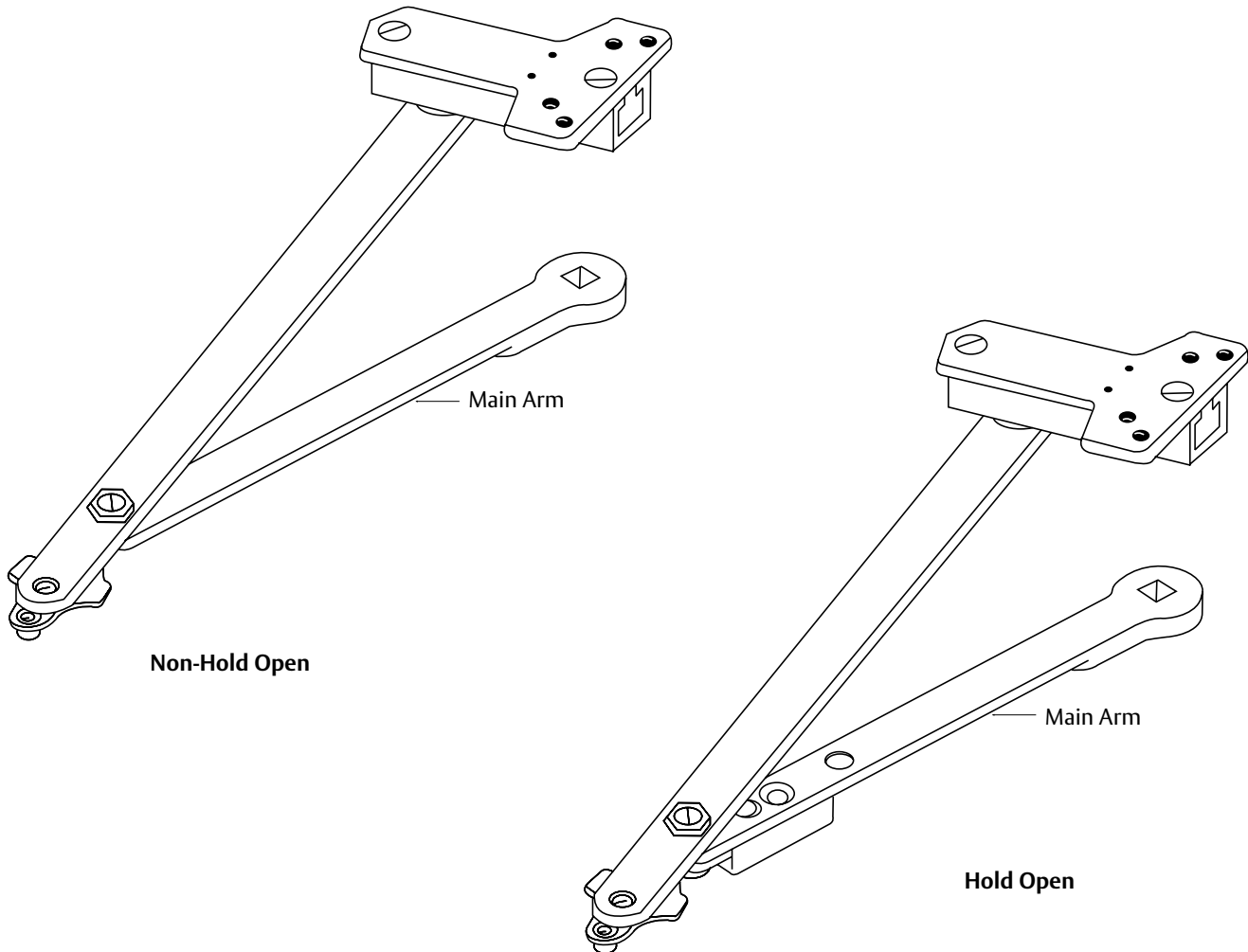
Arm Function	Complete Arm Assembly
PRO7701-5	Non-Hold Open
PRO7701-8R	Hold Open, Right Hand
PRO7701-8L	Hold Open, Left Hand

**Note:** Mounting hardware included with all parts orders.



**UNITROL® ARM  
ASSEMBLIES**

**Parallel Arm**

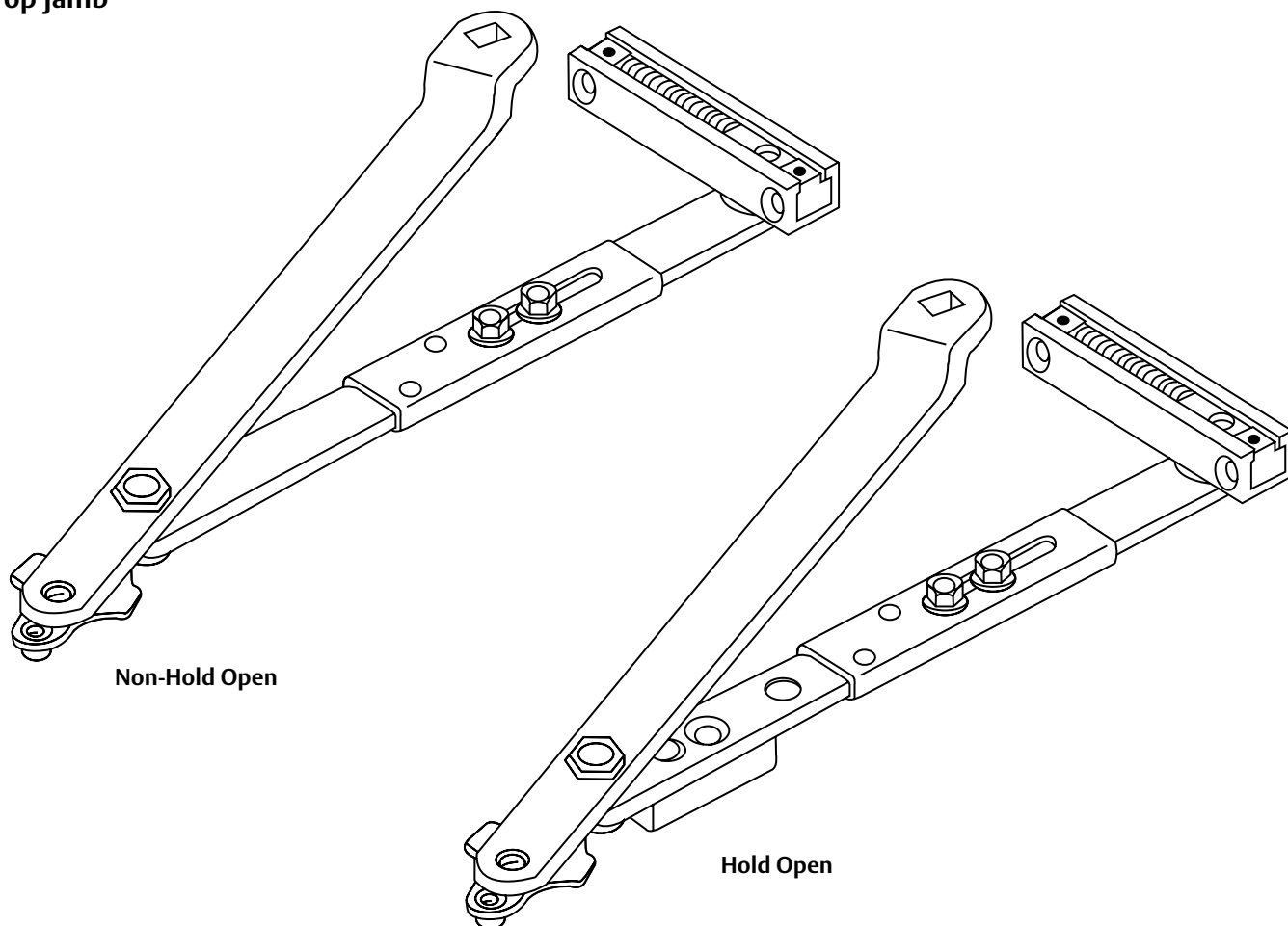


Complete Arm Assembly			
Door Width (cm)	Main Arm Length* (mm)	Non-Hold Open	Hold Open
28" - 32" (71 - 81)	9-1/2" (241)	6100-11	6100-1
33" - 41" (84 - 104)	11" (279)	6100-13	6100-3
42" - 48" (107 - 122)	12-1/2" (318)	6100-14	6100-4

\* Center to center length.

**Note: Mounting hardware included with all parts orders.**

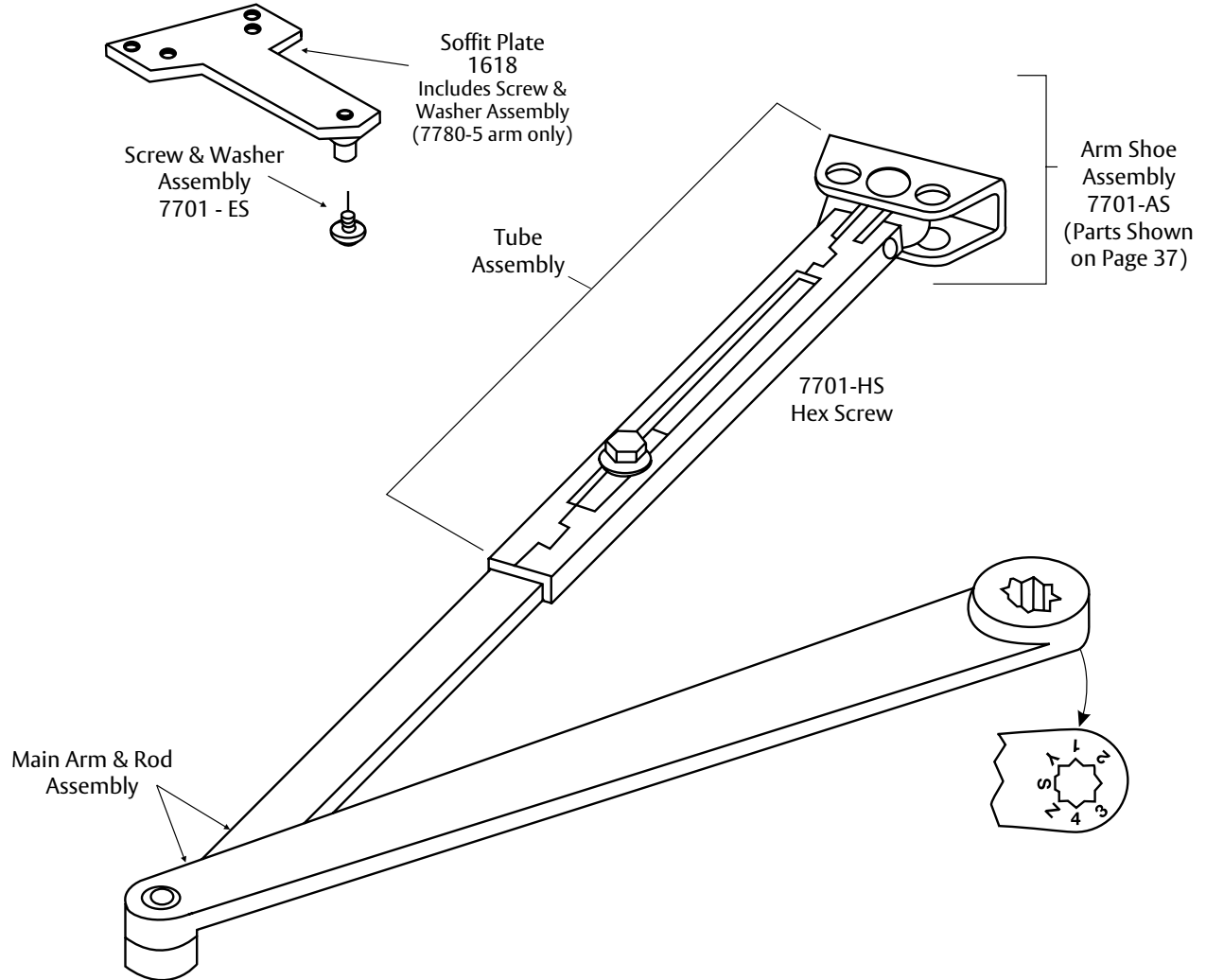
## Top Jamb



Complete Arm Assembly		For Frame Reveals (mm)
Non-Hold Open	Hold Open	
J6100-4	J6100-7	2-1/8" - 3-1/4" (54 - 83)
J6200-4	J6200-7	1/2" - 2" (13 - 51)
J6400-4	J6400-7	3-3/8" - 4-1/4" (86 - 108)
J6500-41	J6500-71	4-3/8" - 5-3/8" (111 - 137)
J6500-42	J6500-72	5-1/2" - 6-3/8" (140 - 162)
J6500-43	J6500-73	6-1/2" - 7-3/8" (165 - 187)
J6600-4	J6600-7	0" - 3/8" (0 - 10)

**Note:** Mounting hardware included with all parts orders.

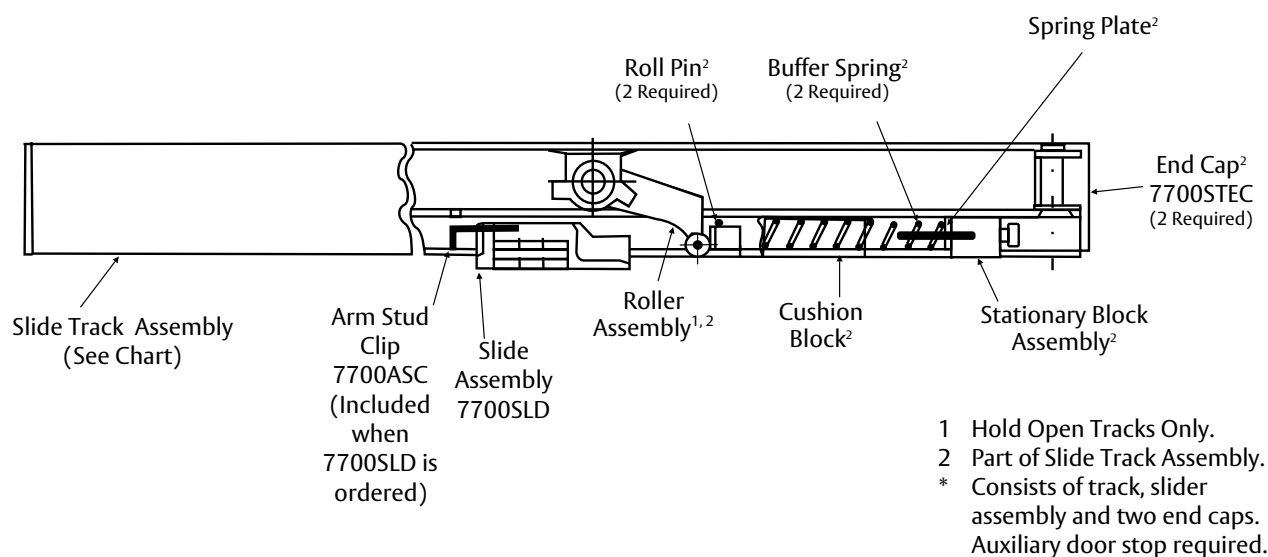
**LOW PROFILE  
ARM ASSEMBLIES**



Arm Application	Complete Arm Assembly	Main Arm & Adjusting Rod Assembly	Tube & Shoe/Soffit Assembly
Regular Arm	7780-1	7780-1MR	7780-1TS (With 7701-AS)
Parallel Arm	7780-5		7780-5TS (With 1618)
Tri-pack	7780-25		

**Note:** Mounting hardware included with all parts orders.

Track Assemblies	Part Number	
	Non-Hold Open	Hold Open
Pull-side mounted	7701ST-1T	7701ST-3T
Push-side mounted	7701ST-5T	7701ST-8T
Pull-side mounted (180°)	7701ST-1T180°*	N/A

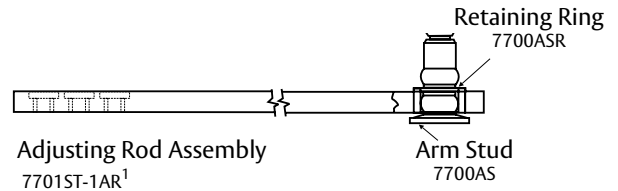
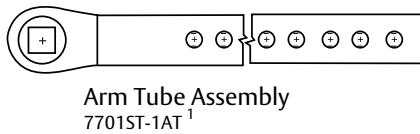


**Note: Mounting hardware included with all parts orders**

**TRACK ASSEMBLIES**  
7700/7500ST&STP

## STANDARD ARM ASSEMBLY

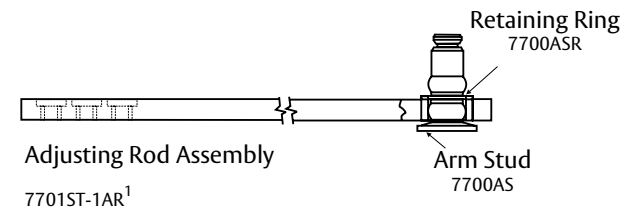
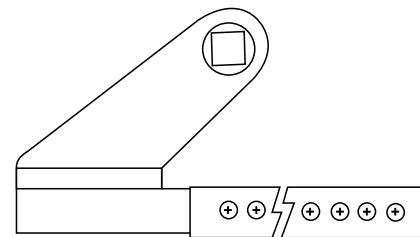
7701ST-1A<sup>1,2</sup>



## DOUBLE EGRESS ARM ASSEMBLY

7701PT-DE-1R (Right Hand)<sup>1,2</sup>

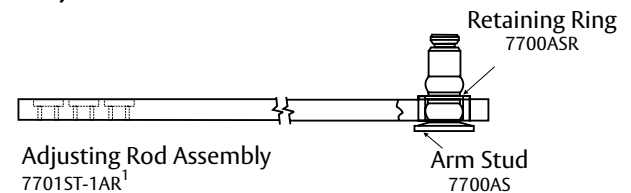
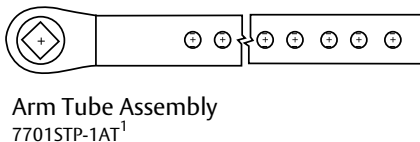
7701PT-DE-1L (Left Hand)<sup>1,2</sup>



Arm Tube Assembly  
7701ST-1ATR<sup>1</sup> (right hand)  
7701ST-1ATL<sup>1</sup> (left hand)

## STP ARM ASSEMBLY (POCKET DOORS ONLY)

7701STP-1A<sup>1,2</sup>

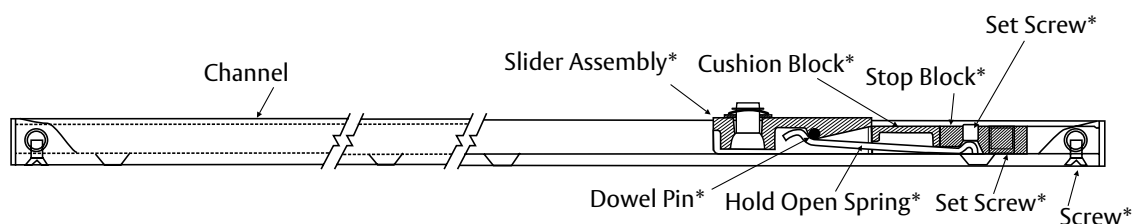


1 Includes arm length adjusting screw #7700ALAS  
2 Includes arm tube & adjusting rod assembly

**Note: Mounting hardware included with all parts orders.**

# 7500/7700 Series Door Closers

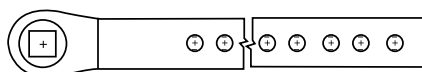
Track Assemblies	Part Number	
	Non-Hold Open	Hold Open
Pull-side mounted	7740ST-1T	7740ST-3T
Push-side mounted	7740ST-5T	7740ST-8T



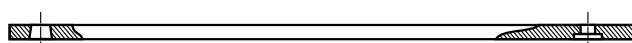
\*Part of an Assembly Pack  
NHO= 7740SLD  
HO= 7740HSLD

## ARM ASSEMBLY

7740ST-1A<sup>1,2</sup>



Arm Tube Assembly  
7701ST-1AT<sup>2</sup>



Adjusting Rod Assembly  
7740ST-1AR<sup>2</sup>

- 1 Includes arm length adjusting screw.
- 2 Includes arm tube & adjusting rod assembly.

**Note:** Mounting hardware included with all parts orders.



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160 Four Valley Drive

Vaughan, Ontario L4K 4T9 Canada

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**Norton®**

ASSA ABLOY

# 78-B/F Series Traditional Door Closers



ASSA ABLOY, the global leader  
in door opening solutions



INTRODUCTION

The Norton® Series 78-B/F Traditional Surface Closers represent a combination of traditional styling and modern closer features. All closer sizes are contained within a single size aluminum alloy shell. Templates for installing this closer are the same for all closer sizes.

In addition only two springs are needed to accommodate the complete range of door sizes. One clock spring is adjustable to meet the closing force requirements for closer sizes 2, 3, and 4. One other larger spring can be adjusted to meet the closing force for closer sizes 5 and 6. Both springs are powerful enough to provide an additional 50% power increase over the minimum closing force for the largest size in their range; i.e. 50% over size 4 and 50% over size 6.

These Norton Traditional Surface Closers have an unusual ability to accommodate power adjustment to their environment. The adjustable clock coil spring provides a small incremental increase or decrease through a wide range of closer power. They can be adjusted to meet the exact power requirements of the installation. Sweep speed, latch speed and backcheck cushioning can also be adjusted to door, frame and variable conditions.

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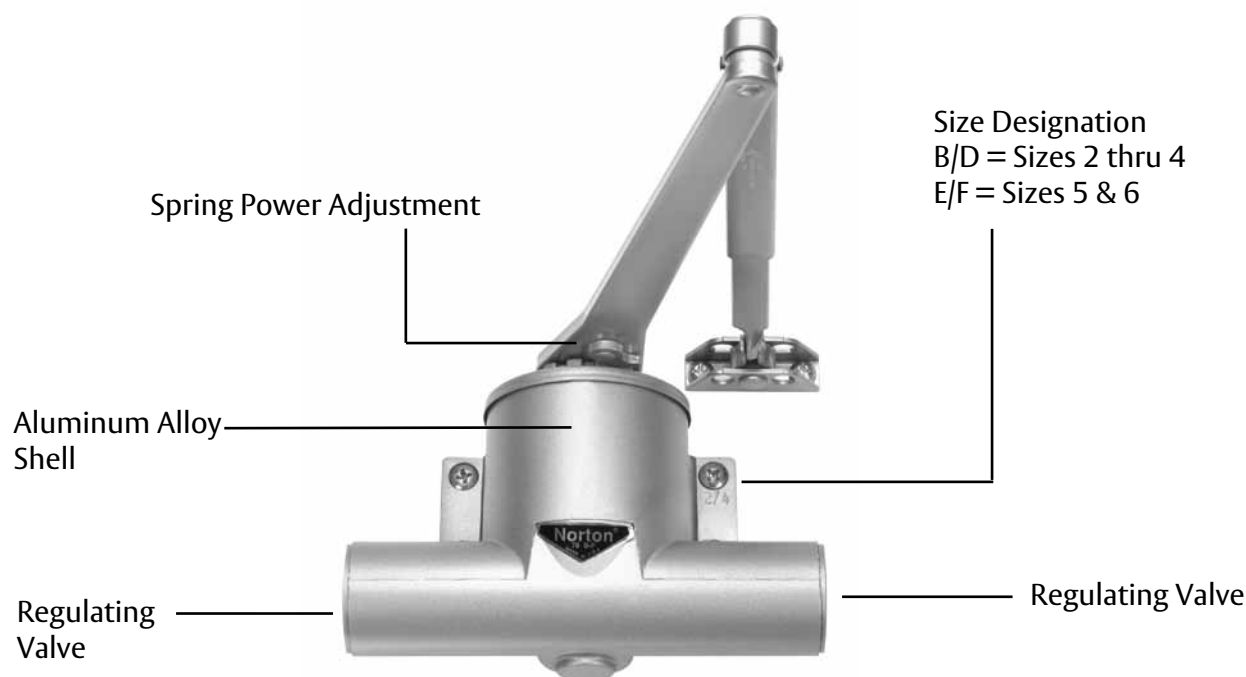
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## OVERVIEW



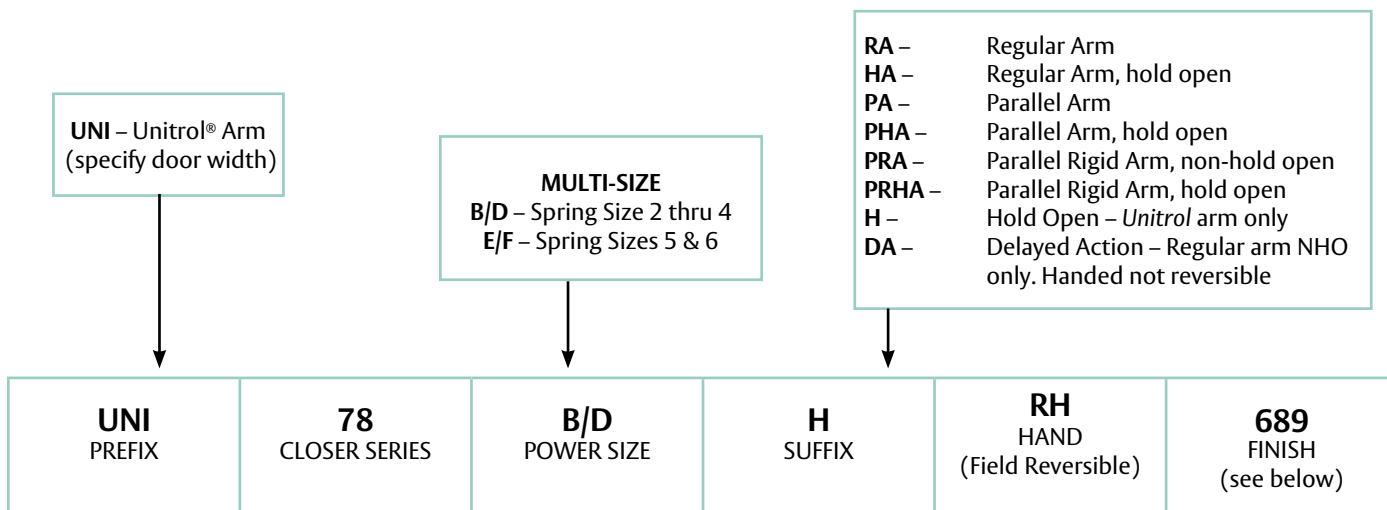
## COMPLIANCE STANDARDS

All 78-B/F Series closers comply with ANSI/BHMA A156.4 Grade 3 Specifications.  All Norton® series 78-B/D closers with non-hold open arms are listed by Underwriters Laboratories for labeled fire doors. This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are also listed by the New York City Materials and Equipment Acceptance Division.

## SPECIFICATIONS

Closer for interior (and) exterior doors shall be rack-and-pinion type enclosed in a cast aluminum alloy shell. Closer spring shall be clock-type coil spring and shall be adjustable through a wide range of closing power. Closer shall be equipped with a single hex-key operated regulating valve for control of both closing and latch speeds. Closer shall have a hex-key operated regulating valve to control the adjustable backcheck feature. Closer shall be Norton® Series 78-B/F Traditional Surface Closer or equivalent.

## HOW TO ORDER



Note: Contact factory if door weight exceeds 250 lbs.

## FASTENERS

Type	Description	Arm			
		RA	PA	PR	UNI
DOOR					
SDST	Self-Drilling Self-Tapping	S	S	S	S
MS	Machine Screw	S	S	S	S
SN	Sleeve Nut	O	O	S	S
TBGN	Thru Bolts & Grommet Nuts	O	O	O	O
FRAME					
SDST	Self-Drilling Self-Tapping	S	S	S	S
MS	Machine Screw	S	S	S	S

**S = standard; O = optional**

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for thru bolting on wood doors. **SN** are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57mm).

**TBGN** are an alternative to **SN** for wood doors. **TBGN** are supplied standard for 1-3/4" (44mm) thick doors. They can be specified for 1-3/8" (35mm) thick doors.

## FINISHES

### Available Finishes

All door closers are painted in water-borne acrylics. All steel parts, arms, bracket and mounting plates are powder coated. The closers will withstand 100 hours of salt spray. ANSI requires 25 hours.

\*600 is a special rust-inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 78-B/D x 600 x 689).

### Sprayed Finishes

Description	Specify (BHMA) Designation	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	313	312
Gold	696	605, 606, 632, 633	GB
Prime Coat	600*	—	SRI

## FEATURES

**Aluminum Alloy Shell:** Norton® closer shells are constructed of a special aluminum alloy, carefully selected to accommodate individual closer characteristics and operating conditions.

**Adjustable Spring Power:** Clock-type coil spring affords a wide range of closer power. Permits a fine adjustment of the closer to the environment.

**Rack & Pinion Operation:** Provides a smooth transmission of power for control of the door through its full opening and closing cycle.

**Adjustable Sweep/Latch Speed:** A dual purpose regulating valve, hex-key operated, permits independent adjustment of both sweep and latch speed.

**Adjustable Backcheck Cushioning:** An independent regulating valve, hex-key-operated, provides an adjustable hydraulic cushion to the door opening speed toward the end of the opening cycle. This feature is standard with all but delayed action closers. Backcheck is not available with delayed action closers.

**Non-Hold Open Arm:** Standard closer will be supplied with a non-hold open arm. This arm is non-handed.

**Hold Open Arm:** Closer arm has adjustable hold open feature (90° to 180°). This arm is non-handed for regular arm application only. It is handed for all friction hold open parallel arm installations. Order by suffixing "HA" to the Model number.

**Warranty:** Limited ten-year warranty for defects and life of the building on the aluminum housing.

**Field Reversible:** Closer spring can be field-reversed to accommodate the hand of the door. It is recommended that wherever possible the closer be ordered handed. Parallel hold open arms and delayed action closers are not reversible.

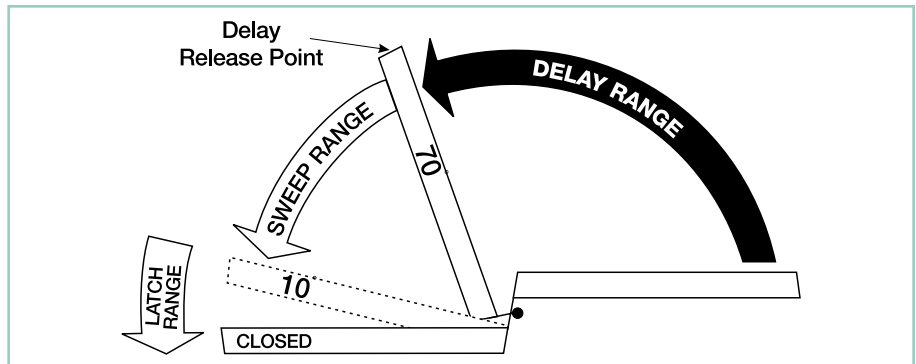
## OPTIONAL FEATURES

### Adjustable Delayed Action Closing\*

(Supplied in lieu of backcheck feature)

An optional hydraulic feature that adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened and Released at	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds



### Suggested Applications

Delayed action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can accommodate the facility's

staff with movement of food service carts, beds, and other wheeled traffic. Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/warehouse facilities, doors to workshops or laboratories, to kitchen and food processing areas, etc.

\*Note: Regular arm (NHO units only) are handed - not reversible

### APPLICATIONS



#### Regular Arm

This is the only pull-side application where a double lever arm is used. It is the most power-efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered. Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.



#### Parallel Arm

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This also makes it beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

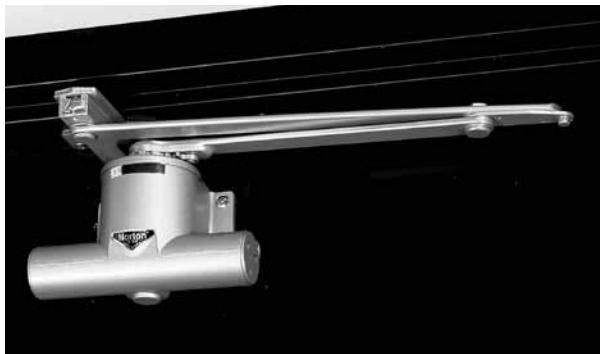
Due to the geometry of the arm it is approximately 25% less power-efficient than a regular arm application.

The entire closer and arm assembly are mounted below the frame stop, requiring a top rail of 5-3/8" (137mm) to mount the body. Clearance to the bottom of the closer body from the top of the door is 7-3/8" (187mm). (Based on 5/8" (16mm) high frame stop.)



### Parallel Rigid Arm

An enhanced variation of the standard parallel arm assembly that is intended for use in heavy traffic areas where auxiliary door stops are installed. Hold open available - specify hand when ordering.

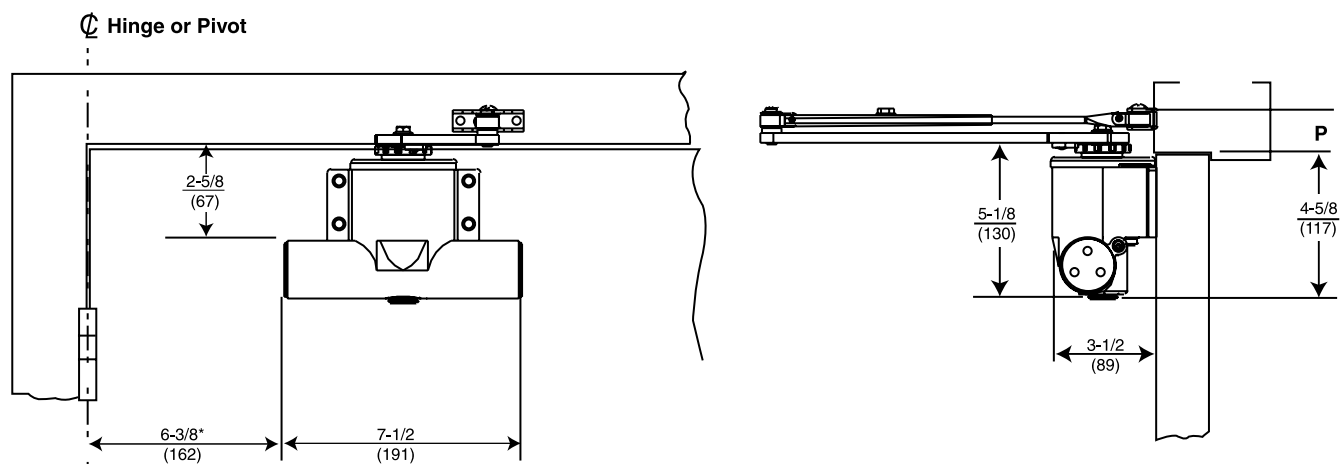


### Unitrol® Arm (Parallel Arm applications only)

*Unitrol* arms combine the features of a double lever arm overhead door stop/holder with the backcheck feature of the door closer to reduce door stopping shock loads to a minimum. The *Unitrol* uses a compression spring buffer at the soffit plate/arm shoe that will absorb 30 lbf. of force, 5° prior to the door's dead stop. Coupled with the door closer's backcheck feature, this arm provides the most controlled stop available with a surface door closer.

For parallel arm applications there are three different length arm assemblies. Each length is designed for a specific range of door widths, to provide precise door control. This further lessens the dead stop impact on the door's hinges/pivots.

## REGULAR ARM



\* Template position for 100° door opening

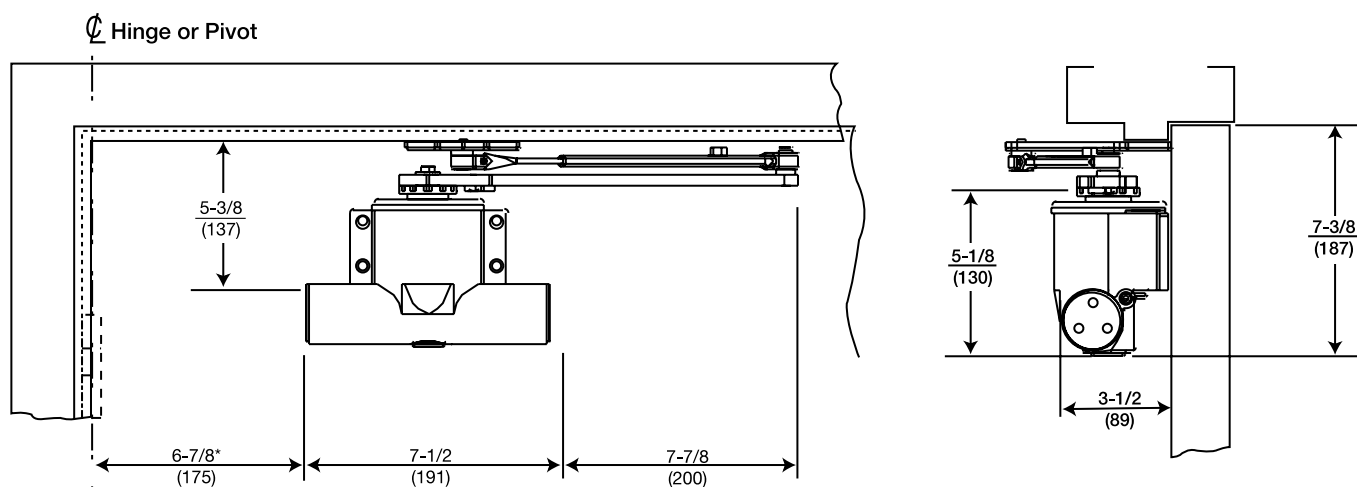
Body mounting holes are spaced 4-1/8" (105mm) horizontally and 1-3/8" (76mm) vertically.

Maximum Door Size Wood or Metal Inches (cm)		Model Number	
Interior	Exterior	Non-Hold Open	Hold Open
48" (122)	36" (91)	78B/D-RA	78B/D-HA
—	44" (112)	78E/F-RA	78E/F-HA

P Minimum Ceiling Clearance	
Non-Hold Open	Hold Open
1-1/2" (38)	2-1/8" (54)

All dimensions are for reference only. Door sizing information is based on installation on standard weight doors, 7'0" (213 cm) high 1-3/4" (44 mm) thick, hung on anti-friction hinges and operating under normal conditions.





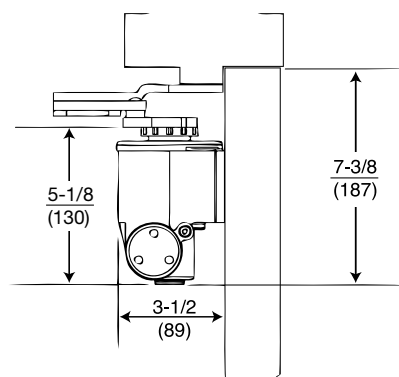
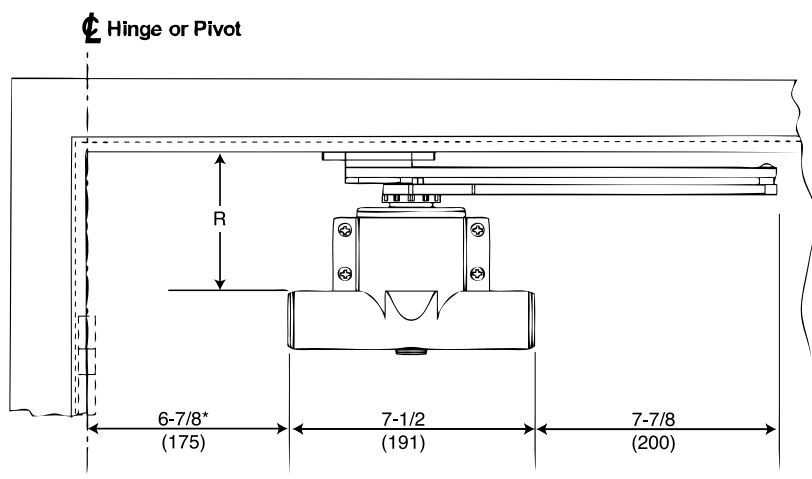
\* Template position for 130° door opening

Body mounting holes are spaced 4-1/8" (105mm) horizontally and 1-3/8" (76mm) vertically.

Maximum Door Size Wood or Metal Inches (cm)		Model Number	
Interior	Exterior	Non-Hold Open	Hold Open
42" (107)	36" (91)	78B/D-PA	78B/D-PHA
—	44" (112)	78E/F-PA	78E/F-PHA

All dimensions are for reference only. Door sizing information is based on installation on standard weight doors, 7'0" (213 cm) high 1-3/4" (44 mm) thick, hung on anti-friction hinges and operating under normal conditions.

PARALLEL  
RIGID ARM



\* Template position for 130° door opening  
Body mounting holes are spaced 4-1/8" (105mm) horizontally and 1-3/8" (76mm) vertically.

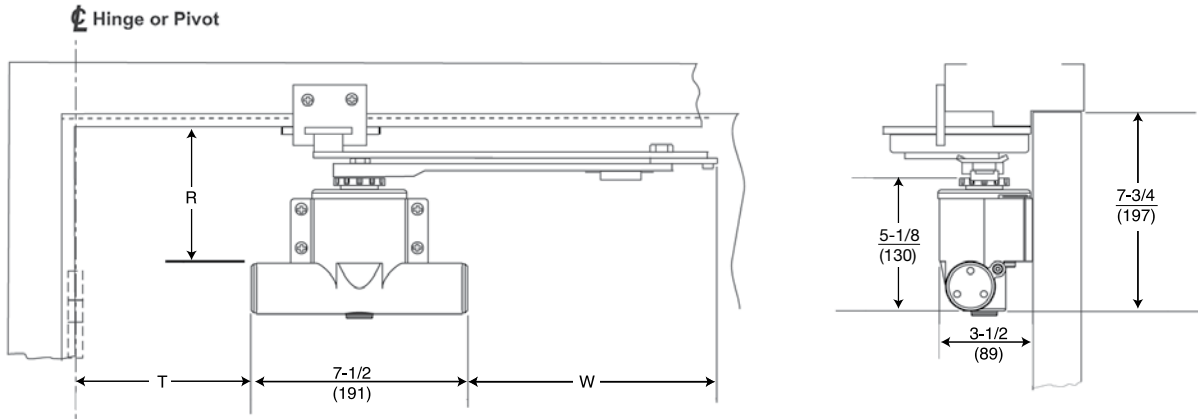
Maximum Door Size Wood or Metal Inches (cm)		Model Number	
Interior	Exterior	Non-Hold Open	Hold Open
48" (122)	36" (91)	78B/D-PA	78B/D-PHA
—	44" (112)	78E/F-PA	78E/F-PHA

R Minimum Top Rail 5/8" (16mm) frame stop	
Without Drop Plate	With 88 Drop Plate
5-3/8" (137)	2-1/2" (64)

Door sizing information is based on installation on standard weight doors, 7'0" (213cm) high, 1-3/4" (44mm) thick, hung on anti-friction hinges and operating under normal conditions.

Note: Contact factory if door weight exceeds 250 lbs.

# 78-B/F Series Door Closers



Body mounting holes are spaced 4-1/8" (105mm) horizontally and 1-3/8" (76mm) vertically.

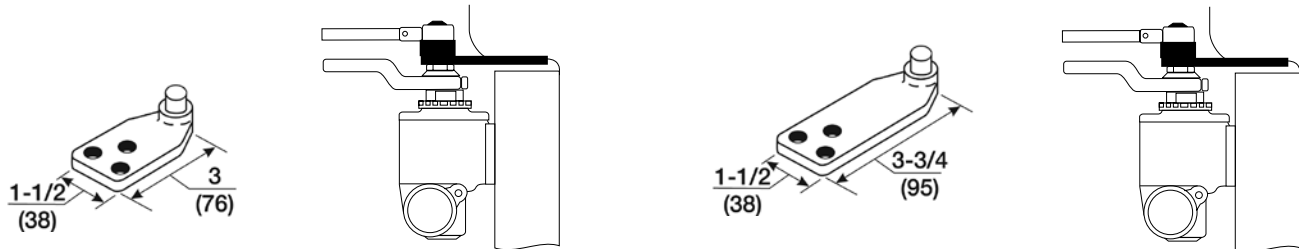
Door Width Inches (cm)	R - Minimum Top Rail 5/8" (16mm) Frame Stop		T - Template Position for Hold Open at Listed Angle or Dead Stop at Listed Angle plus 5°						W - Arm Extension Beyond Closer
	Without Drop Plate	With 88 Drop Plate	85°	90°	95°	100°	105°	110°	
28-32" (71-81)			10" (254)	9-3/8" (238)	8-3/4" (222)	8-1/4" (210)	7-3/4" (197)	7-1/2" (191)	8-7/8" (225)
33-41" (84-104)	5-5/8" (143)	2-3/4" (70)	12-1/4" (311)	11-5/8" (295)	11" (279)	10-1/2" (267)	10" (254)	9-5/8" (244)	10-3/8" (264)
42-48" (107-122)			14-5/8" (371)	13-7/8" (352)	13" (330)	12-1/2" (318)	12" (305)	11-1/2" (292)	11-7/8" (302)

Maximum Door Size Inches (cm)		Model Number		
Interior	Exterior	Non-Hold Open	Hold Open	x Specify Door Width
28-41" (71-104)	28-36" (71-91)	UNI78-B/D	UNI78-B/D-H	
42-48" (107-122)	37-48" (94-122)	UNI78-E/F	UNI78-E/F-H	

Door sizing information is based on installation on standard weight doors, 7'0" (213cm) high, 1-3/4" (44mm) thick, hung on anti-friction hinges and operating under normal conditions.

REGULAR ARM

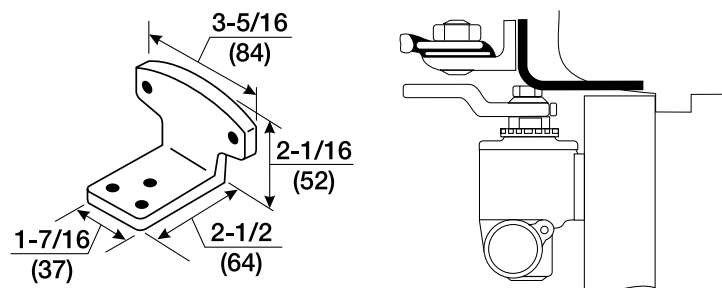
Brackets for Non-Hold Open Arms



**Molded/Bull Nose Trim - #2403 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard non-hold open shoe. The bracket is mortised into the frame rabbet and projects beyond the face of the frame. It will accommodate a frame rabbet up to 2" (51 mm) deep.

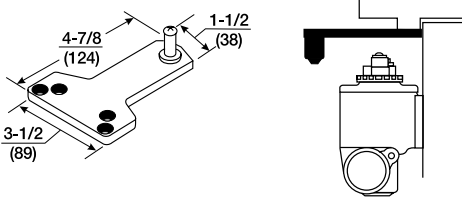
**Molded/Bull Nose Trim - #2403 3/4 Bracket:** This bracket is similar to - but longer than - the 2403 bracket. It is designed to accommodate frame rabbets from 2" to 2-7/8" (51 to 73 mm) deep.

Brackets for Hold Open Arms

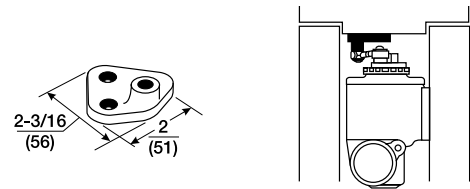


**Molded/Bull Nose Trim - #80 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard hold open shoe. It is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a rabbet up to 2" (51mm) deep. This bracket is used in combination with the standard hold-open mounting shoe.

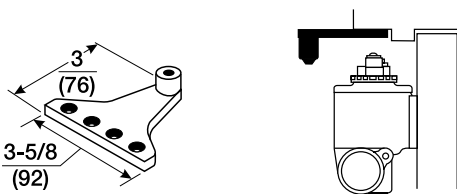
## Brackets for Hold Open Arms



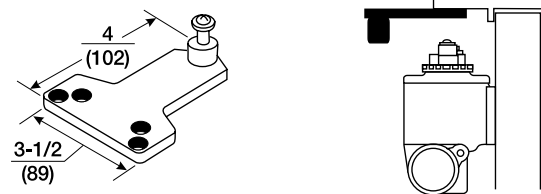
**Standard Installation - #1618 Soffit Plate:** This soffit plate is supplied standard with parallel arm closers. It can be mounted where the frame soffit is as narrow as 1" (25 mm).



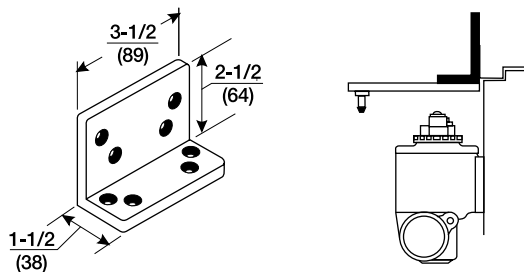
**Mounting Between Doors - #2018 Soffit Bracket:** For use where insufficient space between companion doors does not permit use of other soffit plates. This bracket permits mounting of the closer between doors with as little as 4-1/8" (105mm) of header space. Permits closer arm to clear up to a 5/8" (16mm) high stop.



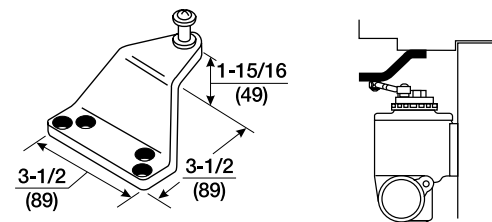
**Narrow Frame/Removable Stop - #2018B Soffit Plate:** For use where a narrow frame or frame with removable stop does not permit use of the standard soffit plate. This plate may be mounted on the frame soffit or the frame rabbet where the stop does not exceed 5/8" (16mm) in height. All of the screw holes are in a straight line, requiring as little as 1-1/4" (32mm) of frame reveal to mount bracket and maintain good closer arm geometry. Where the frame soffit is as wide as 2" (51mm), this soffit plate may be used to clear weatherstripping that is up to 1-3/8" (35mm) wide and 5/8" (16mm) in height.



**Blade/Applied Stop - #2018D Soffit Plate:** For use where a blade or applied stop does not permit installation of the standard soffit plate. Mounts to either the frame soffit or rabbet. Since this soffit plate projects 7/8" (22mm) less than a standard soffit plate, it requires a minimum frame reveal of 1-1/2" (38mm). Permits closer arm to clear up to a 5/8" (16mm) high stop.



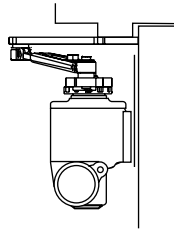
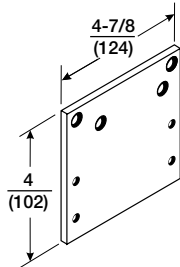
**Flush Transom - 2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of a soffit plate. Used in combination with the 1618 soffit plate, or it may be used in combination with the 20185 soffit plate when it is necessary for the closer arm to clear a separate overhead door holder.



**Extra-Clearance - #20185 Offset Soffit Plate:** For use where the need for additional clearance prevents use of the standard soffit plate. This plate mounts to the frame soffit to provide up to 1-1/2" (38mm) of clearance when a separate overhead door holder is used. Standard mounting requires a 2-5/8" (67mm) wide frame soffit. It may also be used where unusually high frame stops or weatherstripping prevent the use of other soffit plates.

PARALLEL ARM

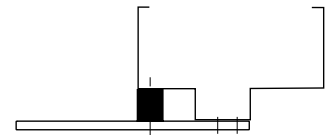
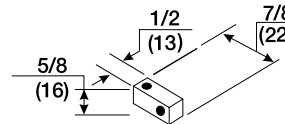
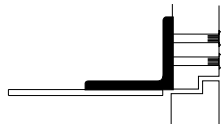
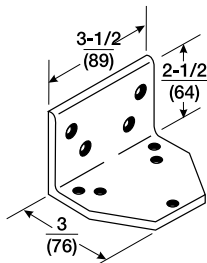
Closer Mounting Plates



**Narrow Top Rail - #88 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface.

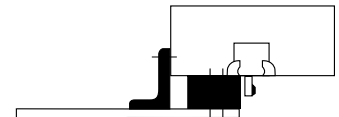
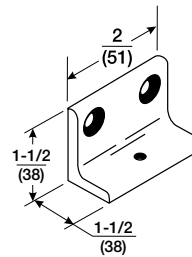
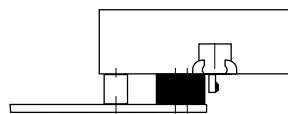
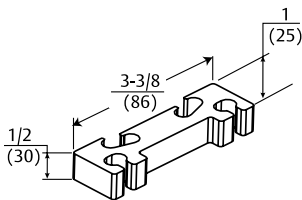
PARALLEL RIGID

Brackets for Non-Hold Open Arms



**Flush Rabbetted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the standard soffit plate.

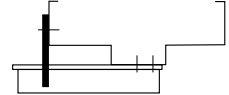
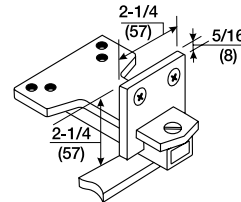
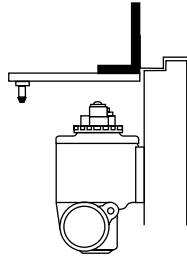
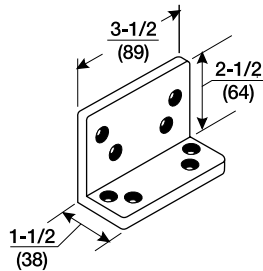
**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all parallel rigid arm closers.



**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard Spacer Block to provide clearance of the blade stop.

**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow, and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop.

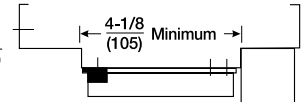
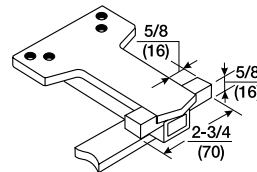
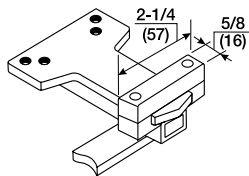
## Brackets for Non-Hold Open Arms



**Flush Transom - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of a soffit plate. Used in combination with the 1618 soffit plate, or it may be used in combination with the 20185 soffit plate when it is necessary for the closer arm to clear a separate overhead door holder.

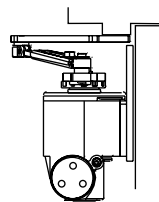
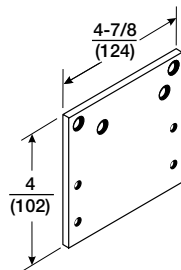
**Additional Support - #6190 Reinforcing Bracket:** Standard for use with all parallel arm *Unitrol* door controls. Provides additional support to the soffit plate on installations with door frame reveals from 1-7/8" to 4-5/8" (48 to 117mm).

## Reinforcing Kit



**Wide Frame - #6191 Reinforcing Kit:** Optional for use with all parallel arm *Unitrol* door controls. Used to support the soffit plate on installations with wide frames. Clamps may be used with or without the spacer block, depending on frame conditions.

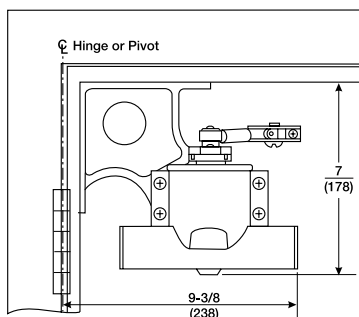
## Closer Mounting Plates



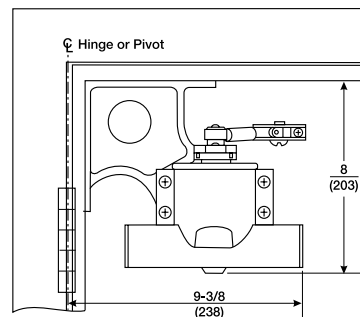
**Narrow Top Rail - #88 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface.

**CORNER  
BRACKETS**

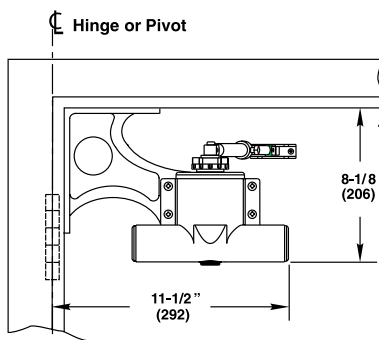
All of the following frame-mounted brackets require the use of a regular arm door closer of the opposite hand from the hand of the door. Use the Parallel Arm Sizing Chart to select the correct size of closer to use when the closer is to be mounted on a corner bracket.



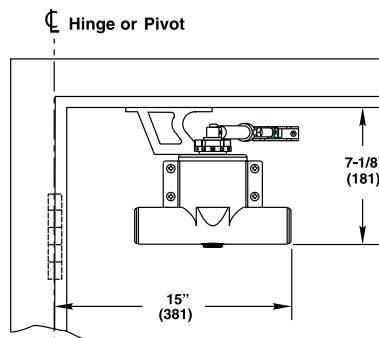
**Corner Mounting, Standard Drop - #2-B/F Corner Bracket:** For use where door is required to open to 180°. Minimum soffit width 1-3/8" (35mm).



**Corner Mounting, Extra Drop - #5-B/F Corner Bracket:** For use with a separate overhead door holder. Drops closer 1" (25mm) lower than #2-B/F Standard Drop Corner Bracket to permit mounting of an overhead holder. Permits door openings to 180°. Minimum soffit width 1-3/8" (35mm).

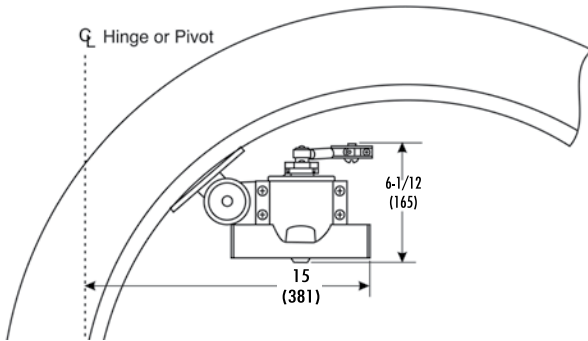


**Corner Mounting, Extra Drop and Extension - #8-B/F Combination Bracket:** Recommended for use instead of #2-B/F or #5-B/F Corner Brackets, whenever possible. Provides 1/2" (13mm) more clearance than #5-B/F Corner Bracket for an overhead door holder, and positions closer farther from hinge edge of door for best power advantage. Permits door openings to 140°.

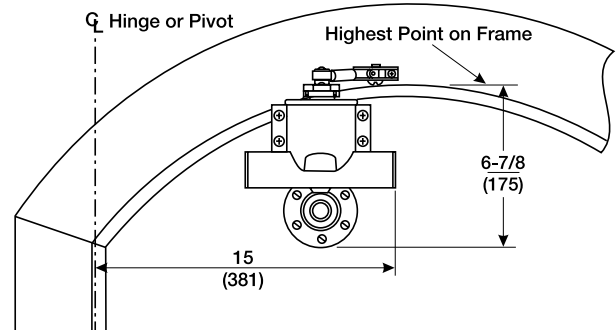


**Soffit Mounting - #1-B/F Soffit Bracket:** For use where frame conditions prevent mounting of a corner bracket. This bracket mounts to the overhead frame soffit. Permits door openings to 180°.



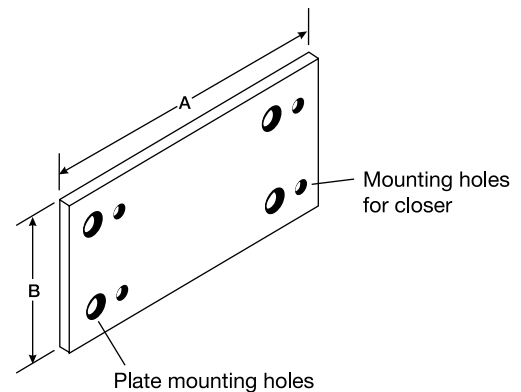


**Arched or Circular Top Door - #6-B/F Adjustable Bracket:** For opposite hinge side application on arched or circular top doors. This frame-mounted bracket can be adjusted to accommodate virtually any radius of frame. Minimum soffit width 2-1/2" (64mm). This bracket requires the use of a regular arm door closer of the opposite hand from that of the door. Intended for 90° door swing.



**Arched or Circular Top Door - #7-B/F Offset Adjustable Bracket:** For hinge side application on arched or circular top doors. This door-mounted bracket is adjustable to accommodate virtually any radius of frame. Base diameter 3-5/8" (92mm). Use in conjunction with a regular arm door closer. Intended for 90° door swing.

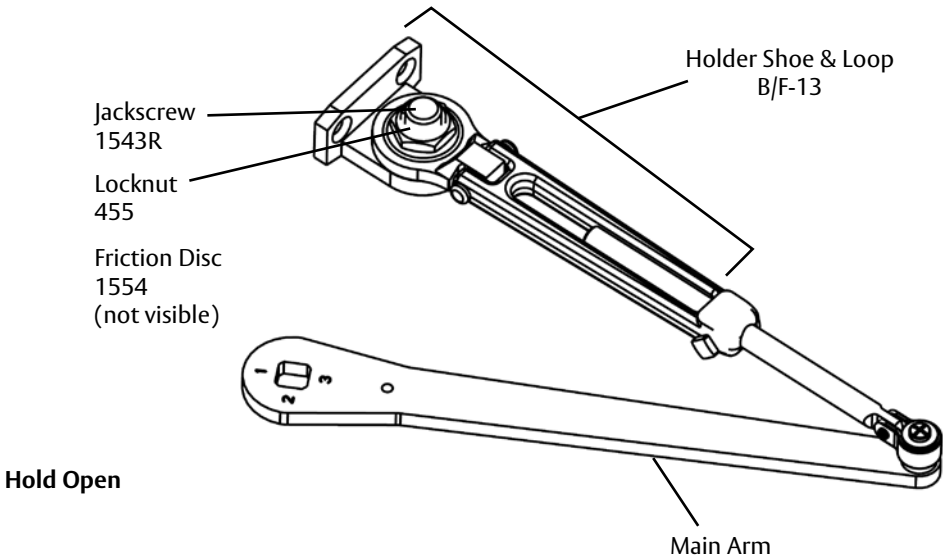
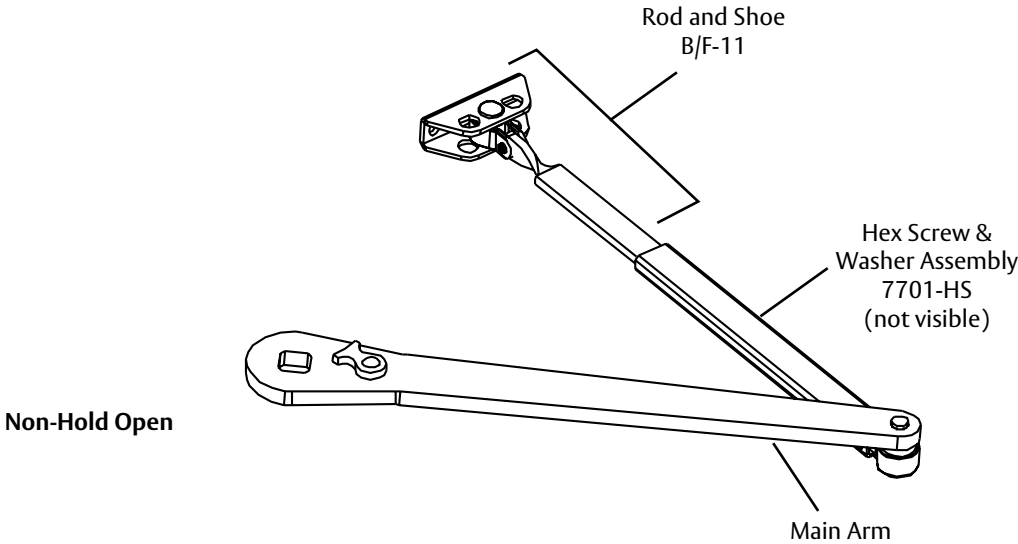
Size Closer Being Replaced	Adapter Plate Catalog Number	Dimensions	
		A	B
B	9-B	4-7/8" (124)	2-1/4" (57)
B/C	9-B/C	5-1/2" (140)	2-5/8" (67)
D	None Required	—	—
E/F	9-E/F	5-1/2" (140)	2-5/8" (67)



## #9 Adapter Plate

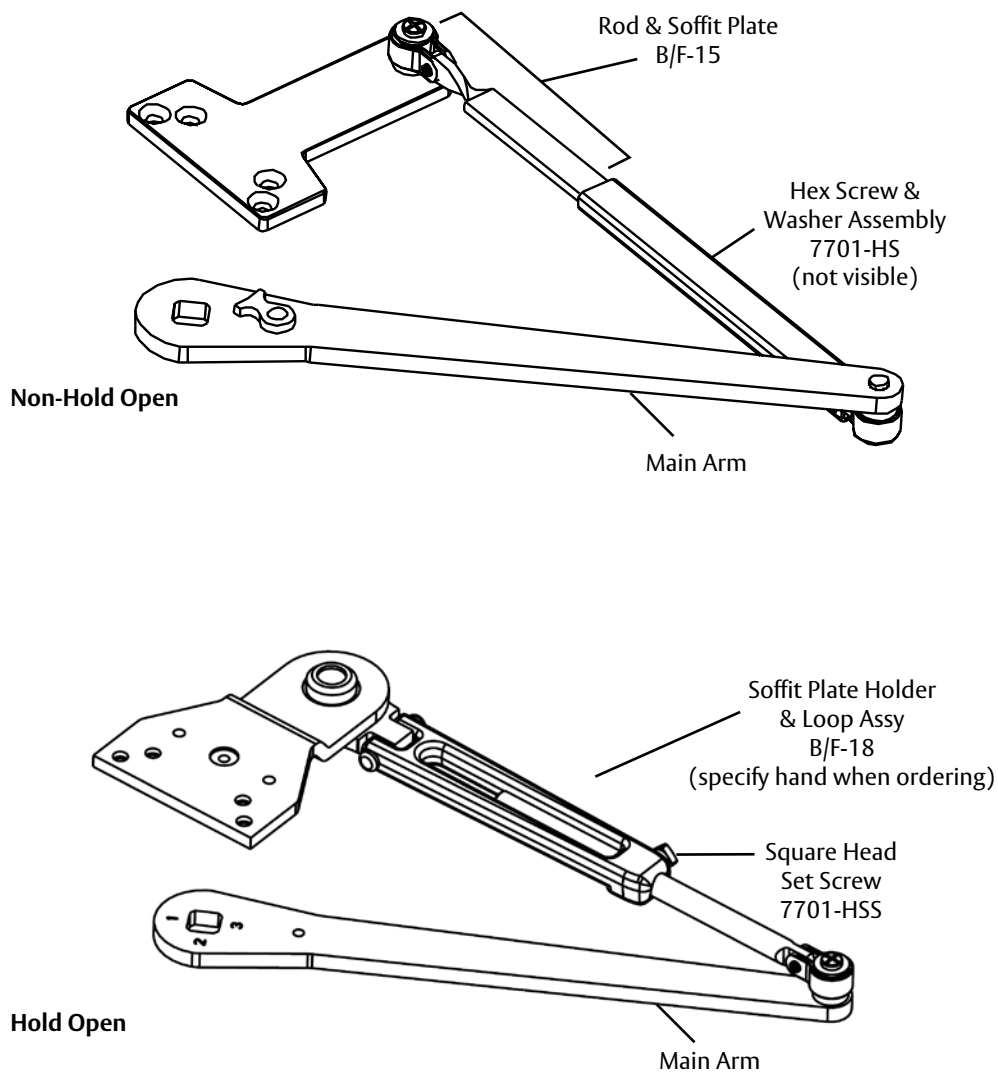
For use when replacing a discontinued old style traditional surface closer with a series 78-B/F Traditional Surface Closer. The plate selected will employ the existing holes in either door, corner bracket or soffit bracket. The Series 78-B/F will mount to the plate. These plates can be used to convert regular arm, parallel arm or bracket mount installations. Order by model number.

REGULAR ARM



**Note: Mounting hardware included with all parts ordered**

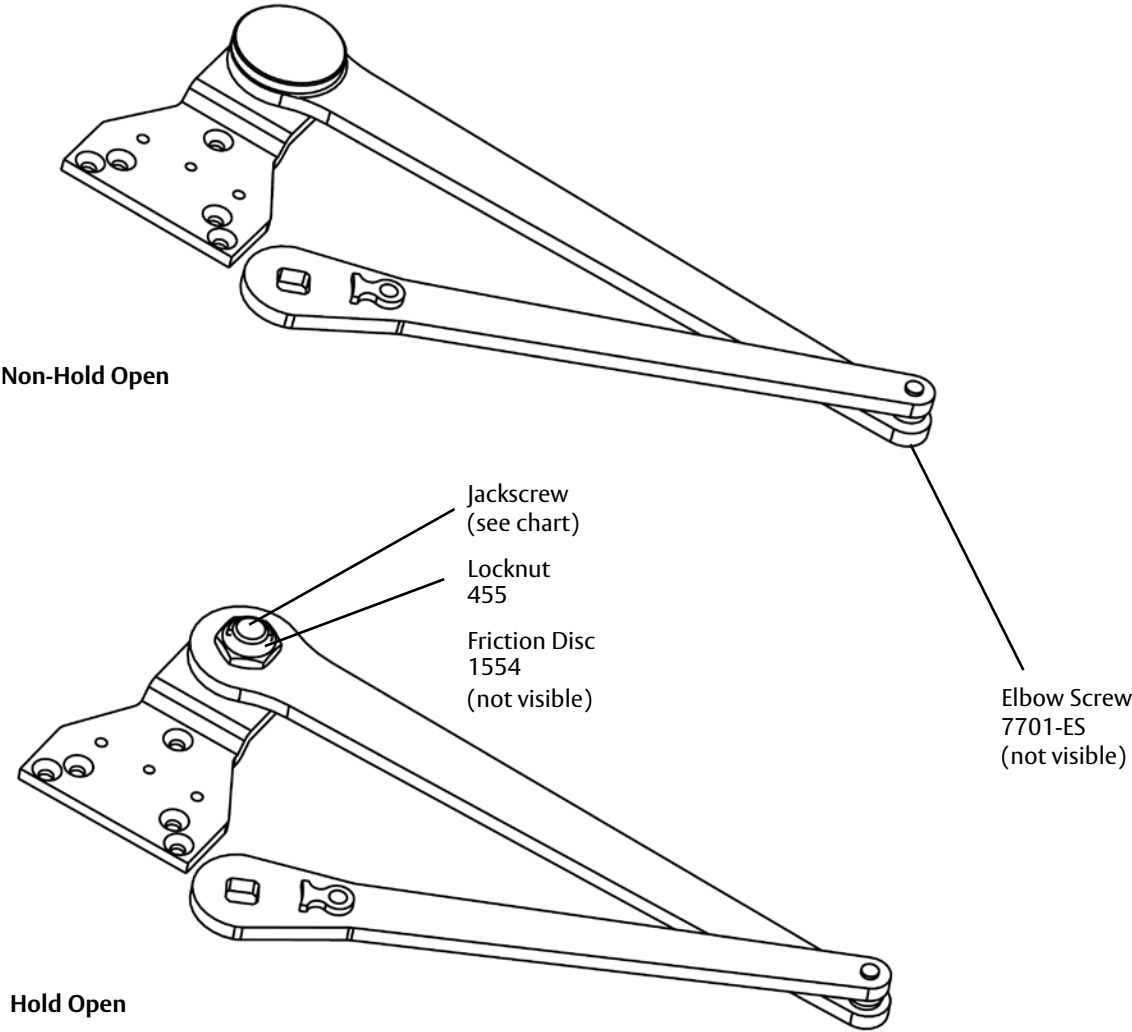
Arm Function	Complete Arm Assembly	Main Arm	Main Arm Less Rod & Shoe	Main Arm Less Holder Shoe & Loop Assembly
Non-Hold Open	B/F-1	B/F-1M	B/F-1W	N/A
Hold Open	B/F-3		N/A	B/F-3W



**Note: Mounting hardware included with all parts ordered**

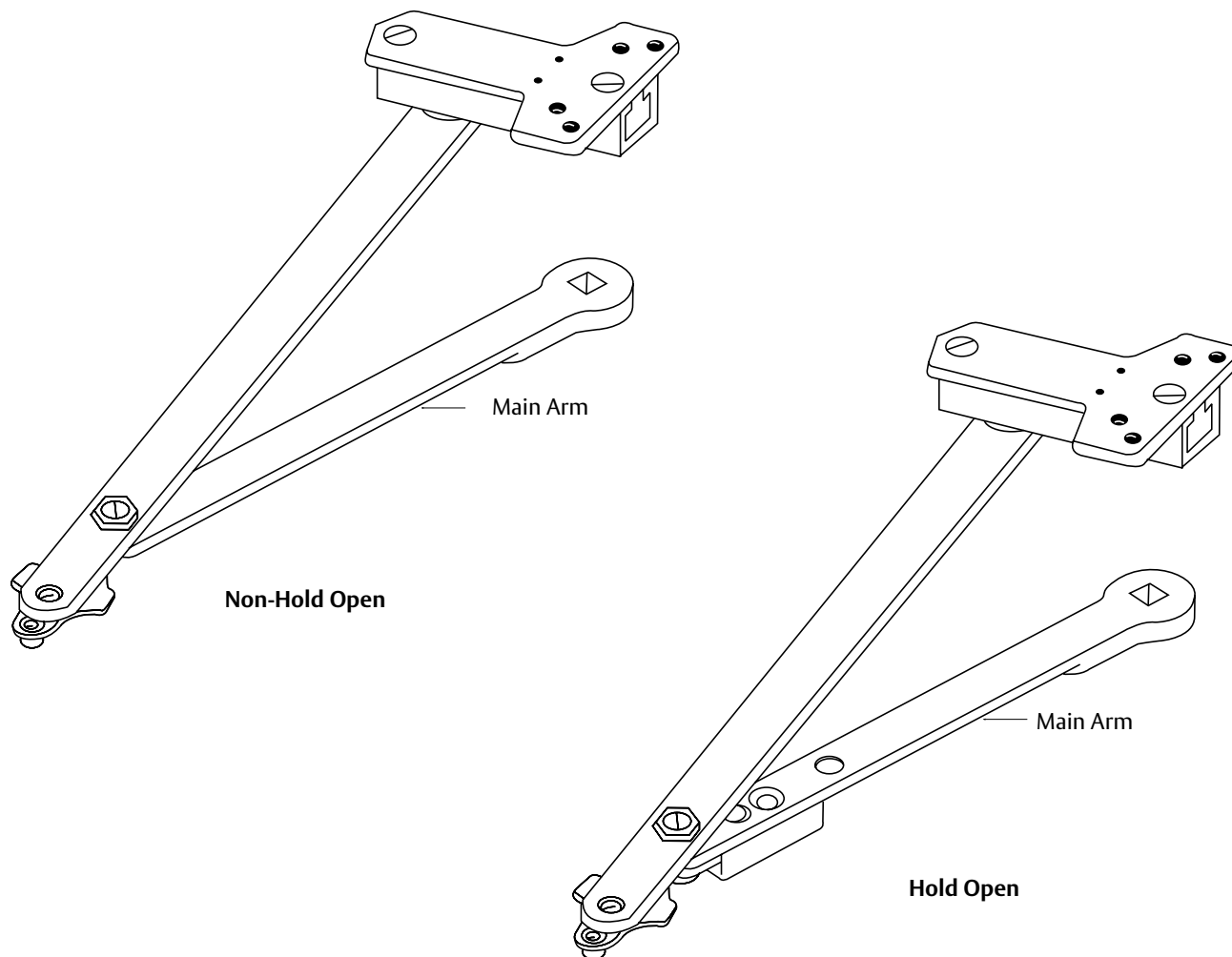
Arm Function	Complete Arm Assembly	Main Arm	Main Arm Less Rod & Soffit Plate	Main Arm & Rod Less Soffit Plate & Holder Loop Assembly
Non-Hold Open	B/F-5	B/F-1M	B/F-5W	N/A
Hold Open	B/F-8		N/A	B/F-8W

PARALLEL RIGID  
ARM ASSEMBLIES



**Note: Mounting hardware included with all parts ordered**

Arm Function	Complete Arm Assembly	Jackscrew
Non-Hold Open	78PRA-5	N/A
Hold Open	78PRA-8R (Right Hand)	1543R
	78PRA-8L (Left Hand)	1543L



**Note: Mounting hardware included with all parts ordered**

Door Width (cm)	Main Arm Length (mm)	Complete Arm Assembly	
		Non-Hold Open	Hold Open
28" - 32" (71 - 81)	9-1/2" (241)	6130-17	6130-7
33" - 41" (84 - 104)	11" (279)	6130-18	6130-8
42" - 48" (107 - 122)	12-1/2" (318)	6130-19	6130-9

MISCELLANEOUS  
PARTS

Springs	
Part Number	Description
24BD	B/D Spring
56EF	E/F Spring
230BC	Spring (prior to 1978 model)
230D	Spring (prior to 1978 model)
230EF	Spring (prior to 1978 model)

Wrenches	
Part Number	Description
78-SW	Spanner Wrench

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NOTES



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**ASSA ABLOY**

**For a complete listing of products and applications please visit our web site.**

**[www.nortondoорcontrols.com](http://www.nortondoорcontrols.com)**

**[www.assaabloy.ca](http://www.assaabloy.ca)**

**Or contact us at:**

**Norton Door Controls**

3000 Highway 74 East

Monroe, NC 28112

Tel: 877-974-2255

Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

160 Four Valley Drive

Vaughan, Ontario, L4K 4T9 Canada

Tel: 800-461-3007

Fax: 905-738-2478

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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

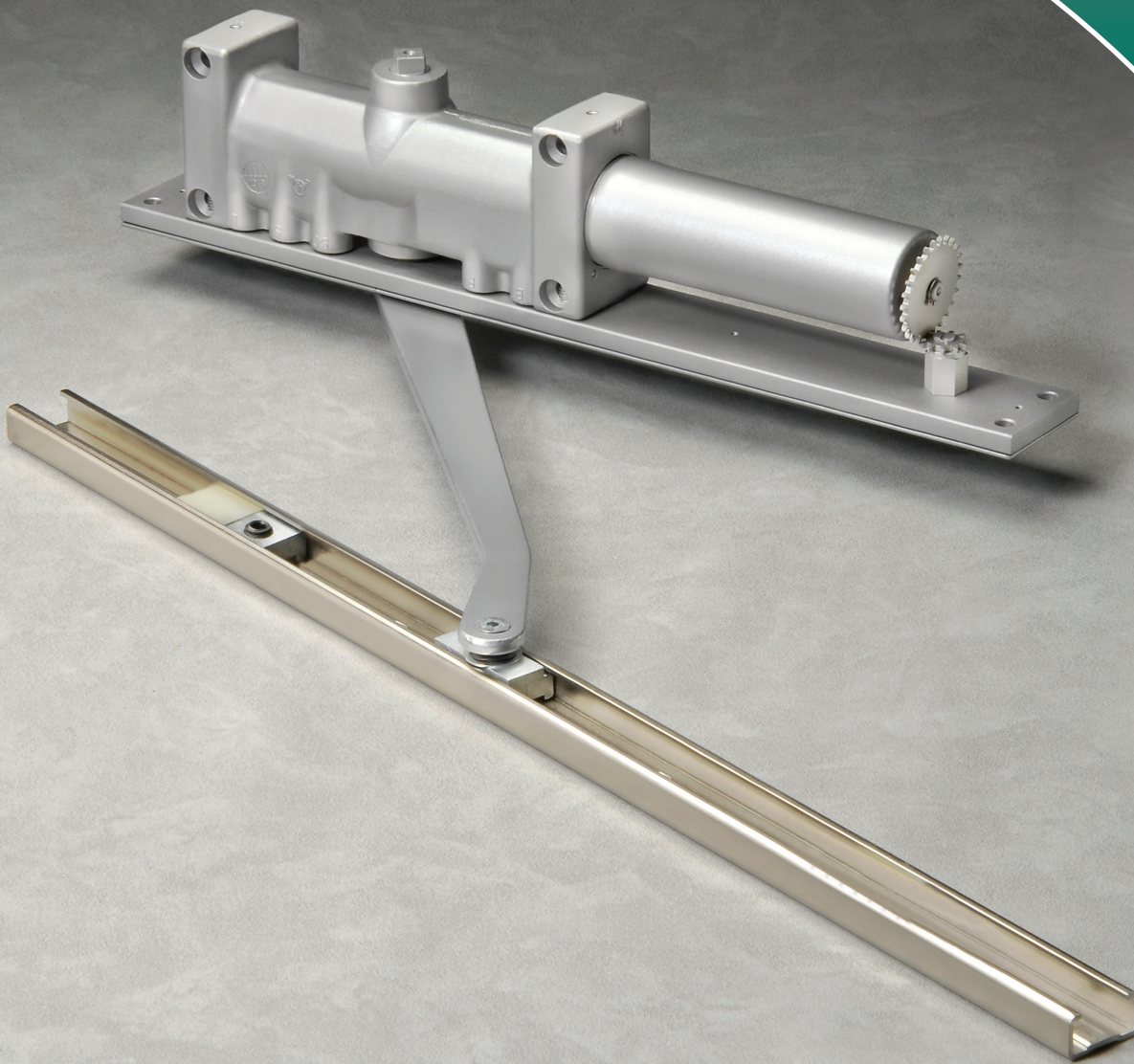


**Norton®**

**ASSA ABLOY**

# 7900 Series

## Institutional Overhead Concealed Door Closers



ASSA ABLOY, the global leader  
in door opening solutions

OVERVIEW

**Introduction**

Overhead concealed closers provide an aesthetically appealing way to close a door. In situations where a closer is needed but concealment in the frame header is required or desired, the Norton® 7900 closer is the ideal solution for door control. Once installed, only the solid one-piece arm is visible when the door is open; therefore, this unit provides a high degree of vandal resistance. When the door is closed, the closer, arm and slide track are fully concealed. For applications where concealment is required and security is the main concern, the 7970 should be used.

This heavy-duty, durable closer package includes a steel track, steel slider, polymer slider pads and dress plates. The steel track and slider offer additional strength to the unit, while the polymer pads provide quiet operation and easy assembly. Standard features include rack and pinion operation, adjustable sweep and latch, and adjustable backcheck cushioning and positioning.

The 7900 overhead closers are best suited for high-profile applications such as office buildings or conference centers. The 7970 security closers offer the necessary concealment and tamper resistance required in detention and psychiatric facilities. Used in conjunction with the door position switch (DPS) they provide the ability to monitor door status remotely.

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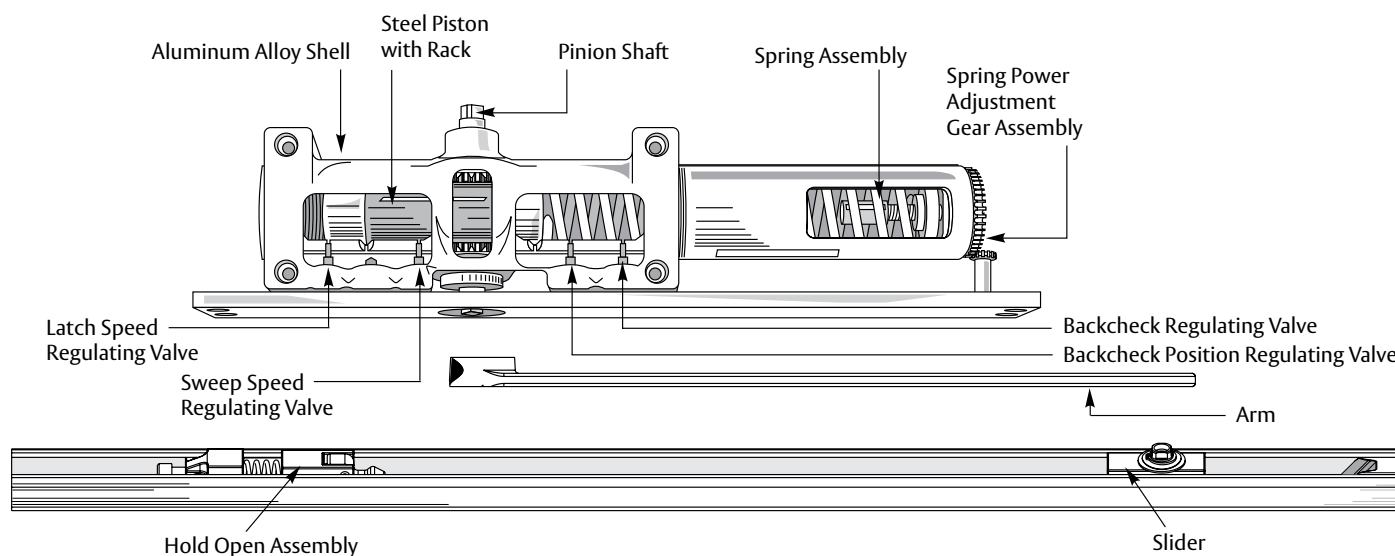
Technical Details .....9-11

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# 7900 Series Overhead Concealed Closers

## OVERVIEW

7900H shown



## FEATURES

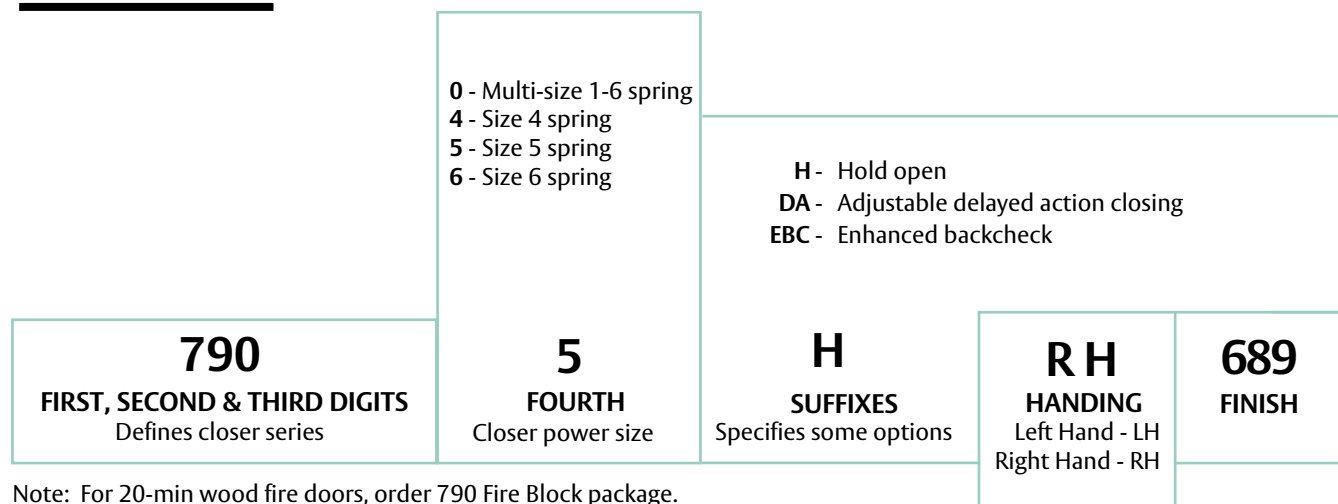
- Steel track
- Steel slider
- Polymer slider pads
- Fully adjustable, multi-point hold open (7900)
- Dress plates furnished standard
- Shock absorbing door stop
- Aluminum alloy shell
- Rack & pinion operation
- Non-critical valves
- Adjustable sweep speed
- Adjustable latch speed
- Adjustable backcheck cushioning
- Adjustable backcheck positioning

- Delayed action option
- Enhanced backcheck option
- Power choices
  - Sized closer (4, 5, 6)
  - Multi-size closer (0)
- ANSI A156.4, Grade 1
- Models available to meet ADA/A117.1
- UL listed
- Torx® screws furnished standard (7970 only)
- Door Position Switch (DPS) option (7970 only)
- 10-year limited warranty

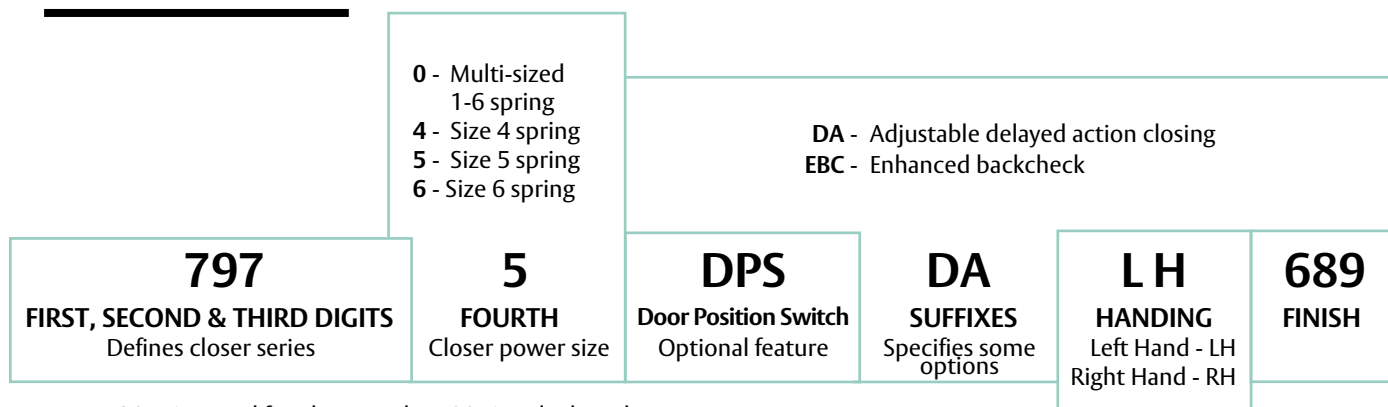
## HOW TO ORDER

Use the following outline to select the correct catalog number for the closer you require.

### 7900 Door Closers



### 7970/7970DPS Security Door Closers




### Packaging information:

All Norton® Series 7900 closers are packed one to a box, with an arm and a slide track, one hex key for control valve adjustment (and hold open tension adjustment), one hex key for arm to track attachment, one hex key for anchoring cushion stop in track. Installation instructions and both wood screws and metal screws for mounting are included.



# 7900 Series Overhead Concealed Closers

## DOOR SIZE

Maximum Door Size Wood or Metal Inches (Centimeters)		Model Number	
Interior	Exterior	Non-Hold Open	Hold Open
32 (81)	–	7904/7974	7904H
38 (97)	32 (81)	7905/7975	7905H
48 (122)	38 (97)	7906/7976	7906H
 Accessibility Code Compliance			
48 (122)	36 (91)	7900	7900H

Door sizing information is based on installation on standard weight doors hung on anti-friction hinges or pivots and operating under normal conditions. For doors in excess of 7'6" or on extra-heavy doors, where draft conditions exist or where door swings beyond 150°, use next larger size closer.

Ball-bearing or anti-friction hinges or pivots are always recommended for use with doors having door closers. They are required for fire door applications, except where a door manufacturer has a specifically listed fire door assembly.

When requesting templates, specify door hanging hardware (i.e. B= butt hinges, CP= center hung pivots, OP= offset pivots).

## FINISHES

### Sprayed Finishes

Description	BHMA Designation	Complements the following finishes	Old Norton® Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB

### Plated Finishes

Description	BHMA Designation	Old Norton Designation
Bright Brass	605E	US3
Satin Brass	606E	US4
Bright Chrome	625E	US26
Satin Chrome	626E	US26D

Order sprayed and plated finishes by BHMA designations.

## FEATURES

**Concealed Transom Mounting:**

Closer is concealed in the header of hollow metal, aluminum or wood frames. Installation requires a minimum 4" (102mm) high frame header. A removable frame stop furnished by the frame supplier is required where doors are less than 2" (51mm) thick. A dust/grout box 2" x 4" (51 x 102mm) x required length furnished by the frame supplier where conditions warrant the need for one. Consult factory for wood header installations.

**Door Thickness:** 1-3/4" - 2-1/4" (44-57mm) thick doors

**Top Rail Mounted Slide Track:**

Slide track is mounted into a recess prepared in the top rail of wood, aluminum or hollow metal doors. Depth of cutout at top of door 1-3/16" (30mm).

**Fire Block Door Liner:**

Available for use in 20-minute fire door assemblies where recognized by the local authority having jurisdiction.

**Standard Door Hanging Hardware:**

Closer and slide track can be installed on doors hung with butt hinges, offset pivots or center pivots. Hinges or pivots furnished by others.

**Concealed Arm:**

Closer arm is concealed when the door is closed. Requires a 3/8" (9.5mm) deep stop side door cutout for arm clearance.

**Shock-Absorbing Door Stop:**

Non-hold open and hold open units have a shock-absorbing adjustable position stop in the slide track. Use of auxiliary door stop is always recommended, not supplied.

**Hold Open:**

Sliding mechanism in channel changes position of hold open. The range of hold open points is dependent upon how the door is hung:

- 85° to 110° for doors hung on butt hinges
- 85° to 95° for doors hung on offset pivots
- 85° to 100° for doors hung on center pivots

**Adjustable Hold Open Tension:**

Hold Open tension can be increased or decreased by adjusting the tension on the slide track spring with a hex-key drive adjusting screw; or the hold open function can be totally eliminated by this same means.

**Aluminum Alloy Shell:**

Series 7900 closer bodies are constructed of a special aluminum alloy carefully selected to accommodate individual closer characteristics and operating conditions.

**Rack & Pinion Operation:**

A smooth power transmission through entire opening and closing cycle is provided by a long addendum gear form.

**Spring Power Adjustment:**

- 50% power adjustment for closer sizes 4, 5 and 6. Each closer can be adjusted by 50% over the minimum closing force for each size.
- Multi-sized power adjustment for closer sizes "0".

**Adjustable Sweep Speed:**

An independent, hex-key operated regulating valve permits adjustment of the general closing speed.

**Adjustable Latch Speed:**

An independent, hex-key operated regulating valve permits adjustment of the door's speed for approximately the last 5 degrees of the closing cycle.

**Adjustable Backcheck Cushioning:**

An independent, hex-key operated regulating valve provides an adjustable hydraulic cushion to the door opening speed toward the end of the opening cycle.

**Adjustable Backcheck Positioning:**

An independent hex-key operated regulating valve allows adjustment of the point in the door's opening cycle at which backcheck cushioning takes effect. It provides a range of 20° within which backcheck can be set.

**Non-Critical Valves:**

All control valves for sweep/latch speed, backcheck control and delayed action closing are non-critical and are adjusted by a standard 1/8" hex-key.

**Non-Hold Open and Hold Open Arms:**

Arm is 13" (330mm) long with an offset bend to permit door openings to 180°. Arm is handed. A special arm is furnished when hold open is required and the door is hung on center hung pivots. This straight arm is 16" long and non-handed.

**Separate Hinges/Pivots:**

Door is hung with butt hinges, 3/4" offset pivots or center pivots (by others). There is no need to open the door closer packaging to supply the hinges/pivots to the job or the door supplier. This eliminates problems with coordination of the hardware with other trades and reduces the probability of lost hardware.

## Enhanced Backcheck:

Adjustable backcheck intensity beginning at approximately 15° of the door opening cycle. It is intended for use in situations where the standard backcheck beginning at approximately 75° of opening allows too much unrestricted door travel to obtain control of the door without the fear of peripheral damage to the door closer, door, frame, hinges or pivots; or adjacent walls or structures. Specify EBC when ordering. **Offered in lieu of standard backcheck and backcheck positioning.**

## Door Position Switch (7970 only):

This switch is Single Pole Double Throw (SPDT) momentary contact, with one normally open and one normally closed set of contacts. The three switch terminals are wired to the integral conduit box for connection to incoming wiring. The switch and wiring are for operation with 6 to 24 VAC/DC systems.

- **Door Position Switch Adjustment:** Can be made at the opening without removing the closer from the frame. The door position adjustment test socket is accessible during installation for easy adjustment of the switch cam. Test probes from a volt meter are inserted into the test socket while using 1/8" hex wrench to adjust the position switch adjustment.
- **Test Socket:** Volt meter or test light may be connected to test socket to test normally open circuit or normally closed circuit at the door opening. The door position switch may be adjusted at the same time without removal of closer from door.
- **Adjustable Delayed Action Closing:** An optional hydraulic feature that adds a third speed range to the closing control cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. This delayed closing enables traffic to clear the opening before the normal closing cycle starts. This feature is advantageous to the handicapped, elderly or wheeled traffic. **Order by suffixing "DA" to the model number.**

## Accessibility Code Closer:

These closers provide reduced opening forces to conform with barrier code requirements (as specified in ANSI A117.1) for the handicapped while still providing acceptable door control. **Specify 7900 or 7970.**

SUGGESTED  
SPECIFICATIONS

Closers for exterior (and) interior doors shall be full rack and pinion type with cast aluminum alloy shell. Closers shall be concealed in a 4" (102 mm) high frame header. The slide track shall be concealed in the top rail of the door. Hydraulic fluid shall be non-gumming and non-freezing. (Closer shall be provided with a fire-blocking door liner to permit installation in 20-minute wood fire door assemblies.) Closer shall have (four) (five) noncritical valves, hex-key operated, to independently regulate sweep speed, latch speed, backcheck cushioning (and backcheck positioning) (and delayed action closing). [Closers shall be sized units (4, 5 or 6)].

[Closers shall have power adjustment to permit a 50% increase in power over the minimum closing force for any size.] [Closers shall have multi-sized adjustment for (interior doors)(exterior doors)]. Closer shall conform to Accessibility Code specifications. Degree of stop shall be field adjustable.

Slide track shall have a built-in cushioning shock absorber mechanism. (Hold open mechanism shall be capable of release when holding function is not required. Hold open mechanism shall have an adjustable range 85°-110° of door opening and shall release with a manual

pressure on the edge of the door in the direction of closer). Closer to be Norton® [Series 7900] [Series 7970] (with Norton® #790 Fire Block). 7970/7970DPS shall be supplied with Torx® lobular drive fasteners having a center security pin.

**7970 DPS**

Closer to have a door position switch to indicate "Door Open/Door Closed" condition.

## STANDARDS

**ADA**

The 7900 and 7970 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A) and ANSI standard A117.1.

**ANSI/BHMA/Federal Specs**

All series 7900/7970 closers comply with ANSI A156.4 Grade 1 Specifications, Federal FF-H-121D Specifications (CO5030, CO5040, CO5050 w/o PT4B-4C-4D) and FF-H-121c Specifications (3210-3215-3220).

**NYC Listing**

These closers are also listed with New York City Materials and Equipment Acceptance Division (41-60-SM).

**U.L. Listing**

All Norton series 7900/7970 closers with non-hold open arms are listed by Underwriters' Laboratories Inc. and Underwriters' Laboratories of Canada for use on labeled fire doors.

**WHI**

The Norton Fire Block door liner is listed with Warnock Hersey International for use in 20-minute (wood) fire doors that are listed with WHI, when used with the Series 7900 door closer. Specify model number 790. The combination of a 7900 door closer installed in a UL labeled hollow metal door frame and a Norton Fire Block installed in a WHI labeled 20-minute (wood) fire door, which has the tested preparation, may qualify as a 20-minute fire door assembly. Always consult local authorities to determine the acceptance and proper application of fire door and hardware applications.



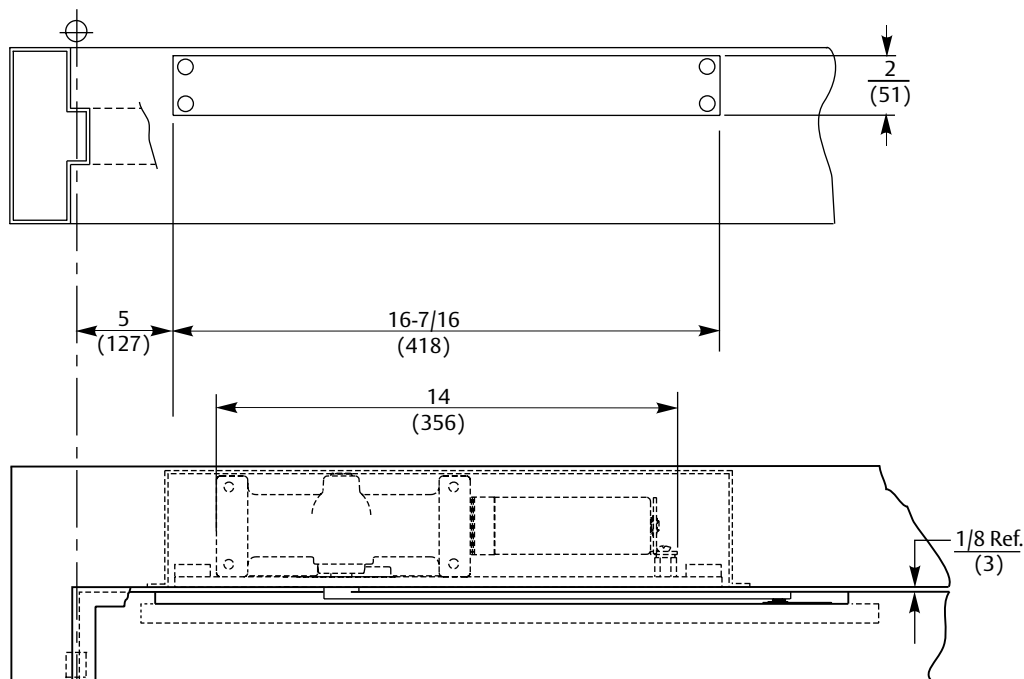
# 7900 Series Overhead Concealed Closers

**Norton**

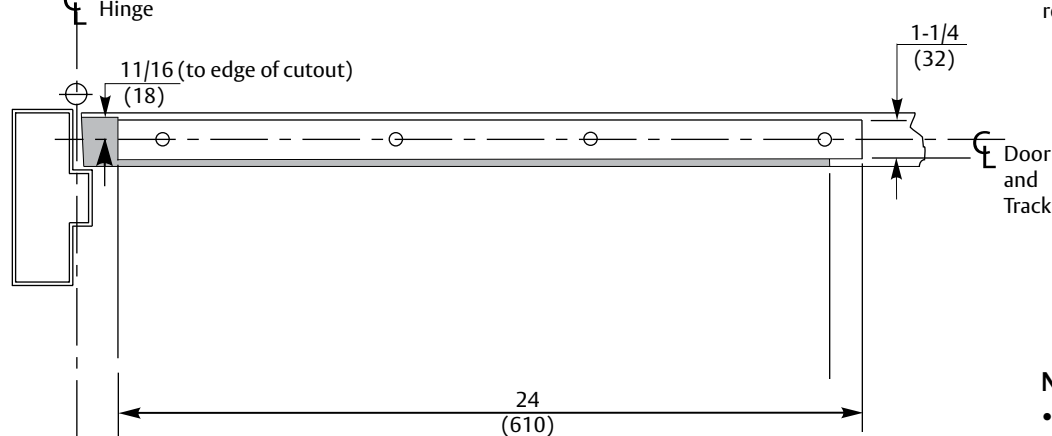
ASSA ABLOY

7900 BUTT HINGE  
INSTALLATION

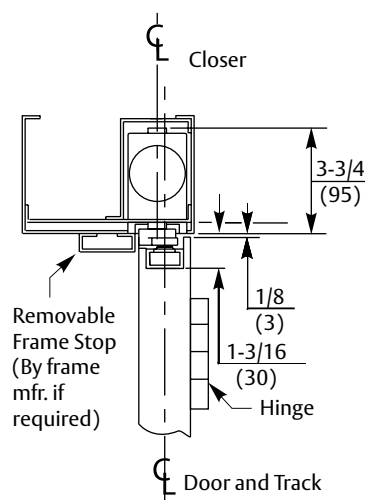
Viewed From Above



Viewed From Above



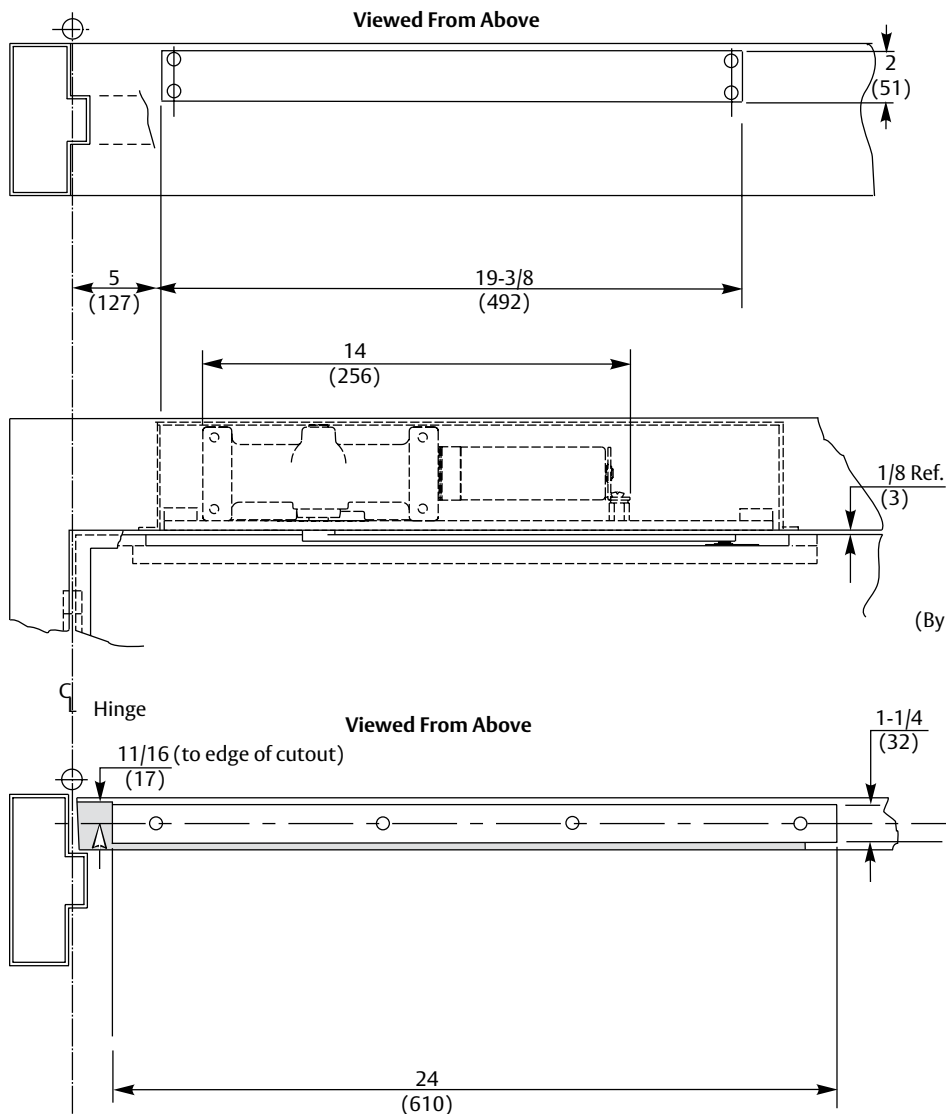
Dimensions for  
center hung and  
offset pivots vary  
from those shown.  
Consult templates.



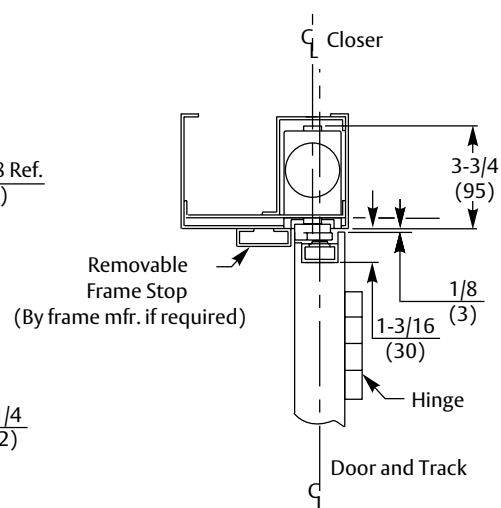
## Note:

- Left hand door shown
- Minimum door width 27"
- 1-3/4" to 2-1/4" thick doors
- Maximum width hinge is 5"
- Contact factory if door weight exceeds 250 lbs.

## 7970 BUTT HINGE INSTALLATION



**Dimensions for offset pivots vary from those shown. Consult templates.**



**Note:**

- Left hand door shown
- Minimum door width 27"
- 1-3/4" to 2-1/4" thick doors
- Maximum width hinge is 5"
- Contact factory if door weight exceeds 250 lbs.

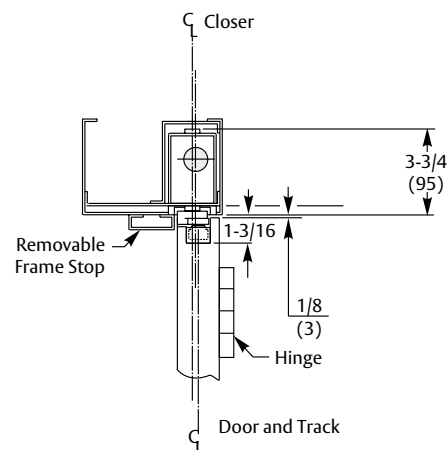
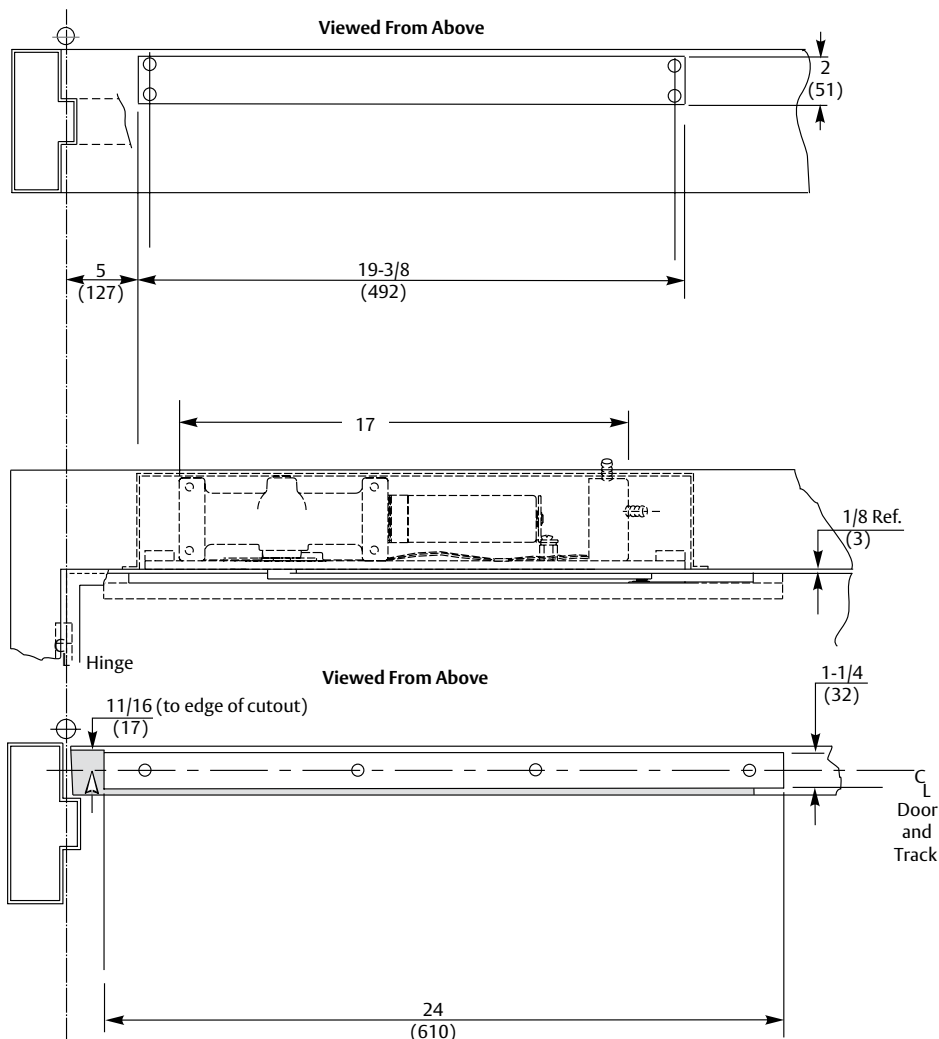
# 7900 Series Overhead Concealed Closers

**Norton**

ASSA ABLOY

7970DPS  
BUTT HINGE  
INSTALLATION

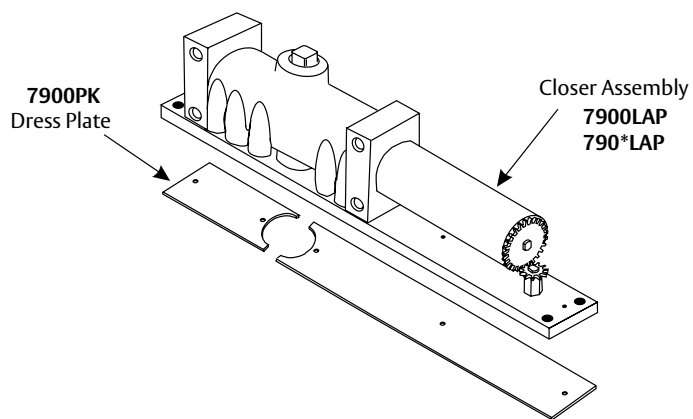
Dimensions for offset pivots vary from those shown. Consult templates.



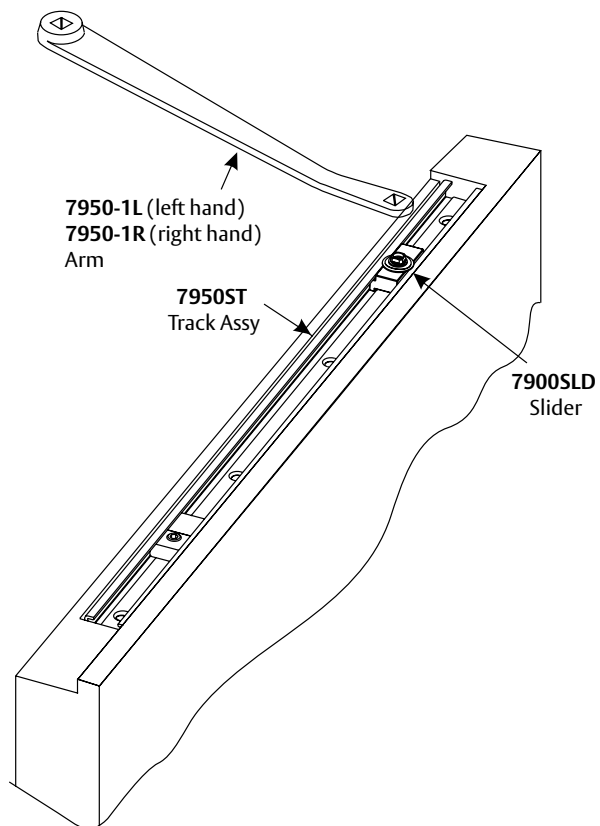
## Note:

- Left hand door shown
- Minimum door width 27"
- 1-3/4" to 2-1/4" thick doors
- Maximum width hinge is 5"
- Contact factory if door weight exceeds 250 lbs.

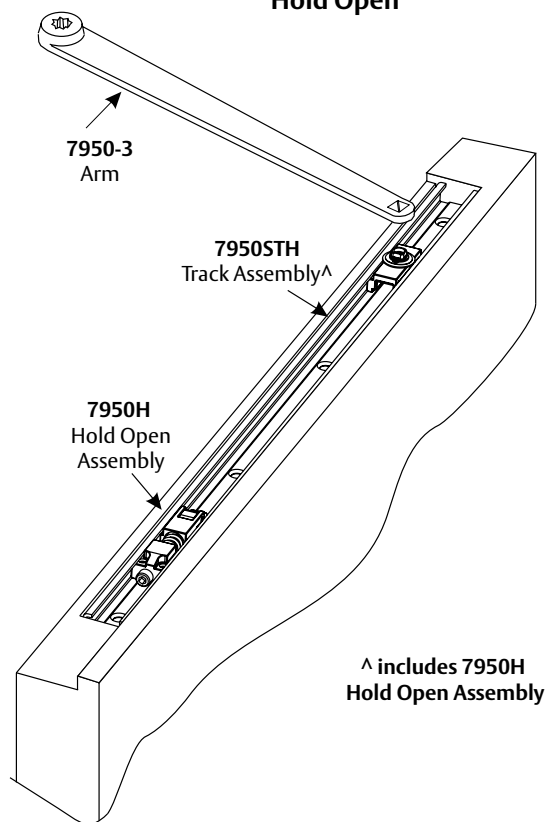
## PARTS



### Non-Hold Open



### Hold Open

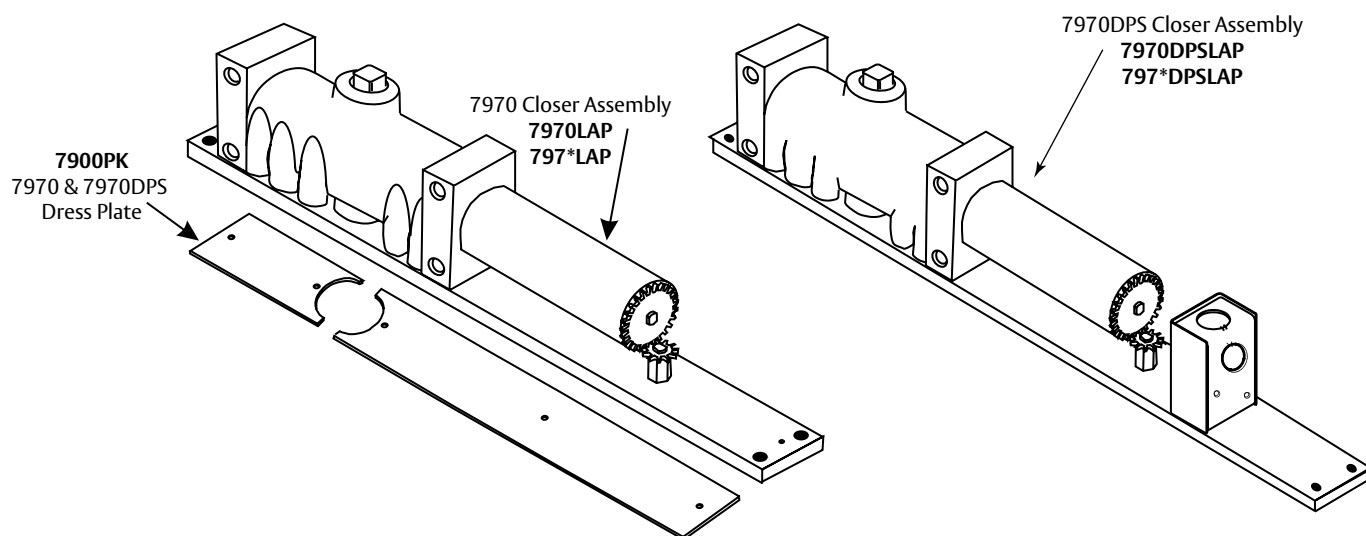


Specify finish when ordering parts.

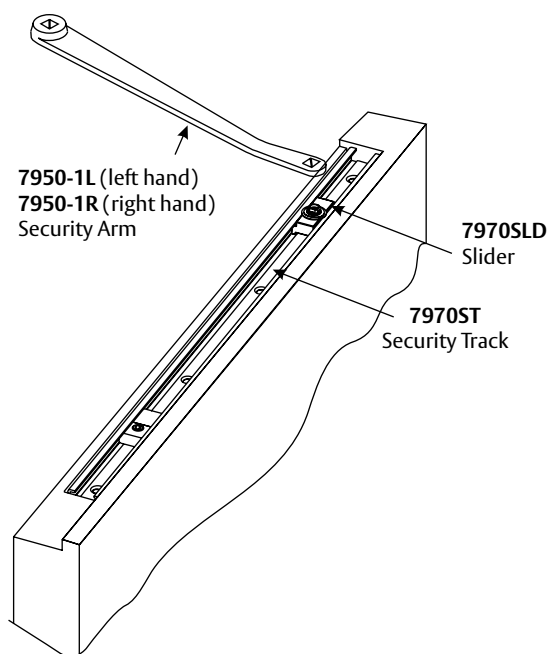
7900SP  
Screw Pack

# 7900 Series Overhead Concealed Closers

## PARTS



\* = specify size 4, 5 or 6



7970SP  
Screw Pack

70TK  
Torx Tool Kit

Specify finish on parts.



ASSA ABLOY

## 7900 Series Overhead Concealed Closers

NOTES





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**ASSA ABLOY**

**For a complete listing of products and applications please visit our web site.**

**[www.nortondoорcontrols.com](http://www.nortondoорcontrols.com)**

**[www.assaabloy.ca](http://www.assaabloy.ca)**

**Or contact us at:**

**Norton Door Controls**

3000 Highway 74 East

Monroe, NC 28112

Tel: 877-974-2255

Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

160 Four Valley Drive

Vaughan, Ontario, L4K 4T9 Canada

Tel: 800-461-3007

Fax: 905-738-2478

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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.





# 8000 Series Architectural Door Closers



ASSA ABLOY, the global leader  
in door opening solutions

OVERVIEW

**Features**

- Non-handed
- Staked valves
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Cast aluminum body
- Rack-and-pinion design
- 1-1/4" (32mm) diameter piston
- 5/8" (16mm) diameter pinion journals
- 2-1/8" (54mm) projection (standard covers)
- All standard arm applications (with slim, full or metal covers) allow doors to swing 180 degrees, conditions permitting
- 8300/8301 - shipped with slim-line plastic cover
- 8500/8501 - shipped with full plastic cover
- Full size template
- 10-year limited warranty

**Optional Features**

- Metal, architectural plastic or architectural metal covers (8500 or 8501 only)
- Lead lined metal cover - suffix MLL
- Delayed action
- Heavy-duty arms; Regular Rigid, Parallel Rigid, CloserPlus®, CloserPlus Spring™, Unitrol®
- Slide Tracks: push or pull side mounting

**Compliance Standards**

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure
- ADA compliant (8301 and 8501)

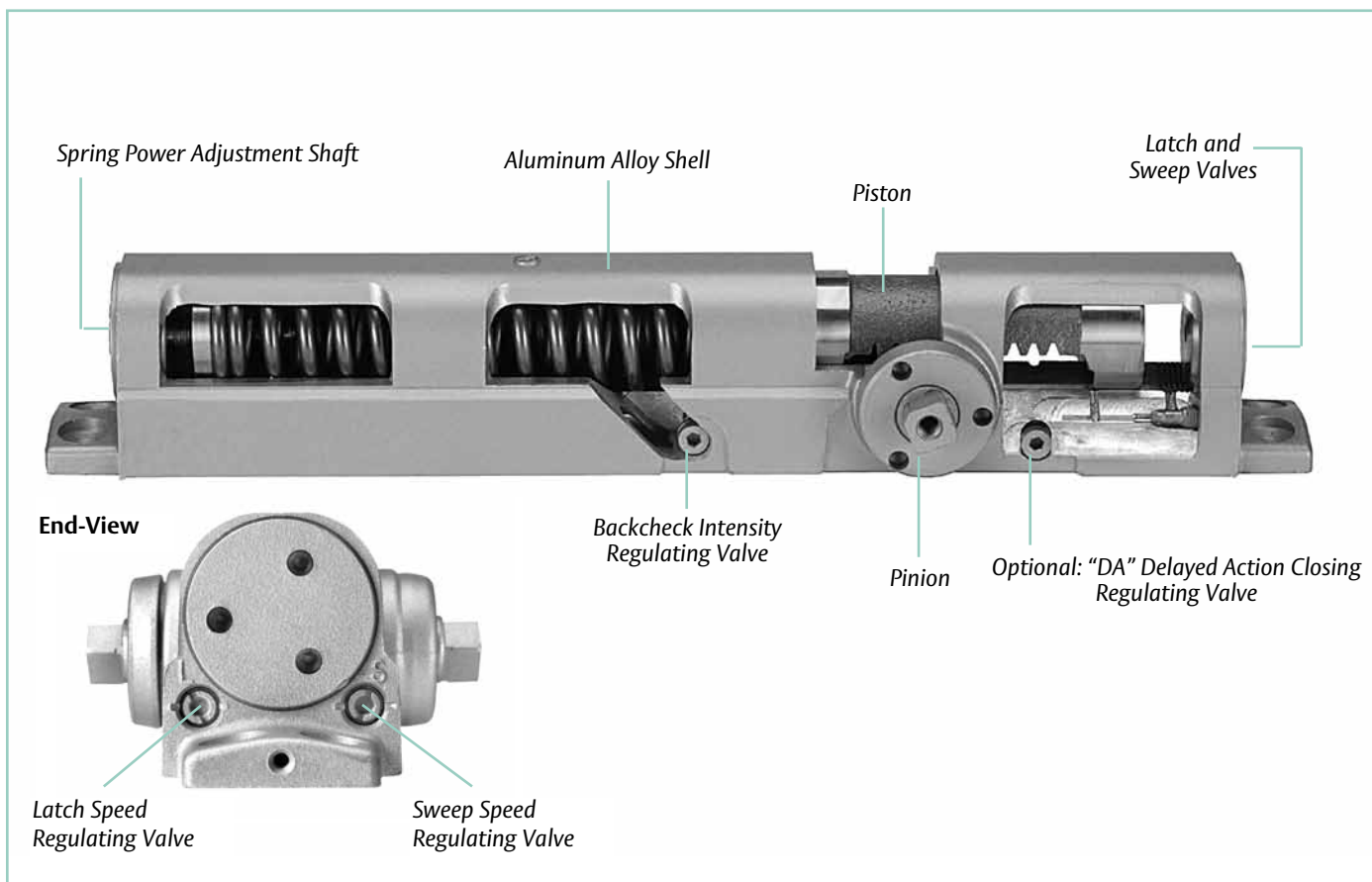


Features	8300	8500	8301	8501
Sized springs 2, 3, 4, 5, 6 with 50% additional adjustment	X	X		
Adjustable spring sizes 1 through 6			X	X
Bi-pack packaging standard (regular arm and top jamb mounting)	X	X		
Tri-Style® packaging standard (regular arm, top jamb and parallel arm mounting)			X	X




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## Cutaway View



## COMPLIANCE STANDARDS

 Series 8301 and 8501 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI/BHMA standard A117.1. All series 8300/8500/8301/8501 are ANSI/BHMA A156.4, Grade 1 certified.   All Norton series 8300/8500/8301/8501 closers with non-hold open arms are listed by Underwriters Laboratories for labeled fire doors. This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are listed by the New York City Materials and Equipment Acceptance Division.

### CAUTION: Door Closers for Low Opening Force Applications:

Door closers installed in openings required to meet the requirements of The Americans with Disabilities Act or ANSI Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.



HOW TO  
ORDER

For optimum protection of door and frame assemblies, always use auxiliary wall, floor, or overhead door stop.

**No Prefix** } 8300/8500 series designates bi-packed (regular & top jamb) (Top Jamb up to 3" reveal)

8301/8501 series designates Tri-Style® (stock closers)

**J** - Top Jamb installation. 2-3/4 to 7" reveal - 150° swing

**P** - 8300/8500 parallel arm only

- 8301/8501 parallel arm units with specialty brackets

- 8380/8580 low profile closer

**PR** - Parallel rigid arm (parallel arm only - specify hand for hold open functions)

**PRO** - Parallel rigid arm with offset soffit plate (parallel arm only - specify hand for hold open applications)

**PS** - For push side mounted slide track only

**R** - Regular rigid heavy-duty arm (Torx® screws not included)

**CLP** - CloserPlus® arm (parallel arm only)

**CPS** - CloserPlus Spring™ arm (parallel arm only)

**UNI** - Unicontrol® arm (parallel arm only - specify door width)

**UNIJ** - Unicontrol arm (top jamb only - specify frame reveal)

**Prefixes**

**Appearance Options**

"1" - without cover  
"3" - closer with Slim Line cover  
"5" - closer with Full cover

**8**  
**First Digit**  
Defines Closer  
Series

**3**  
**Second Digit**  
Specifies Cover  
Option

**0**  
**Third Digit**  
Specifies  
Type  
of Arm

**1**  
**Fourth Digit**  
Specifies  
Closer Size

**H**  
**Suffix**

**"No Suffixes"** - Standard non-hold open arm

**"H"** - Standard hold open arm

**"M"** - Metal cover; optional for series 8500 and 8501 closers only (Specify hand for Top Jamb closer)

**MLL** - Lead lined metal cover

**"A"** - Optional Architectural Plastic cover (8500/8501 only)

**"MA"** - Optional Architectural Metal cover (8500/8501 only)

**"T"** - Thumbturn hold open on *CloserPlus* (CLP) & *CloserPlus Spring* (CPS) arms

**"DA"** - Adjustable delayed action closing optional. Available with adjustable backcheck cushioning for all series

**"ST"** - Slide track single lever arm (pull side standard. For push side prefix PS)

**"DE"** - Pull side slide track arm for double egress frame with reveal (Handed)

**"G"** - ABS cover

"0" - Specifies standard type arms for non-hold open, hold open closers  
"4" - Specifies low profile slide track  
"8" - Specifies a low profile arm for non-hold open closers only

"1" - Full Power Range Closer adjustable sizes 1 through 6 (also adjustable to comply with Accessibility Code Closer Requirements)  
"2" - ANSI size 2  
"3" - ANSI size 3  
"4" - ANSI size 4  
"5" - ANSI size 5  
"6" - ANSI size 6

**Note:**

- Warranty becomes void if door closer is installed on the exterior side of a door in the exterior wall of a building.
- It is strongly recommended, and required on fire door assemblies, that doors having a door closer be hung on ball bearing or anti-friction hinges or pivots; unless an alternate method is identified in the door manufacturer's listing.
- Failure to use the correct type and size fasteners may void factory warranty.
- Fasteners for fire/smoke door assemblies must conform to NFPA 80. In some applications additional fasteners may be mandated by NFPA 80 that are not shipped with standard Norton product, such as sleeve-nuts or through-bolts and grommet nuts.
- Sizing charts provided on pages 13-25 are based on 1-3/4" (44mm) x 7' (2.13m) standard weight doors swinging to 110°. Other conditions (such as door height or weight; or wind/draft conditions) may require a larger size closer.

## Fasteners

Type	Description	Arm								
		RA	PA	TJ	Low Profile	PR	CLP / CPS	UNI	UNI-J	Slide Track
DOOR										
SDST	Self Drilling Self Tapping	S	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S	S
SN	Sleeve Nut	O	O	O	O	S	S	S	S	S
TBGN	Through-Bolts & Grommet Nuts	O	O	O	O	O	O	O	O	O
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O	O
Torx®	Torx Drive Security Screw	O	O	O	O	O	O	O	O	O
FRAME										
SDST	Self Drilling Self Tapping	S	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S	S
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O	O
Torx	Torx Drive Security Screw	O	O	O	O	O	O	O	O	O

S = standard; O = optional

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for thru bolting on wood doors. SN are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57mm) thick doors.

**TBGN** are an alternative to SN for wood doors. TBGN are supplied standard for 1-3/4" (44mm) thick doors. They can be specified for 1-3/8" (35mm) thick doors.

**SMS** - when specified, closer will be packed with sheet metal screws for the door AND sheet metal screws plus machine screws for the frame.

**TORX** screws with security pin are standard with Security Door Closers. *Torx* may be specified for all other series applications. *Torx* are only available with machine screw threads. Sheet metal screw threads or wood screw threads are not available.

Note: To order special fasteners with closers, specify model number x fastener (Ex: 8501 x 689 x TBGN)

## Finishes

Product will be painted with a combination of waterborne acrylic and polyester powder coat. Closers will withstand 100 hours of salt spray. ANSI requires 25 hours.

## Sprayed Finishes

Description	Specify Designation (BHMA)	Complements the following Architectural Plated Finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat*	600		SRI

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 8501 x 600 x 689).

Finishes other than those listed above may be available on special order. A sample will be required.

Plated Finishes (8500M, 8501M, 8500MA & 8501MA only)		Cover		Old Designation
		Metal	Arch. Metal	
Bright Brass	605E	Yes	Yes	US3
Satin Brass	606E	Yes	Yes	US4
Bright Bronze	611E	Yes	Yes	US9
Satin Bronze	612E	Yes	Yes	US10
Oxidized Oil Rubbed Bronze	613E	Yes	Yes	US10B
Bright Chrome	625E	Yes	Yes	US26
Satin Chrome	626E	Yes	Yes	US26D

\* When a plated finish is ordered, arm and cover will be plated unless "cover only" is specified.

8300/8301 - available with plated arm only.

## FEATURES

### Aluminum Alloy Housing

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interactive steel components and operating conditions.

### Rack & Pinion Operation

Provides a smooth constant control of the door through its full opening and closing cycle. 180° door swing can be achieved when door, frame, hardware and arm function do not interfere.

### Non-handed

With few exceptions all series 8300/8500 and series 8301/8501 door closers are non-handed and can be installed on either right- or left-hand swing doors. Pinion shaft extends vertically through the closer body in both directions. Some options, as noted on pages 6-7, will require that the hand of the closer be specified.

### Sweep Speed Control Valve

Allows adjustment of door speed from the door's full open position down to approximately 10° from the closed position.

### Latch Speed Control Valve

Allows adjustment of door speed from approximately 10° down to the door's fully closed position.

### Tri-Style®

8301/8501 comes with screws, brackets and soffit plates to allow for regular, top jamb, and parallel arm installations.

### Adjustable Backcheck Valve

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It cushions the door opening when the door is forcibly opened beyond its pre-adjusted limits.

### Standard Molded Covers

Molded of high-impact U.L. listed material. These covers are non-handed for all applications.

### Warranty

Limited ten-year warranty for defects and life of the building on the aluminum housing.

### Closer Fluid

NorGlide® closer fluid is a specially formulated multi-viscosity hydraulic fluid that contains lubricity and anti-oxidation agents that provide optimum performance and efficiency. This fluid complements the interaction of the door closer's aluminum housing with its steel and brass components, while maintaining stable viscosity to allow the door closer to perform in temperatures ranging from extremely high to as low as -40° F.

### Door Closer Power Options

#### Series 8300/8500 Sized Door Closer

Available in five different power sizes (2, 3, 4, 5 or 6). Each power size is adjustable up to 50% stronger than the minimum closing force for that size; as outlined in ANSI/BHMA standard A156.4 option PT 4C.

#### Series 8301/8501 Multi-Sized Door Closer

Adjustable through the power range of sizes 1 through 6; as outlined in ANSI/BHMA specification A156.4 option PT 4H.

Closers will also comply with the opening force requirements as outlined in the Americans with Disabilities Act (ADA) and ANSI/BHMA standard A117.1 for interior doors.

## OPTIONAL FEATURES COVERS

### Optional Metal Cover

This steel cover is non-handed for regular and parallel arm applications, but is handed for top jamb applications. Cover is available in sprayed or plated finishes.



### Optional Architectural Covers \*

**Plastic** Architectural plastic covers are molded of high-impact U.L. listed material. They are non-handed and available in sprayed finishes.

**Metal** The architectural metal covers are steel and non-handed for all applications. These covers are available in sprayed or plated finishes.



### Optional ABS Cover

Consult factory for details

\* For Parallel Arm Applications - Consult factory for doors swinging more than 120°

## OPTIONAL FEATURES

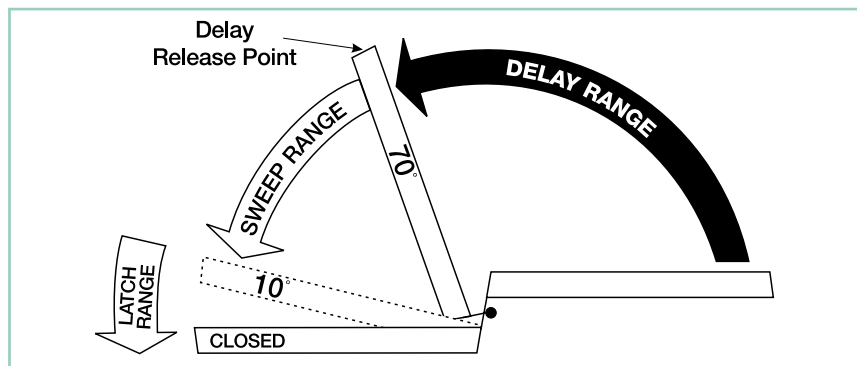
### Adjustable Delayed Action Closing

An optional hydraulic feature that adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds

### Pressure Relief Safety Valve

The delayed action hydraulic system contains a pressure relief valve. Any time the door is forced toward the closed direction while it is in the closing cycle, the valve will open and permit the door to close. This prevents damage to door, frame and closer.



### Suggested Applications

Delayed Action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can accommodate the facility's staff with movement of food service carts, beds, and other wheeled traffic.

Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/warehouse facilities, doors to workshops or laboratories, to kitchen and food processing areas, etc.

## OPTIONAL FEATURES ARMS

### Non-Hold Open

Self-closes door every time door is opened. Auxiliary stop (by others) required except when using the CloserPlus®, CloserPlus Spring™ or Unitrol® arms.

### Hold Open

Achieved by means of friction or ball and detent/ roller. Friction hold open has a range of 90° to 180° using template location and mechanical adjustment.

Ball and detent or roller hold open is effective in a range of 85° to 110°.

Hold open arm door closers are not permitted to be used on fire door assemblies.

### Door Opening Degrees

Arm Function	Regular Arm, Top Jamb Parallel Arm	Parallel Rigid Arm	CloserPlus® Parallel Arm	CloserPlus Spring™ Parallel Arm	Unitrol® Parallel Arm	Unitrol Top Jamb	Low Profile Regular, Parallel	Slide Track
Non-Hold Open	✓	✓	85° to 110°	85° to 110°	85° to 110°	85° to 110°	✓	85° to 110°/180°
Hold Open	90° to 180°	85° to 180°	85° to 110°	85° to 110°	85° to 110°	85° to 110°	N/A	85° to 110°

✓=180° trim and template permitting

SUGGESTED  
SPECIFICATIONS**8301/8501 Series**

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-1/8" from the surface of the door with standard cover. Closers shall be non-handed to permit installation on doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have multi-size spring power adjustment to permit setting of spring from size 1 through size 6. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have adjustable backcheck intensity controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed action closing controlled by a hex key adjustable valve.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+ or - 7-1/2%) power adjustment.

\*\*Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover], Closers to be Norton® [8301/8501] [8501M] [8501MA] [8501A].

\*\*For special arms insert that specification here (see column three on this page).

**8300/8500 Series**

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-1/8" from the surface of the door with standard cover. Closers shall be non-handed to permit installation of doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have power adjustment to permit a 50% increase in power over the minimum closing force for any size. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have adjustable backcheck intensity controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed action closing controlled by a hex key adjustable valve.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+ or - 7-1/2%) power adjustment.\*\* Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover], Closers to be Norton [8300/8500] [8500M] [8500A] [8500MA].

\*\*For special arms insert that specification here (see column three on this page).

**\*\*Unitrol® Arm**

Door closers shall have a fixed door stop feature effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop shall be cushioned by a shock-absorbing heavy-duty spring action effective at the [soffit plate] [arm shoe] pivot. [Closers shall be provided for parallel arm installation using a rigid steel main arm and secondary arm lengths proportional to the door width.] [Closers shall be provided for top jamb installation using a forged steel, rigid main arm and telescoping secondary arm adequate for the frame reveal of the openings.]

**\*\*CloserPlus® Arm**

Door closers shall have a field reversible door stop. Door closer shall have a feature with selectable on and off ball and detent hold open. Hold open tension shall be adjustable effective at one point selected at installation, from 85° - 110° in five degree increments. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel arm installation using a forged rigid steel main arm and secondary arm.

**\*\*CloserPlus Spring™ Arm**

Door closers shall have built-in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall be reversible and have a buffer spring that engages prior to the dead stop feature, reducing shock loads to the door and frame assembly. Door stop mechanism shall be non-handed and attached to soffit plate. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel installation using a forged rigid steel main arm and secondary arm.



## APPLICATIONS



### Regular Arm

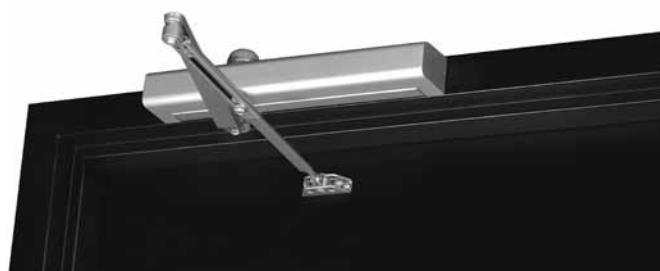
8301 - slim cover

This is the only pull-side application where a double lever arm is used. It is the most power-efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.



8501 - full cover

Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.

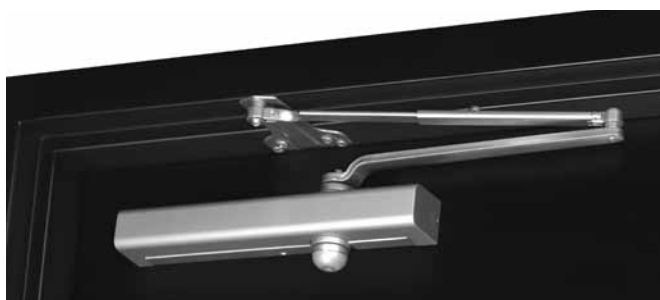


### Top Jamb

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 2-1/4" (57mm). This application provides the best door control for doors in exterior walls that swing out of a building.

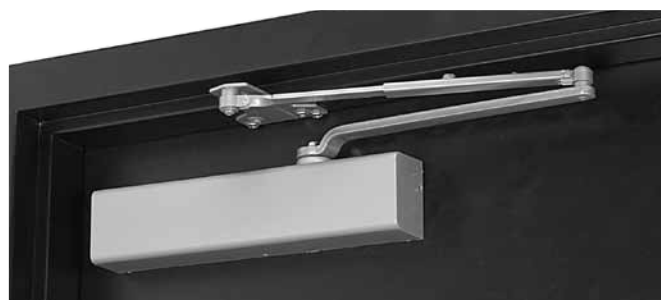


The entire door closer and arm assembly project from the frame, similar to the regular arm application, where matters of appearance and malicious abuse can be of concern. Consideration must be given to depth of frame reveal.



### Parallel Arm

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This also makes it beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.



Due to the geometry of the arm it is approximately 25% less power efficient than a regular arm application. The entire closer and arm assembly are mounted below the frame stop. Top rail clearance dimensions will vary based on the type of cover used. (See pg.15)

## APPLICATIONS



Non-hold open arm shown



Hold open arm shown

### Parallel Rigid Arm

An enhanced variation of the standard parallel arm assembly that is intended for use in heavy traffic areas where auxiliary door stops are installed.

Hold open available - specify hand when ordering.

### CloserPlus® Arm

Similar to the Parallel Rigid arm, this arm incorporates a stop at the arm's soffit plate to dead stop the door at a predetermined degree of door swing between 85° and 110°, in 5° increments. Prior to dead stop the door closer's backcheck feature slows the door speed to reduce the impact of the stop action.

The *CloserPlus* Arm is intended for use where an auxiliary door stop cannot be utilized and no more than moderate abuse is anticipated. Where more extreme conditions are expected, use of a *Unitrol* arm is recommended.

Available with or without hold open. (Hold open strength is adjustable.)



Non-hold open arm shown



### CloserPlus Spring™ Arm

This arm has all the characteristics of the *CloserPlus* arm with an additional steel buffer spring that provides greater protection at the end of the door opening cycle.

For extreme conditions, use of a *Unitrol* arm is recommended. Available with or without hold open.

### Regular Rigid Arm

This double lever arm features a non-adjustable secondary arm. Orbitally riveted joints prevent tampering or disassembly. Prefix "R" to model number. Available non-hold open only.



## Parallel Rigid Offset Arm

This heavy-duty parallel rigid arm provides additional vertical clearance. It is well suited for applications where weather-stripping or other hardware prevents the use of the standard Parallel Rigid (PR) soffit plate. The non-hold open and hold arms allow 1-1/4" clearance. When used in conjunction with a #6891 spacer block, the PRO arm provides 1-7/8" clearance to accommodate the use of a surface overhead stop/holder.



Parallel



Top Jamb

## Unitrol® Arm

Can be used for either parallel arm or top jamb applications. *Unitrol* arms combine the features of a double lever arm overhead door stop/holder with the backcheck feature of the door closer to reduce door stopping shock loads to a minimum. The *Unitrol* uses a compression spring buffer at the soffit plate/arm shoe that will absorb 30 lbf. of force, 5° prior to the door's dead stop. Coupled

with the door closer's backcheck feature, this arm provides the most controlled stop available with a surface door closer. For parallel arm applications there are three different length arm assemblies. Each length is designed for a specific range of door widths, to provide precise door control. This further lessens the dead stop impact on the door's hinges/pivots.

**APPLICATIONS**



Pull Side



Push Side

**Slide Track**

Whether pull- or push-side mounted, slide track provides the designer with the smoothest lines available in a surface-mounted door closer. The single lever arm allows components to be located in a stack configuration to minimize projection and eliminate obtrusive arm angles. The arm geometry reduces door closer power efficiency by approximately 25% from that of a regular arm.

**Standard unit:**

- Adjustable 85° - 110° (hold open and non-hold open). Track is supplied with a spring buffered stop. An auxiliary stop, by others, is recommended.
- Specify if hold open unit is required.
- 180° swing (non-hold open, pull side only) is also available. This track assembly requires that a door stop, by others, be supplied to stop the door.



Regular Arm

**Regular Arm:** Allows closer to be installed where there is as little as 1" (25mm) of frame face or ceiling clearance.



Parallel Arm

**Parallel Arm:** Allows closer to be installed 1/2" (13mm) higher up on door than standard parallel arm application.

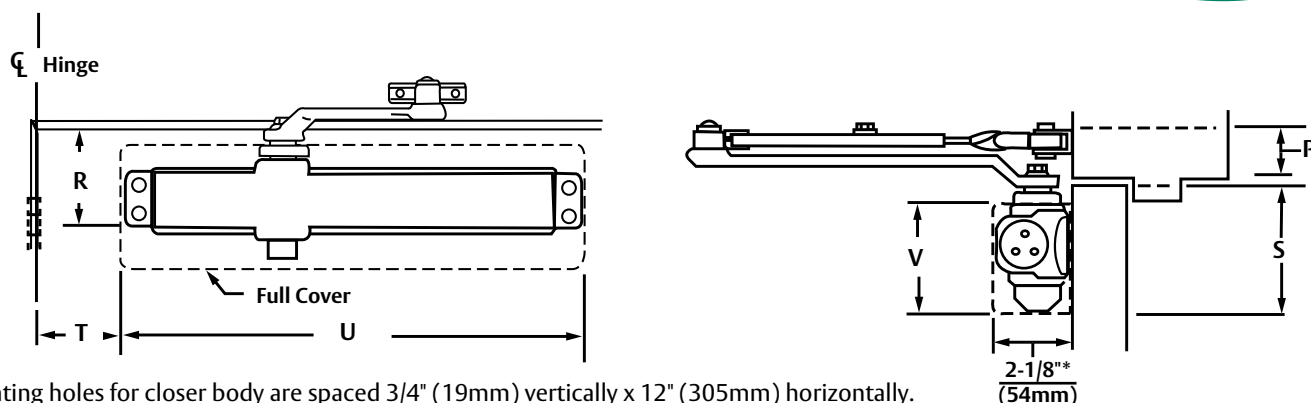
**Low Profile Arm**

Supplied with 8380/8580, 8381/8581 series door closers for non-hold open installations only. Low profile arms have a reduced height elbow joint and a straight main arm. This enables the door closer to be installed in less vertical space.

**Note:** Low profile arm door closers are not supplied with Tri-Style® packaging.

# 8000 Series Door Closers

## REGULAR ARM



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

Note: All measurements are inches/mm.

Maximum 180° door swing, conditions permitting.

Closer Series	Covers	P Minimum Ceiling Clearance			R Minimum Top Rail				S Minimum Top Rail Clearance		T Template Position for 100° door opening	U Closer Length	V Closer Height
					W/O Drop Plate		W/8146 Drop Plate						
		NHO	Low Profile	HO	NHO	Low Profile	NHO	Low Profile	NHO	Low Profile			
8100	No Cover	1-1/2" (38)	1" (25)	1-5/8" (41)	2-1/2" (64)	2-3/8" (60)	1-5/8" (41)	1-1/2" (38)	3-1/2" (89)	3-3/8" (86)	7-1/8" (181)	12-3/4" (324)	2-7/8" (73)
8300	Slim Line Plastic										7" (178)	13" (330)	
8500	Full Plastic												
8500M	Metal								4-1/4" (108)	4-1/8" (105)	6-3/4" (171)	13-5/8" (346)	3-3/4" (95)
8500A	Arch. Plastic								3-5/8" (92)	3-1/2" (89)	6-1/2" (165)	14" (356)	3-1/8" (79)
8500MA	Arch. Metal								3-1/2" (89)	3-3/8" (86)			

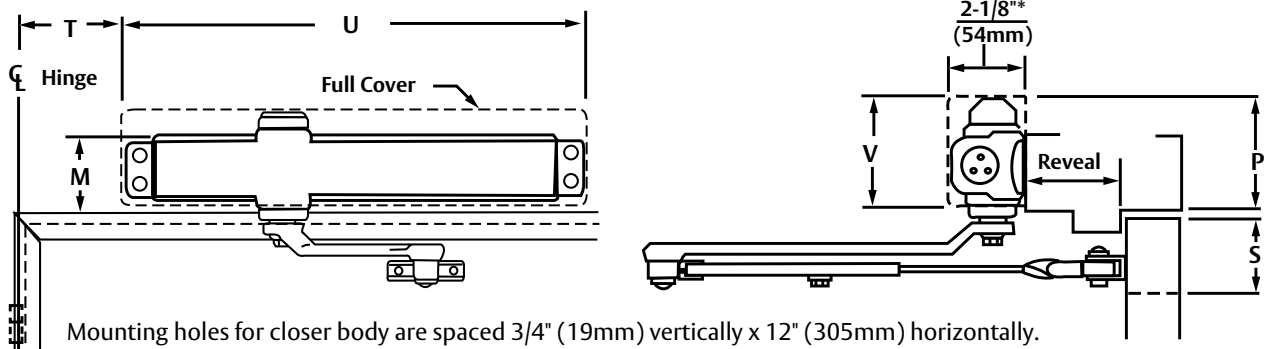
Door Widths Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closer	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
30" (76)	—	8302, 8502	8302H, 8502H	8301 8501	8301H 8501H
36" (91)	30" (76)	8303, 8503	8303H, 8503H		
48" (122)	36" (91)	8304, 8504	8304H, 8504H		
—	48" (122)	8305, 8505	8305H, 8505H		
Unusual		8306, 8506	8306H, 8506H		

Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

**TOP JAMB  
ARM**



Note: All measurements are inches/mm.

Closer Series	Covers	M Minimum Frame Face			P Minimum Ceiling Clearance			S Minimum Top Rail Clearance 5/8" (16mm) Frame Stop									T Template Position for 100° door opening	U Closer Length	V Closer Height
								W/O Drop Plate			W/8146 Drop Plate			With 8148/8547 Drop Plate					
		W/O Drop Plate	With 8146 Drop Plate	With 8148, 8158, 8547, 8547A Drop Plate	W/O Drop Plate	With 8146 Drop Plate	With 8148, 8158, 8547, 8547A Drop Plate	NHO	Low Profile	HO	NHO	Low Profile	HO	NHO	Low Profile	HO			
8100	No Cover	1-3/4" (40)	1-1/8" (29)	1-1/2" (38)	2-3/4" (70)	1-5/8" (41)	1-1/2" (38)	2-1/4" (57)	N/A	2-1/2" (64)	3-3/8" (86)	2-3/4" (70)	3-5/8" (92)	4-3/8" (111)	3-3/4" (95)	4-5/8" (117)	7-1/8" (181)	12-3/4" (324)	2-7/8" (73)
8300	Slim Line Plastic																7" (178)	13" (330)	
8500	Full Plastic																6-3/4" (171)	13-5/8" (346)	
8500M	Metal		N/A	1-5/8" (41)	3-3/4" (95)	1-5/8" (41)	6-1/2" (165)										14" (356)	3-1/8" (79)	
8500A	Arch. Plastic			1-1/2" (38)	3" (76)	1-1/2" (38)												3" (76)	
8500MA	Arch. Metal			2-7/8" (73)															

**Reveal Information**

Door Widths Inches (cm)		Catalog Number - Sized Closers
Interior	Exterior	
30" (76)	—	J8302, J8502
36" (91)	30" (76)	J8303, J8503
48" (122)	36" (91)	J8304, J8504
—	48" (122)	J8305, J8505
Unusual		J8306, J8506

Sized Closers	Reveal Range Inches (mm)	Maximum Door Opening	
		NHO	Hold Open
J8000	2-3/4" (70) to 7" (178)	150°	
J8000H	2-3/4" (70) to 6-3/4" (171)		150°
<b>Multi-Sized Closers</b>			
J8301, J8501	2-3/4" (70) to 4-1/4" (108)	180°	
J8301, J8501	4-1/4" (108) to 7" (178)	150°	
J8301H, J8501H	2-1/8" (54) to 4-1/4" (108)		180°
J8301H, J8501H	4-1/4" (108) to 6-3/4" (171)		150°

**Reveal Information (regular arm installed top jamb)**

Sized Closers	Reveal Range Inches (mm)	Maximum Door Opening	
		NHO	Hold Open
8000	0 to 2-7/8" (73)	180°	
8080 w/Drop Plate**	0 to 2-3/4" (70)	180°	
8000H	0 to 2-3/4" (70)		180°
<b>Multi-Sized Closers</b>			
8301, 8501	0 to 2-7/8" (73)	180°	
8301, 8501 w/Drop Plate	0 to 2-3/4" (70)	180°	
8301H, 8501H	0 to 2-3/4" (70)		180°

Reference Note on page 13 for information regarding multi-sized closers.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm).

Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

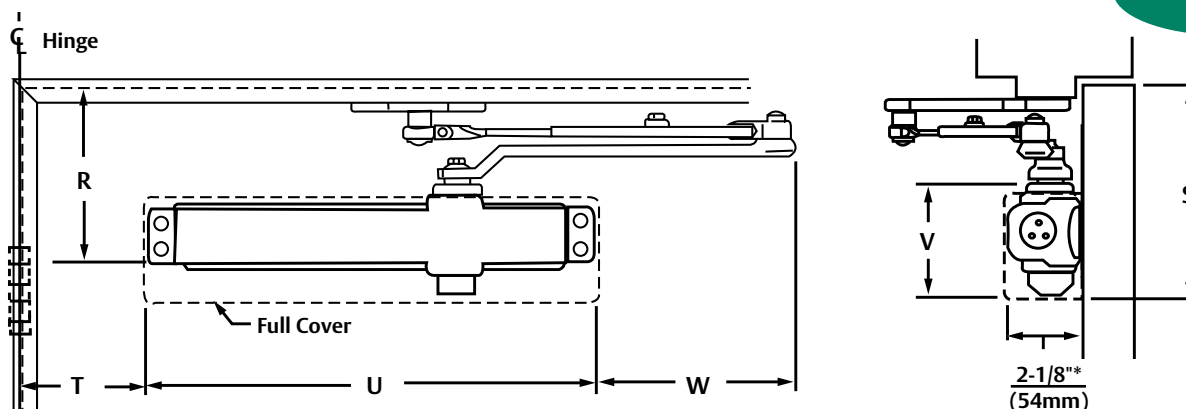
Note: Reveal range information is based upon

1-3/4" (44mm) doors hung on 4-1/2" wide hinges.

\*\* Drop Plate 8146, 8148, 8158, 8547 or 8547A

# 8000 Series Door Closers

PARALLEL  
ARM



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

Note: All measurements are inches/mm.

Maximum 180° door swing, conditions permitting.

Closer Series	Covers	R Minimum Top Rail Minimum Top Rail 5/8" (16mm) Frame Stop						S Minimum Top Rail Clearance			T Template Position for 120° door opening	U Closer Length	V Closer Height	W Arm Extension
		W/O Drop Plate			With 8148, 8158, 8548, 8548A Drop Plate									
		NHO	Low Profile	HO	NHO	Low Profile	HO	NHO	Low Profile	HO				
8100	No Cover	5-1/4" (133)	4-5/8" (117)	5-1/4" (133)	3" (76)	2-3/8" (60)	3" (76)	6-1/4" (159)	5-5/8" (143)	6-1/4" (159)	3-3/8" (86)	12-3/4" (324)	2-7/8" (73)	8-1/8" (206)
8300	Slim Line Plastic										3-1/4" (83)	13" (330)		8" (203)
8500	Full Plastic							6-7/8" (175)	6-1/4" (159)	6-7/8" (175)	3" (76)	13-5/8" (346)	3-3/4" (95)	7-5/8" (194)
8500M	Metal													
8500A	Arch. Plastic													
8500MA	Arch. Metal													

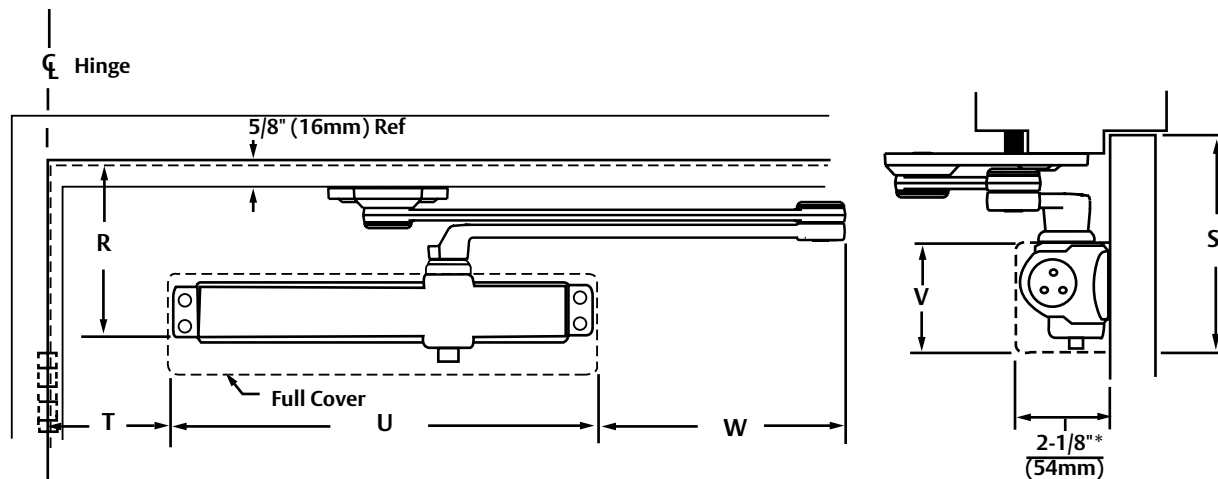
<sup>^</sup>Not available for doors that swing 180°

Door Widths Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closer	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
30" (76)	—	P8302, P8502	P8302H, P8502H	8301 8501	8301H 8501H
36" (91)	30" (76)	P8303, P8503	P8303H, P8503H		
42" (107)	36" (91)	P8304, P8504	P8304H, P8504H		
48" (122)	42" (107)	P8305, P8505	P8305H, P8505H		
—	48" (122)	P8306, P8506	P8306H, P8506H		

Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

PARALLEL  
RIGID ARM

Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

Note: All measurements are inches/mm.

Maximum 180° door swing, conditions permitting.

Closer Series	Covers	R Minimum Top Rail		S Minimum Top Rail Clearance	T Template Position for Listed Angle							U Closer Length	V Closer Height	W Arm Extension
		W/O Drop Plate	With Drop Plate		85°	90°	95°	100°	105°	110°	to 180°			
8100	No Cover	4-5/8" (117)	2-3/8" (60)	5-7/8" (149)	5"	4-1/8 (105)	3-1/2" (89)	2-3/4" (70)	2-1/4" (57)	1-5/8" (41)	3-1/8" (79)	12-3/4" (324)	2-7/8" (73)	8" (203)
8300	Slim Line Plastic				(149)	(105)	(89)	(70)	(57)	(41)	(79)	13" (330)		
8500	Full Plastic			6-1/2" (165)	4-3/4" (121)	3-7/8" (98)	3-1/4" (83)	2-1/2" (64)	2" (51)	1-3/8" (35)	2-7/8" (73)	13-5/8" (346)	3-7/8" (98)	7-5/8" (194)
8500M	Metal				6" (152)	4-5/8" (117)	3-3/4" (95)	3-1/8" (79)	2-3/8" (60)	1-7/8" (48)	1-1/4" (32)	2-3/4"^^ (70)	14" (356)	3-1/8" (79)
8500A	Arch. Plastic			5-7/8" (149)									3" (76)	
8500MA	Arch. Metal													

^Not available for doors that swing 180°

Door Size (Wood or Metal) Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Stop Only	Hold Open	Stop Only	Hold Open
28" (71) - 32" (81)	—	PR8302, PR8502	PR8302H, PR8502H	PR8301 PR8501	PR8301H PR8501H
33" (84) - 36" (91)	28" (71) - 32" (81)	PR8303, PR8503	PR8303H, PR8503H		
37" (94) - 41" (104)	33" (84) - 36" (91)	PR8304, PR8504	PR8304H, PR8504H		
42" (107) - 48" (122)	37" (94) - 41" (104)	PR8305, PR8505	PR8305H, PR8505H		
—	42" (107) - 48" (122)	PR8306, PR8506	PR8306H, PR8506H		

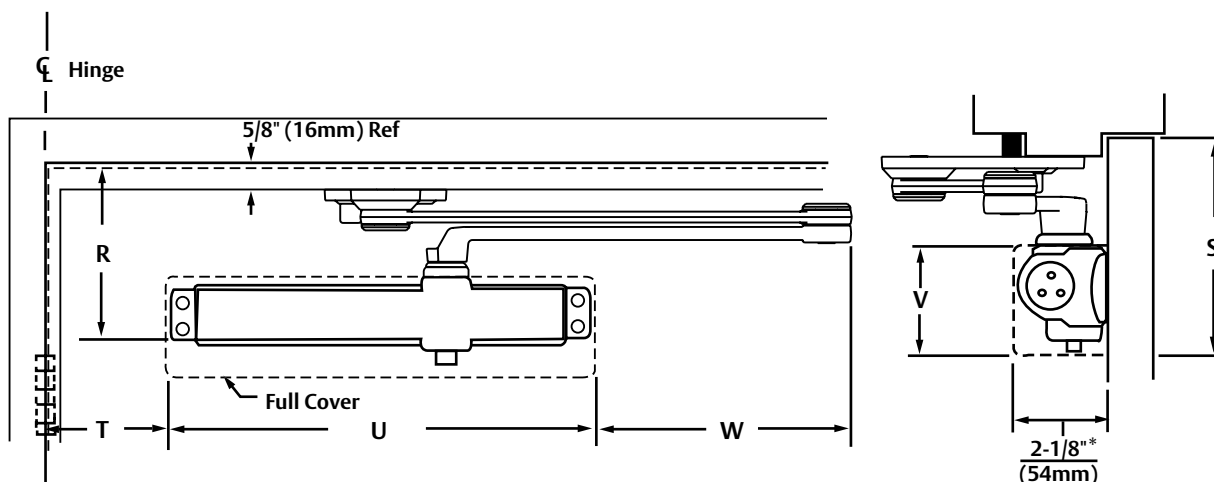
Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.



# 8000 Series Door Closers



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.  
Note: All measurements are inches/mm.

Closer Series	Covers	R		S Minimum Top Rail Clearance	T						U Closer Length	V Closer Height	W Arm Extension
		Minimum Top Rail			Template Position for Listed Angle								
		W/O Drop Plate	With Drop Plate		85°	90°	95°	100°	105°	110°			
8100	No Cover	4-5/8" (117)	2-3/8" (60)	5-7/8" (149)	5" (149)	4-1/8 (105)	3-1/2" (89)	2-3/4" (70)	2-1/4" (57)	1-5/8" (41)	12-3/4" (324)	2-7/8" (73)	8" (203)
8300	Slim Line Plastic										13" (330)		
8500	Full Plastic												
8500M	Metal			6-1/2" (165)	4-3/4" (121)	3-7/8" (98)	3-1/4" (83)	2-1/2" (64)	2" (51)	1-3/8" (35)	13-5/8" (346)	3-7/8" (98)	7-5/8" (194)
8500A	Arch. Plastic			6" (152)	4-5/8" (117)	3-3/4" (95)	3-1/8" (79)	2-3/8" (60)	1-7/8" (48)	1-1/4" (32)	14" (356)	3-1/8" (79)	7-1/2" (191)
8500MA	Arch. Metal			5-7/8" (149)									3" (76)

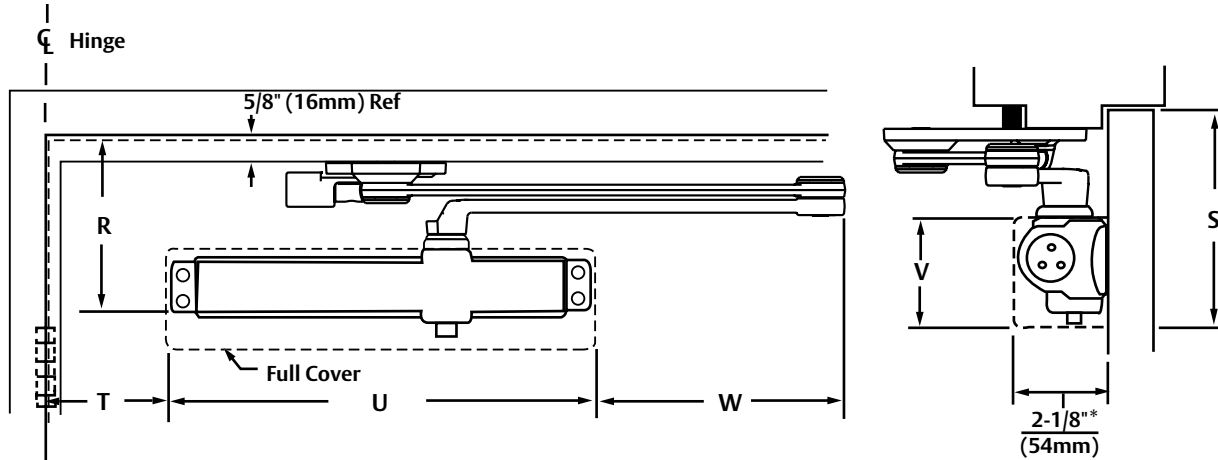
Door Size (Wood or Metal) Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Stop Only	Hold Open	Stop Only	Hold Open
28" (71) - 32" (81)	—	CLP8302, CLP8502	CLP8302T, CLP8502T	CLP8301 CLP8501	CLP8301T CLP8501T
33" (84) - 36" (91)	28" (71) - 32" (81)	CLP8303, CLP8503	CLP8303T, CLP8503T		
37" (94) - 41" (104)	33" (84) - 36" (91)	CLP8304, CLP8504	CLP8304T, CLP8504T		
42" (107) - 48" (122)	37" (94) - 41" (104)	CLP8305, CLP8505	CLP8305T, CLP8505T		
—	42" (107) - 48" (122)	CLP8306, CLP8506	CLP8306T, CLP8506T		

Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

**CLOSERPLUS  
SPRING™ ARM**



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.  
Note: All measurements are inches/mm.

Closer Series	Covers	R		S	T						U	V	W
		Minimum Top Rail			Template Position for Listed Angle								
		W/O Drop Plate	With Drop Plate		85°	90°	95°	100°	105°	110°			
8100	No Cover	4-5/8" (117)	2-3/8" (60)	5-7/8" (149)	5" (149)	4-1/8 (105)	3-1/2" (89)	2-3/4" (70)	2-1/4" (57)	1-5/8" (41)	12-3/4" (324)	2-7/8" (73)	8" (203)
8300	Slim Line Plastic										13" (330)		
8500	Full Plastic												
8500M	Metal			6-1/2" (165)	4-3/4" (121)	3-7/8" (98)	3-1/4" (83)	2-1/2" (64)	2" (51)	1-3/8" (35)	13-5/8" (346)	3-7/8" (98)	7-5/8" (194)
8500A	Arch. Plastic			6" (152)	4-5/8" (117)	3-3/4" (95)	3-1/8" (79)	2-3/8" (60)	1-7/8" (48)	1-1/4" (32)	14" (356)	3-1/8" (79)	7-1/2" (191)
8500MA	Arch. Metal					5-7/8" (149)							3" (76)

Door Size (Wood or Metal) Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Stop Only	Hold Open	Stop Only	Hold Open
28" (71) - 32" (81)	—	CPS8302, CPS8502	CPS8302T, CPS8502T	CPS8301 CPS8501	CPS8301T CPS8501T
33" (84) - 36" (91)	28" (71) - 32" (81)	CPS8303, CPS8503	CPS8303T, CPS8503T		
37" (94) - 41" (104)	33" (84) - 36" (91)	CPS8304, CPS8504	CPS8304T, CPS8504T		
42" (107) - 48" (122)	37" (94) - 41" (104)	CPS8305, CPS8505	CPS8305T, CPS8505T		
—	42" (107) - 48" (122)	CPS8306, CPS8506	CPS8306T, CPS8506T		

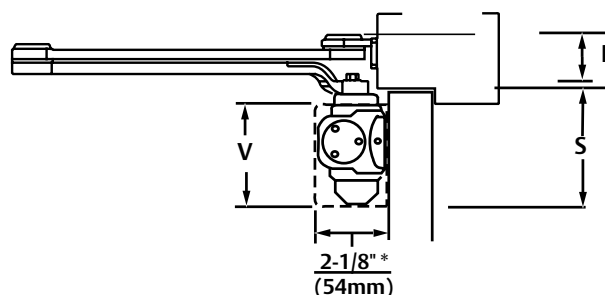
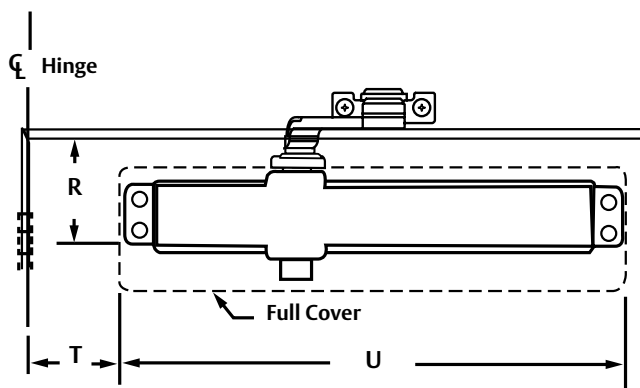
Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

# 8000 Series Door Closers

REGULAR RIGID  
HEAVY-DUTY ARM



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

Note: All measurements are inches/mm.

Maximum 180° door swing, conditions permitting.

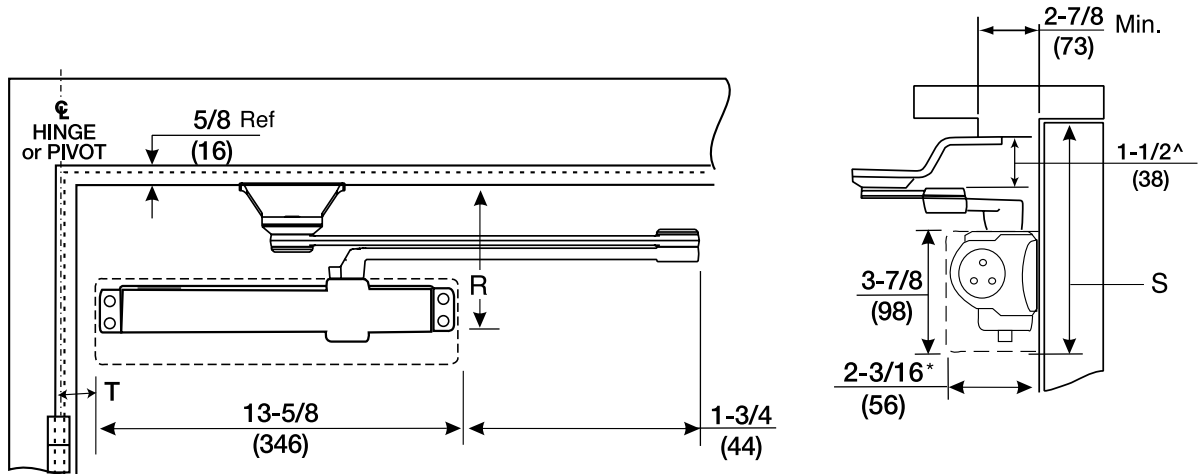
Closer Series	Covers	P Minimum Ceiling Clearance	R Minimum Top Rail		S Minimum Top Rail Clearance	T Template Position for 100 Door opening	U Closer Length	V Closer Height
			W/O Drop Plate	W/8146 Drop Plate				
		NHO	NHO	NHO	NHO			
8100	No Cover	1-3/4" (44)	2-1/2" (64)	1-5/8" (41)	3-1/2" (89)	7-1/8" (181)	12-3/4" (324)	2-7/8" (73)
8300	Slim Line Plastic					7" (178)	13" (330)	
8500	Full Plastic							
8500M	Metal				4-1/4" (108)	6-3/4" (171)	13-5/8" (346)	3-3/4" (95)
8500A	Arch. Plastic				3-5/8 (92)	6-1/2" (165)	14" (356)	3-1/8" (79)
8500MA	Arch. Metal				3-1/2" (89)			3" (76)

Door Size (Wood or Metal) Inches (cm)		Model Number	
		Non-Hold Open Only	
Interior	Exterior	Sized Closers	Multi-Sized Closers
36" (91)	30" (76)	R8302, R8502	R8301 R8501
42" (107)	36" (91)	R8303, R8503	
46" (117)	42" (107)	R8304, R8504	
54" (137)	48" (122)	R8305, R8505	
—	52" (132)	R8306, R8506	

Note: 8301/8501 series door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

PARALLEL RIGID  
OFFSET ARM

Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

^ If clearance greater than 1-1/2" is needed, 6891 spacer block is required.

R (inches/mm) Minimum Top Rail of Door with 5/8" (16mm) Frame Stop		S Minimum Top Rail of Door		T (inches/mm) Template Position Hold Open or Non-Hold Open		
Without 6891 Spacer	With 6891 Spacer	Without 6891 Spacer	With 6891 Spacer	0° to 100°	101° to 120°	121° to 180°
7-1/8" (181)	7-5/8" (194)	7-5/8" (194)	8-1/8" (206)	8-1/8" (206)	7-1/8" (181)	6-1/8" (156)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open <sup>+</sup>	Non-Hold Open	Hold Open <sup>+</sup>
30" (76)	—	PRO8302 PRO8502	PRO8302H PRO8502H	PRO8301 PRO8501	PRO8301H PRO8501H
36" (91)	32" (81)	PRO8303 PRO8503	PRO8303H PRO8503H		
42" (107)	36" (91)	PRO8304 PRO8504	PRO8304H PRO8504H		
48" (122)	42" (107)	PRO8305 PRO8505	PRO8305H PRO8505H		
—	48" (122)	PRO8306 PRO8506	PRO8306H PRO8506H		

Note: 8301/8501 series door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

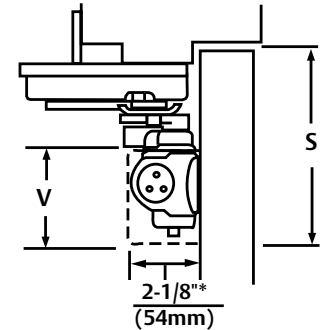
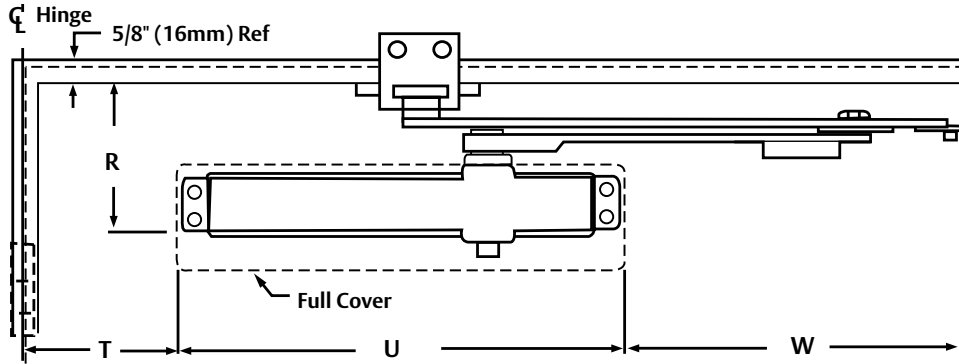
+ Specify hand when ordering.

Note: Please contact factory if door weight exceeds 250 lbs.

# 8000 Series Door Closers

PARALLEL  
UNITROL® ARM

Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.



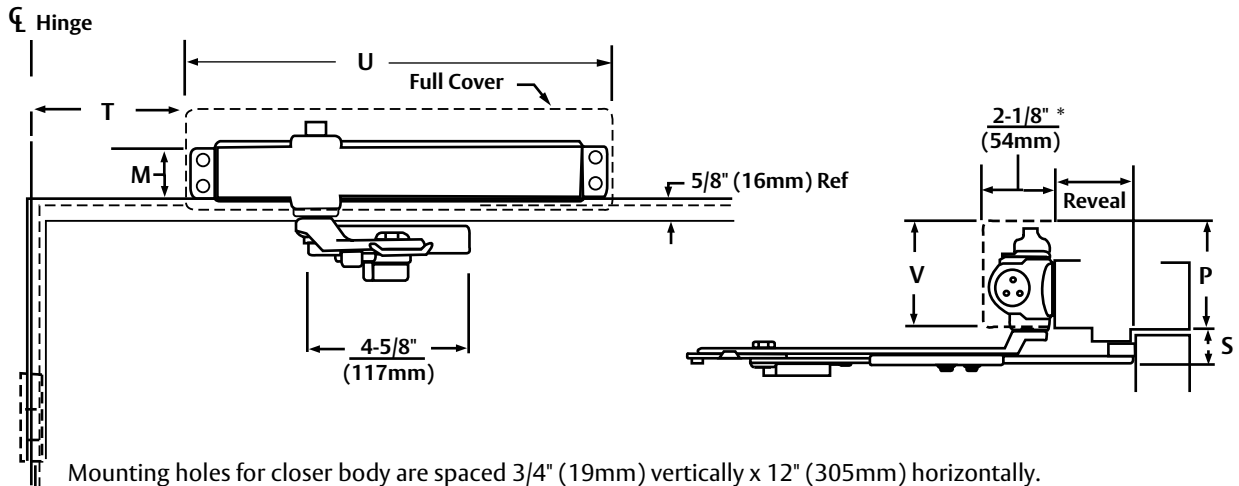
Closer Series	Door Width	Covers	R Minimum Top Rail		S Minimum	T- Template Position for Hold Open or Stop at Listed Angle						U Closers Length	V Closers Height	W Arm Extension
			W/O Drop Plate	With Drop Plate		85	90	95	100	105	110			
8300	28-32	Slim Line	4-3/4" (121)	2-1/2" (64)	5-3/4" (146)	4-5/8" (117)	4" (102)	3-1/2" (89)	3-1/8" (79)	2-3/4" (70)	2-3/8" (60)	13" (330)	2-7/8" (73)	8-3/8" (213)
	33-41					7" (178)	6-1/4" (159)	5-3/4" (146)	5-1/4" (133)	4-3/4" (121)	4-3/8" (111)			9-7/8" (251)
	42-48					9-1/4" (235)	8-3/8" (213)	7-3/4" (197)	7-1/8" (181)	6-5/8" (168)	6-1/4" (159)			11-1/4" (286)
8500	28-32	Full Plastic				4-5/8" (117)	4" (102)	3-1/2" (89)	3-1/8" (79)	2-3/4" (70)	2-3/8" (60)			8-3/8" (213)
8500M		Metal			6-3/8" (162)	4-3/8" (111)	3-3/4" (95)	3-1/4" (83)	2-7/8" (73)	2-1/2" (64)	2-1/8" (54)	13-5/8" (346)	3-7/8" (98)	8" (203)
8500A		Arch. Plastic			5-1/2" (140)	7-5/8" (194)	7" (178)	6-1/2" (165)	6-1/8" (156)	5-3/4" (146)	5-3/8" (137)	14" (356)	3-1/8" (79)	7-7/8" (200)
8500MA		Arch. Metal			5-3/8" (137)								3" (76)	7-1/2" (191)
8500		Full Plastic			5-3/4" (146)	7" (178)	6-1/4" (159)	5-3/4" (146)	5-1/4" (133)	4-3/4" (121)	4-3/8" (111)	13" (330)	2-7/8" (73)	9-7/8" (251)
8500M		Metal			6-3/8" (162)	6-3/4" (171)	6" (152)	5-1/2" (140)	5" (127)	4-1/2" (114)	4-1/8" (105)	13-5/8" (346)	3-7/8" (98)	9-1/2" (241)
8500A		Arch. Plastic			5-1/2" (140)	10" (254)	9-3/8" (238)	8-3/4" (222)	8-1/4" (210)	7-3/4" (197)	7-3/8" (187)	14" (356)	3-1/8" (79)	9-3/8" (238)
8500MA		Arch. Metal			5-3/8" (137)								3" (76)	9" (229)
8500	42-48	Full Plastic			5-3/4" (146)	9-1/4" (235)	8-3/8" (213)	7-3/4" (197)	7-1/8" (181)	6-5/8" (168)	6-1/4" (159)	13" (330)	2-7/8" (73)	11-1/4" (286)
8500M		Metal			6-3/8" (162)	9" (229)	8-1/8" (206)	7-1/2" (191)	6-7/8" (175)	6-3/8" (162)	6" (152)	13-5/8" (346)	3-7/8" (98)	10-7/8" (276)
8500A		Arch. Plastic			5-1/2" (140)	12-1/4" (311)	11-1/2" (292)	10-7/8" (276)	10-1/4" (260)	9-3/4" (248)	9-1/4" (235)	14" (356)	3-1/8" (79)	10-3/4" (273)
8500MA		Arch. Metal			5-3/8" (137)								3" (76)	10-3/8" (264)

Door Widths (Wood or Metal) Inches (cm)		Model Number		x Specify Door Width
		Sized Closers		
Interior	Exterior	Stop Only	Hold Open	
28" (71) - 32" (81)	—	UNI8302, UNI8502	UNI8302H, UNI8502H	
33" (83) - 36" (91)	28" (71) - 32" (81)	UNI8303, UNI8503	UNI8303H, UNI8503H	
37" (94) - 41" (104)	33" (83) - 36" (91)	UNI8304, UNI8504	UNI8304H, UNI8504H	
42" (107) - 48" (122)	37" (94) - 41" (104)	UNI8305, UNI8505	UNI8305H, UNI8505H	
—	42" (107) - 48" (122)	UNI8306, UNI8506	UNI8306H, UNI8506H	

Reference Note on page 13 for information regarding multi-sized closers.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

TOP JAMB  
UNITROL® ARM

Series	Closer	M Covers Frame Face		P Minimum Ceiling Clearance		S Minimum Top Rail Clearance		T Minimum Template Position for Hold Open or Stop at Listed Angle						U Closer Length	V Closer Height
		W/O Drop Plate	With 8148, 8158, 8547, 8547A Drop Plate	W/O Drop Plate	With Drop Plate	W/O Drop Plate	With 8148, 8158, 8547, 8547A Drop Plate	85°	90°	95°	100°	105°	110°		
8300	Slim Line		1-1/2" (38)	2-3/4" (70)	1-1/2" (38)			9-1/2" (241)	8-7/8" (225)	8-1/4" (210)	7-3/4" (197)	7-3/8" (187)	7" (178)	13" (330)	2-7/8" (73)
8500	Full														
8500M	Metal	1-3/4" (44)	1-5/8" (41)	3-3/4" (95)	1-5/8" (41)	1-7/8" (48)	3-3/4" (95)	9-1/4" (235)	8-5/8" (219)	8" (203)	7-1/2" (191)	7-1/8" (181)	6-3/4" (171)	13-5/8" (346)	3-7/8" (98)
8500A	Arch. Plastic		1-1/2" (38)	3" (76)	1-1/2" (38)			8-7/8" (225)	8-1/4" (210)	7-5/8" (194)	7-1/8" (181)	6-5/8" (168)	6-1/4" (159)	14" (356)	3-1/8" (79)
8500MA	Arch. Metal			2-7/8" (73)											

Door Widths (Wood or Metal) Inches (cm)		Model Number				x Specify Frame Reveal
		Sized Closers		Multi-Sized Closers		
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	
28" (71) - 30" (76)	—	UNIJ8302, UNIJ8502	UNIJ8302H, UNIJ8502H	UNIJ8301 UNIJ8501	UNIJ8301H UNIJ8501H	
31" (79) - 36" (91)	28" (71) - 30" (76)	UNIJ8303, UNIJ8503	UNIJ8303H, UNIJ8503H			
37" (94) - 42" (107)	31" (79) - 36" (91)	UNIJ8304, UNIJ8504	UNIJ8304H, UNIJ8504H			
43" (109) - 48" (122)	37" (94) - 42" (107)	UNIJ8305, UNIJ8505	UNIJ8305H, UNIJ8505H			
—	43" (109) - 48" (122)	UNIJ8306, UNIJ8506	UNIJ8306H, UNIJ8506H			

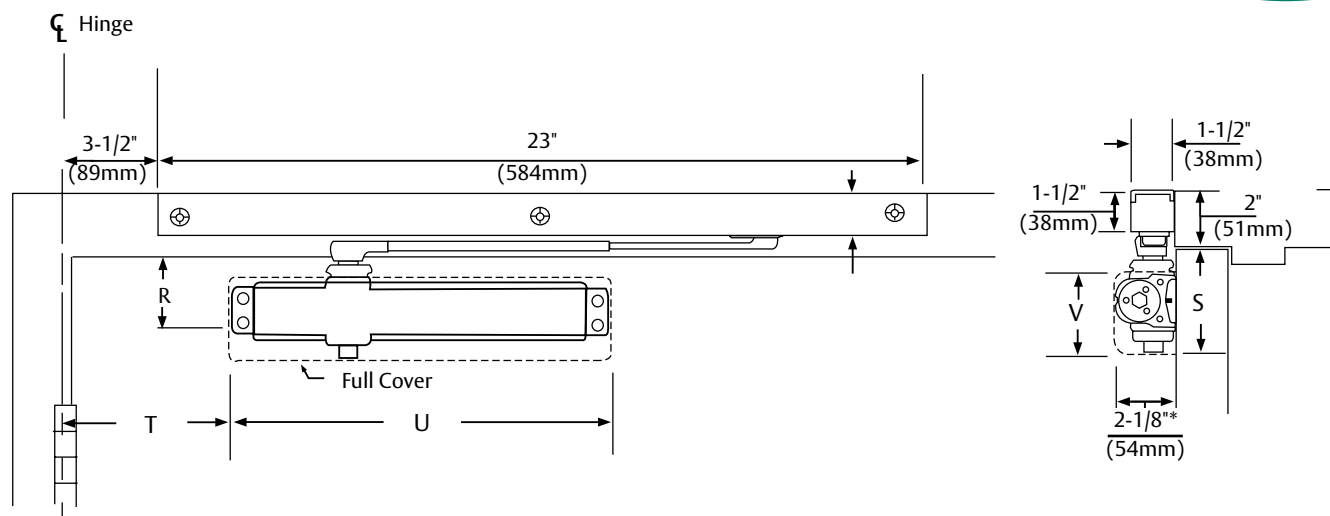
Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

# 8000 Series Door Closers

PULL SIDE  
SLIDE TRACK



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.  
Note: All measurements are inches/mm

Closer Series	R Minimum Top Rail		S Minimum Top Rail Clearance				T Template Position				U Closer Length				V Closer Height			
	W/O Drop Plate	With 8146 Drop Plate	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal
8300ST	2-1/2" (64)	1-5/8" (41)	3-1/2" (89)	4-1/8" (105)	3-5/8" (92)	3-1/2" (89)	5-1/8" (130)	4-7/8" (124)	4-3/8" (111)		13" (330)	13-5/8" (346)	14" (356)		2-7/8" (73)	3-3/4" (95)	3-1/8" (79)	3" (76)
8500ST																		

Maximum Door Width (Wood or Metal) Inches (cm)		Model Number											
		Slim Line Cover						Full Cover					
		Sized Closer			Multi-Sized Closer			Sized Closer			Multi-Sized Closer		
		Non-Hold Open	Hold Open		Non-Hold Open	Hold Open		Non-Hold Open	Hold Open		Non-Hold Open	Hold Open	
Interior	Exterior	85°-110°♦	85°-180°^	85°-110°^	85°-110°	85°-180°	85°-110°	85°-110°♦	85°-180°^	85°-110°^	85°-110°	85°-180°	85°-110°
32" (81)	—	8304ST	8304ST-180	8304STH				8504ST	8504ST-180	8504STH			
38" (97)	32" (81)	8305ST	8305ST-180	8305STH	8301ST	8301ST-180	8301STH	8505ST	8505ST-180	8505STH	8501ST	8501ST-180	8501STH
48" (122)	38" (97)	8306ST	8306ST-180	8306STH				8506ST	8506ST-180	8506STH			

Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

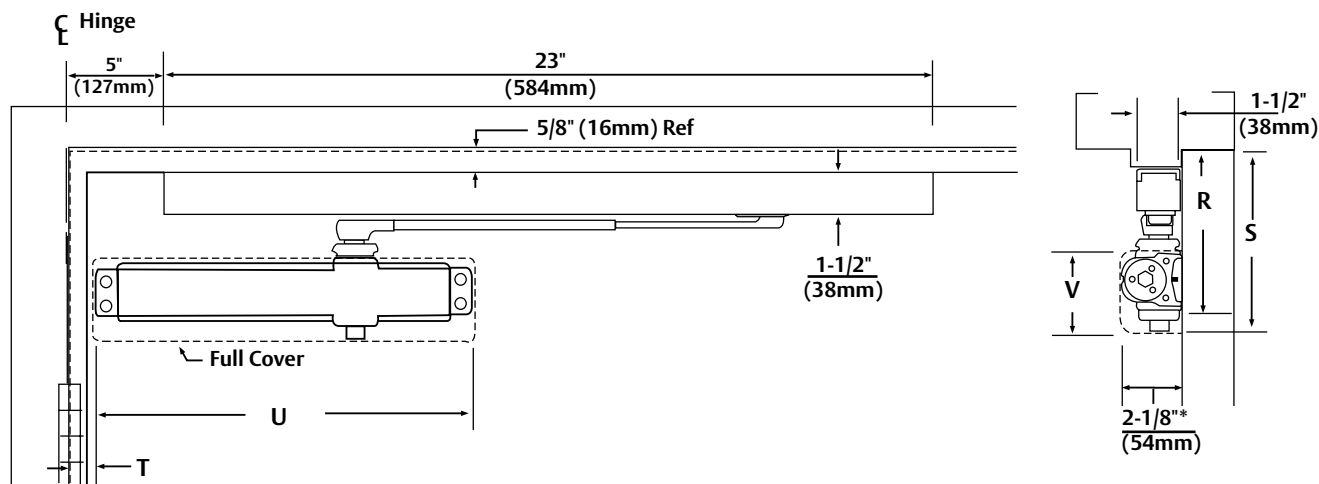
\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

♦Track is furnished with a spring buffered stop. Additional stop, by others, is recommended where abusive conditions are anticipated.

^Track is supplied without the spring buffered assembly. An auxiliary door stop, by others, is required.

Note: Please contact factory if door weight exceeds 250 lbs.

PUSH SIDE  
SLIDE TRACK



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.  
Note: All measurements are inches/mm

Closer Series	R Minimum Top Rail		S Minimum Top Rail Clearance				T Template Position				U Closer Length				V Closer Height			
	W/O Drop Plate	With 8146, 8158, 8548, 8548A Drop Plate	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal
PS8300ST	5" (127)	2-3/4" (70)	6" (152)	6-5/8" (168)	6-1/8" (156)	6" (152)	7/8" (22)	5/8" (16)	1/8" (3)		13" (330)	13-5/8" (346)	14" (356)		2-7/8" (73)	3-3/4" (95)	3-1/8" (79)	3" (76)
PS8500ST																		

Maximum Door Width (Wood or Metal) Inches (cm)		Sized Closers				Multi-Sized Closers			
		Slim Line Cover		Full Cover		Slim Line Cover		Full Cover	
		Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
Interior	Exterior	85° - 100°							
32" (81)	—	PS8304ST	PS8304STH	PS8504ST	PS8504STH	PS8301ST	PS8301STH	PS8501ST	PS8501STH
38" (97)	32" (81)	PS8305ST	PS8305STH	PS8505ST	PS8505STH				
48" (122)	38" (97)	PS8306ST	PS8306STH	PS8506ST	PS8506STH				

All track assemblies are supplied with a spring buffered stop\*\*

Note: 8301/8501 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

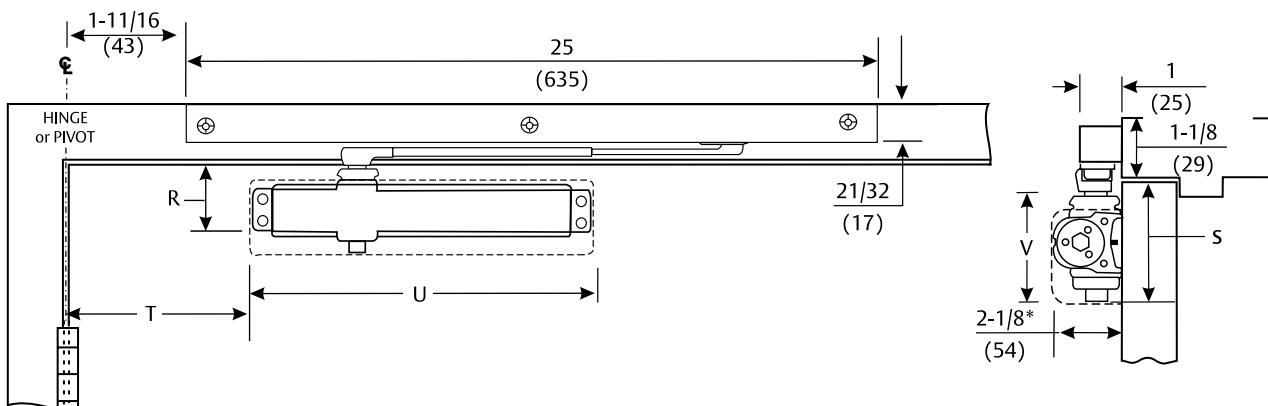
\*\* A separate door stop, by others, is recommended where abusive conditions are anticipated.

Note: Please contact factory if door weight exceeds 250 lbs.



# 8000 Series Door Closers

LOW  
PROFILE PULL SIDE  
SLIDE TRACK



Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

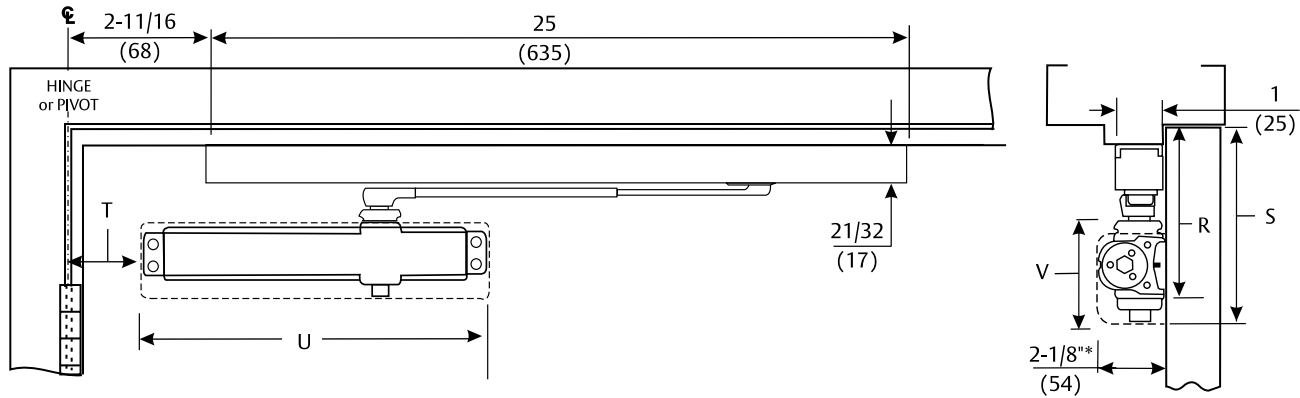
Closer Series	R Minimum Top Rail		S Minimum Top Rail Clearance				T Template Position				U Closer Length				V Closer Height			
	W/O Drop Plate	With 8146 Drop Plate	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal
8300ST	2-1/2" (64)	5/8" (16)	3" (76)	4-5/8" (117)	3-1/8" (79)	3" (76)	5-5/8" (143)	5-3/8" (137)	4-7/8" (124)		13" (330)	13-5/8" (346)	14" (356)		3" (76)	3-7/8" (98)	3-1/4" (83)	3-1/8" (79)
8500ST																		

Maximum Door Width Inches (cm)	Model Number			
	Sized Closers		Multi-Sized Closers	
	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
Interior				
32" (81)	8344ST 8544ST	8344STH 8544STH	8341ST 8541ST	8341STH 8541STH
38" (97)	8345ST 8545ST	8345STH 8545STH		
48" (122)	8346ST 8546ST	8346STH 8546STH		

**Note:** 8301/8501 door closers can be adjusted for door sizes noted. Multi-size closers are set at mid power range from the factory.

\*Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

LOW  
PROFILE PUSH SIDE  
SLIDE TRACK

Mounting holes for closer body are spaced 3/4" (19mm) vertically x 12" (305mm) horizontally.

Closer Series	R Minimum Top Rail		S Minimum Top Rail Clearance				T Template Position				U Closer Length				V Closer Height			
	W/O Drop Plate	With 8146, 8158, 8548, 8548A Drop Plate	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal	Slim or Full Cover	Metal Cover	Arch Plastic	Arch Metal
PS8300ST	4" (102)	1-3/4" (44)	5" (127)	5-5/8" (143)	5-1/8" (130)	5" (127)	1-1/8" (29)	7-8" (22)	3/8" (10)		13" (330)	13-5/8" (346)	14" (356)		3" (76)	3-7/8" (98)	3-1/4" (83)	3-1/8" (79)
PS8500ST																		

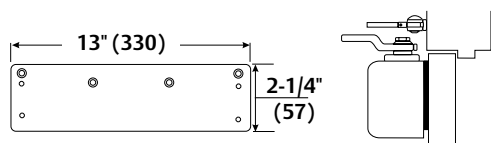
Maximum Door Width Inches (cm)	Model Number			
	Sized Closers		Multi-Sized Closers	
Interior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	PS8344ST PS8544ST	PS8344STH PS8544STH	PS8341ST PS8541ST	PS8341STH PS8541STH
38" (97)	PS8345ST PS8545ST	PS8345STH PS8545STH		
48" (122)	PS8346ST PS8546ST	PS8346STH PS8546STH		

Note: 8301/8501 door closers can be adjusted for door sizes noted. Multi-size closers are set at mid power range from the factory.

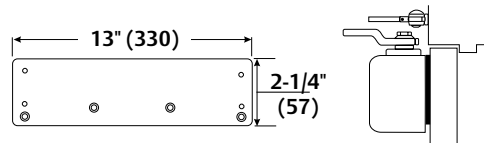
\*Projection is for Slim Line or Full Covers. Projection for Metal Covers = 2-3/16" (56mm). Projection for Architectural Plastic & Architectural Metal Covers = 2-1/4" (57mm).

Note: Please contact factory if door weight exceeds 250 lbs.

## Closer Mounting Plates Slim Line Installations

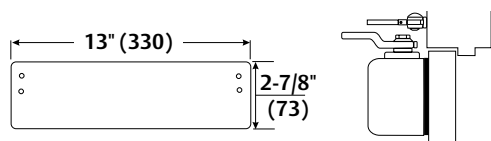


**Narrow Top Rail - #8146 Drop Plate:** For use where the narrow top rail of the door prevents the closer from being mounted directly on to the door surface. This drop plate must be used for any Series 8000 closer mounted on a top rail between 1-9/16" and 2-7/16" (40 and 62mm) in height, or any Series 8080 closer mounted on a top rail between 1-7/16" and 2-5/16" (36 and 59mm) in height.

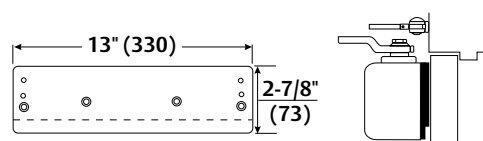


**Concealed Door Holder - #8146 Drop Plate:** For use where a concealed door holder prevents normal mounting of the closer to the door. This is the same plate used for narrow rail mounting, but is inverted for this application to permit the mounting screws to clear the bottom of the door-holder preparation in the top rail of the door. This places the centerline of the plate's upper mounting screws at 2-3/16" (56mm) from the top of the door.

## Full Cover Installations

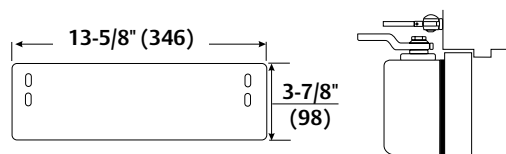


**Exposed Back - #8445 Molded Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with a molded full cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

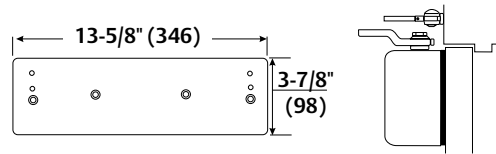


**Exposed Back/Narrow Top Rail - Exposed Back Concealed Door Holder - #8446 Molded Full Cover Drop Plate Kit:** For use with molded full cover installation when an 8146 Plate is needed as a drop plate on a narrow top rail, or as a clearance plate for a concealed door holder, and the closer back is exposed. Kit contains an 8146 Drop Plate and an 8445 Decorative Plate.

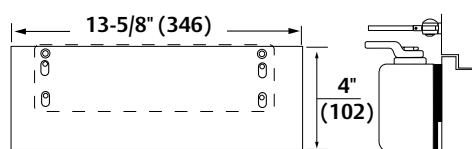
## Metal Cover Installations



**Exposed Back - #8545 Metal Cover Decorative Back Plate:** For use on doors with glass lights where a closer with a metal full cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.



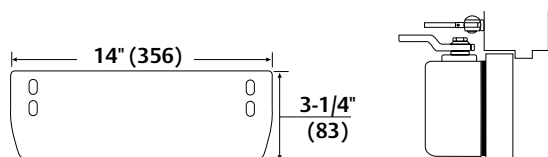
**Concealed Door Holder - #8546 Metal Cover Drop Plate:** For use where a concealed door holder prevents the normal mounting of the closer to the door. This plate permits the mounting screws to clear the bottom of the door-holder preparation in the top rail of the door. This places the centerline of the plate's upper mounting screws at 2-3/16" (56mm) from the top of the door.



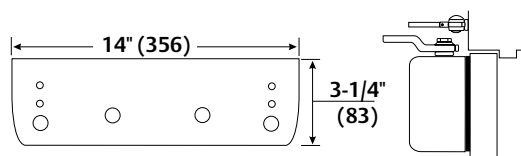
**Exposed Back/Narrow Top Rail - #8549 Metal Cover Drop Plate Kit:** For use with metal full cover installations, when an 8146 Plate is needed as a drop plate on a narrow top rail and the closer back is exposed. Kit contains an 8146 Drop Plate and an 8545 Decorative Plate.

Note: All measurements are inches/mm

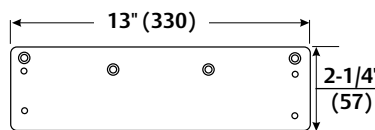
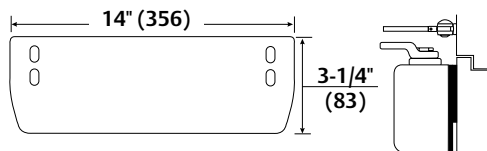
## Closer Mounting Plates Architectural Plastic or Metal Cover Installations



**Exposed Back - #8545A Architectural Plastic or Architectural Metal Cover Decorative Back Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.



**Concealed Door Holder - #8546A Architectural Plastic or Architectural Metal Cover Drop Plate:** For use where a concealed door holder prevents the normal mounting of the closer to the door. This plate permits the mounting screws to clear the bottom of door-holder preparation in the top rail of the door. This places the centerline of the plate's upper mounting screws at 2-3/16" (56mm) from the top of the door.

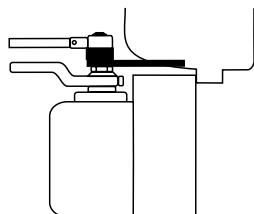
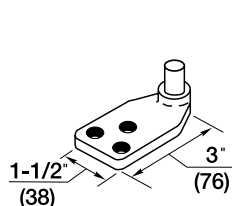


**Exposed Back/Narrow Top Rail - #8549A Architectural Plastic or Architectural Metal Cover Drop Plate Kit:** For use with architectural plastic or metal cover installations when an 8146 plate is needed as a drop plate on a narrow top rail and the closer back is exposed. Kit contains an 8146 Drop Plate and an 8545A Decorative Plate.

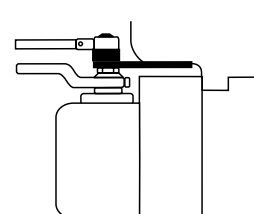
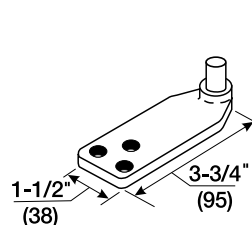
Note: All measurements are inches/mm.

**REGULAR  
ARM**

## Brackets for Non-Hold Open Arms

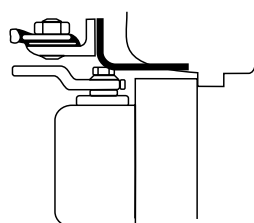
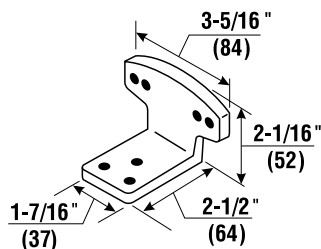


**Molded/Bull Nose Trim - #2403 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard non-hold open shoe. The bracket is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a frame rabbet up to 2" (51mm) deep.



**Molded / Bull Nose Trim - #2403-3/4 Bracket:** This bracket is similar to, but longer than, the 2403 bracket. It is designed to accommodate frame rabbets from 2" to 2-7/8" (51 to 73mm) deep.

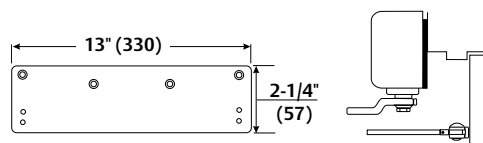
## Brackets for Hold Open Arms



**Molded / Bull Nose Trim - #80 Bracket:** For use where the door frame has molded or bull nose trim which will not accept a standard hold open shoe. It is mortised into the frame rabbet, and projects beyond the face of the frame. It will accommodate a rabbet up to 2" (51mm) deep. This bracket is used in combination with the standard hold-open mounting shoe.

**TOP JAMB  
ARM**

## Closer Mounting Plates Slim Line Installations

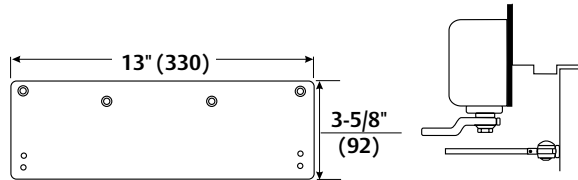


**Low Ceiling Clearance - #8146 Drop Plate:** For use where low ceiling clearance prevents normal top jamb mounting. This plate is used when clearance is from 1-7/8" to 2-7/8" (48 to 73mm). Where ceiling clearance is less than 1-7/8" (48mm) see #8148 Drop Plate on page 30.

**Overhead Door Holder - #8146 Drop Plate:** For use where a surface or concealed overhead door holder prevents normal top jamb mounting. This plate drops the closer and allows arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 2-7/8" (73mm) from the top of the door.

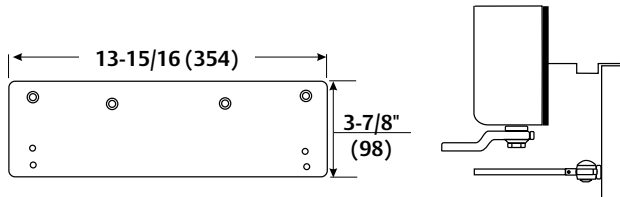
Note: All measurements are inches/mm.

## Closer Mounting Plates Slim Line Installations



**Low Ceiling Clearance - #8148 Drop Plate:** For use where the ceiling clearance is between 1-1/2" and 1-3/4" (38 and 44mm).

## Metal Cover Installations

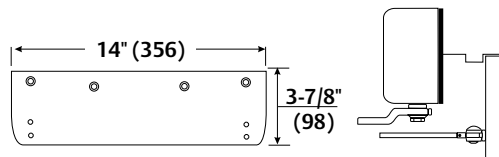


**Low Ceiling Clearance -  
Overhead Door Holder -**

**#8547 Metal Full Cover Drop Plate:** For use where a low ceiling clearance prevents normal top jamb mounting. This plate is used when the clearance is between 1-5/8" and 3-7/8" (41 and 98mm). Or for use where a surface or concealed overhead door holder prevents normal top jamb mounting

of a closer with a metal full cover. This plate drops the closer and allows arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 3-7/8" (98mm) from the top of the door.

## Architectural Plastic or Metal Cover Installations

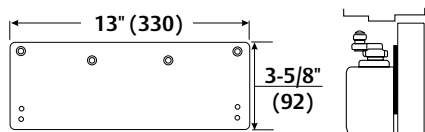


**Low Ceiling Clearance -  
Overhead Door Holder -**

**#8547A Architectural Plastic or Architectural Metal Cover Drop Plate:** For use where low ceiling clearance prevents normal top jamb mounting. This plate is used when the clearance is between 1-5/8" and 3-7/8" (41 and 98mm). Also for use where a surface or concealed overhead door holder prevents normal top jamb mounting of a closer with an

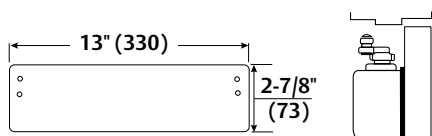
architectural plastic or metal full cover. This plate drops the closer and allows arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 3-7/8" (98mm) from the top of the door.

## Closer Mounting Plates Slim Line Installations

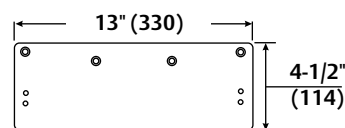


**Narrow Top Rail - #8148 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-7/8" (73mm) in height.

## Full Cover Installations

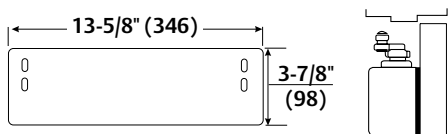


**Exposed Back - #8445 Molded Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

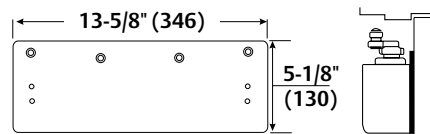


**Exposed Back/Narrow Top Rail - #8158 Molded Full Cover Drop Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the back of the closer is exposed. This covers the back of the installation and gives a pleasing appearance from the reverse side.

## Metal Cover Installations

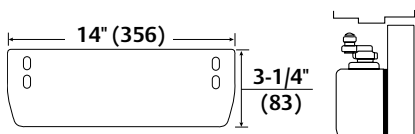


**Exposed Back - #8545 Metal Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with full metal cover is installed and the back of the closer is exposed. This plate covers the back of the installation and gives a pleasing appearance from the reverse side.

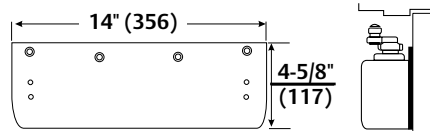


**Exposed Back/Narrow Top Rail - #8548 Metal Full Cover Drop Plate:** For use on doors with glass lights where a closer with metal full cover is installed on a narrow top rail, and the back of the cover is exposed. This drop plate can be used to mount a closer on a top rail as narrow as 2-7/8" (73mm) in height. This plate covers the back of the installation and gives a pleasing appearance from the reverse side.

## Architectural Plastic or Metal Cover Installations



**Exposed Back - #8545A Architectural Plastic or Architectural Metal Cover Decorative Back Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

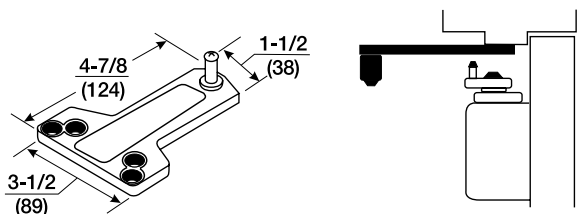


**Exposed Back/Narrow Top Rail - #8548A Architectural Plastic or Architectural Metal Cover Drop Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed on a narrow top rail, and the back of the cover is exposed. This drop plate can be used to mount a closer on a top rail as narrow as 2-7/8" (73mm) in height. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

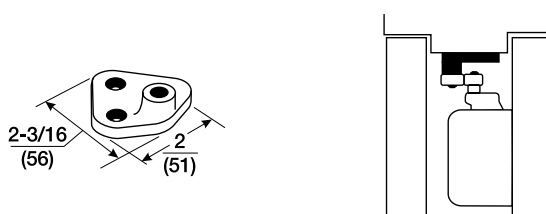
Note: All measurements are inches/mm

PARALLEL  
ARM

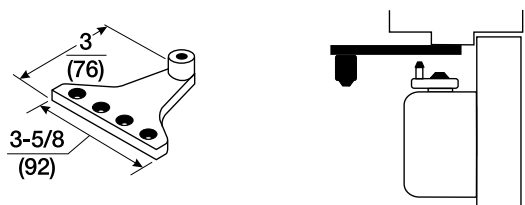
Brackets for Non-Hold Open Arms



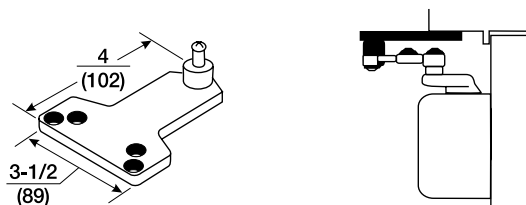
**Standard Installation - #1618A Soffit Plate:** This soffit plate is supplied standard with parallel arm closers. It can be mounted where the frame soffit is as narrow as 1" (25 mm).



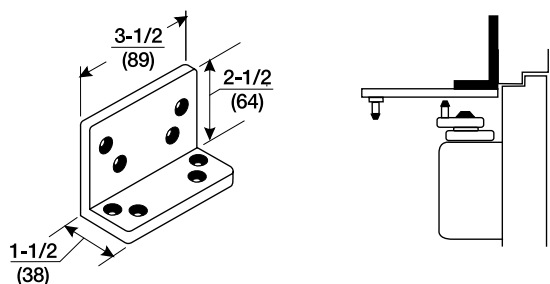
**Mounting between Doors - #2018 Soffit Bracket:** For use where insufficient space between companion doors does not permit use of other soffit plates. This bracket permits mounting of the closer between doors with as little as 3" (76mm) of header space. Permits closer arm to clear up to 5/8" (16mm) high stop.



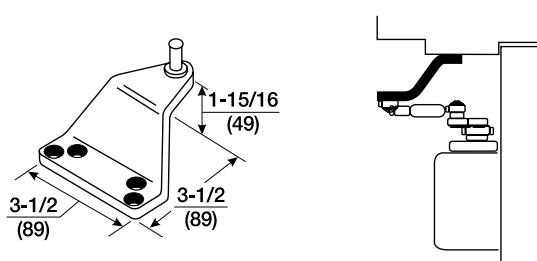
**Narrow Frame/Removable Stop - #2018B Soffit Plate:** For use where a narrow frame or frame with removable stop does not permit use of the standard soffit plate. This soffit plate may be mounted on the frame soffit or the frame rabbet where the stop does not exceed 5/8" (16mm) in height. All of the screw holes are in a straight line, requiring as little as 1-1/4" (32mm) of frame reveal to mount bracket and maintain good closer arm geometry. Where the frame soffit is as wide as 2" (51mm), this soffit plate may be used to clear weather-stripping that is up to 1-3/8" (35mm) wide and 5/8" (16mm) in height.



**Blade/Applied Stop - #2018D Soffit Plate:** For use where a blade or applied stop does not permit installation of the standard soffit plate. Mounts to either the frame soffit or rabbet. Since this soffit plate projects 7/8" (22mm) less than a standard soffit plate, it requires a minimum frame reveal of 1-1/2" (38mm). Permits closer to clear up to a 5/8" (16mm) stop.



**Flush Transom - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of a soffit plate. Used in combination with the 1618 soffit plate, or may be used in combination with the 2018S soffit plate when it is necessary for the closer arm to clear a separate overhead door holder.

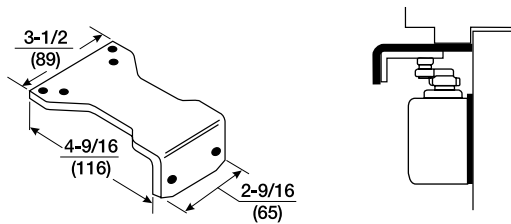


**Extra-Clearance - #2018S Offset Soffit Plate:** For use where the need for additional clearance prevents use of the standard soffit plate. This plate mounts to the frame soffit to provide up to 2" (51mm) of clearance when a separate overhead door holder is used. Standard mounting requires a 2-5/8" (67mm) wide frame soffit. It may also be used where unusually high frame stops or weather-stripping prevent the use of other soffit plates.

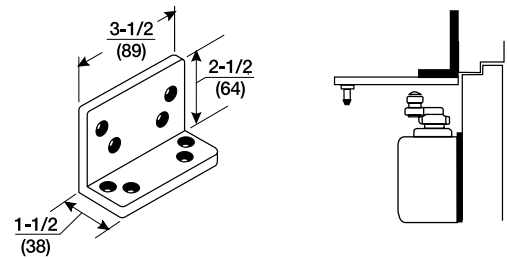
Note: All measurements are inches/mm



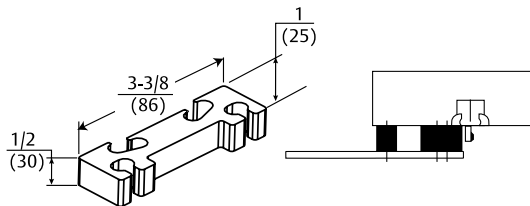
## Brackets for Non-Hold Open & Hold Open Arms



**Parallel Hold-Open - #1628H Adapter Plate:** Supplied standard with all parallel arm hold open closers. It can also be used to convert regular arm or top jamb hold open arms to parallel arm installation. It can be mounted where the frame soffit is as narrow as 1" (25mm).



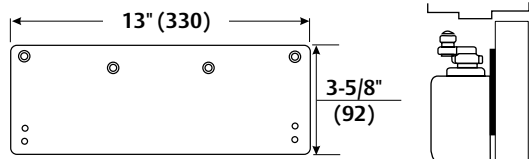
**Flush Transom - #2022 Angle Bracket:** For use where rabbeted or flush transom conditions prevent installation of a soffit plate. Used in combination with the 1628H adapter plate, this bracket fastens to the overhead transom to provide a mounting surface for the soffit plate assembly.



**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard spacer block to provide clearance of the blade stop. Also used with non-hold open arms.

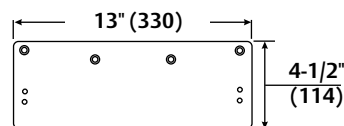
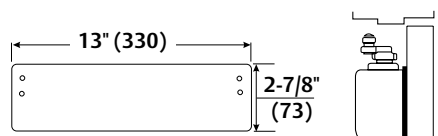
Note: All measurements are inches/mm

### Closer Mounting Plates Slim Line Installations



**Narrow Top Rail - #8148 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-9/16" (65mm) in height.

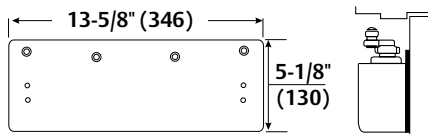
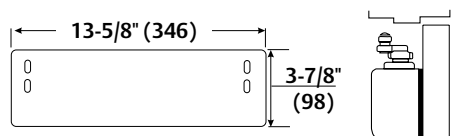
### Full Cover Installations



**Exposed Back - #8445 Molded Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

**Exposed Back/Narrow Top Rail - #8158 Molded Full Cover Drop Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the back of the closer is exposed. This covers the back of the installation and gives a pleasing appearance from the reverse side.

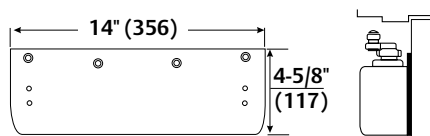
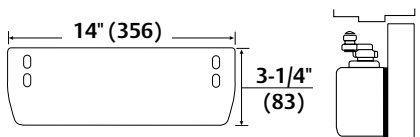
### Metal Cover Installations



**Exposed Back - #8545 Metal Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with full metal cover is installed and the back of the closer is exposed. This plate covers the back of the installation and gives a pleasing appearance from the reverse side.

**Exposed Back/Narrow Top Rail - #8548 Metal Full Cover Drop Plate:** For use on doors with glass lights where a closer with metal full cover is installed on a narrow top rail, and the back of the cover is exposed. This drop plate can be used to mount a closer on a top rail as narrow as 2-9/16" (65mm) in height. This plate covers the back of the installation and gives a pleasing appearance from the reverse side.

### Architectural Plastic or Metal Cover Installations

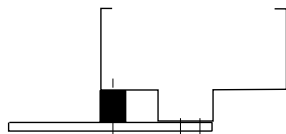
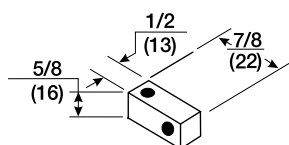


**Exposed Back - #8545A Architectural Plastic or Architectural Metal Cover Decorative Back Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

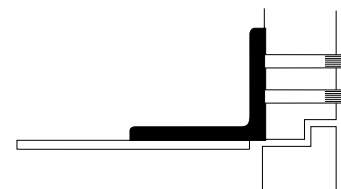
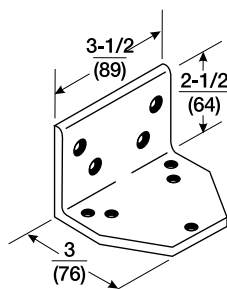
**Exposed Back/Narrow Top Rail - #8548A Architectural Plastic or Architectural Plastic or Architectural Metal Cover Drop Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed on a narrow top rail, and the back of the cover is exposed. This drop plate can be used to mount a closer on a top rail as narrow as 2-9/16" (65mm) in height. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

Note: All measurements are inches/mm

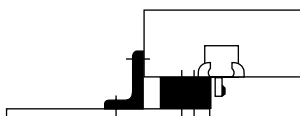
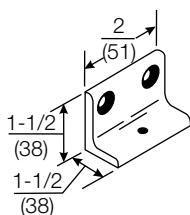
## Brackets for Non-Hold Open Arms & Hold Open Arms



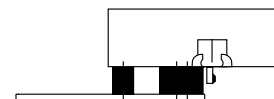
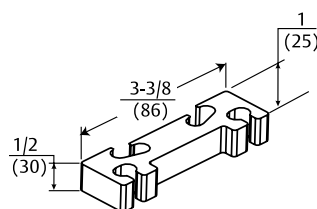
**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all parallel rigid arm closers.



**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the standard soffit plate.



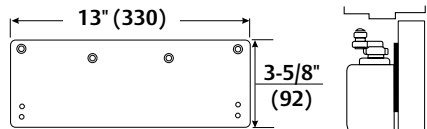
**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop. Used on frames where the frame stop does not exceed 5/8" (16mm) in height.



**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard spacer block to provide clearance of the blade stop.

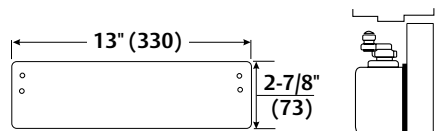
Note: All measurements are inches/mm

## Closer Mounting Plates Parallel Arm

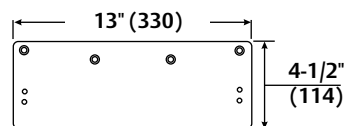


**Narrow Top Rail - #8148 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-7/16" (62mm) in height.

## Full Cover Installations

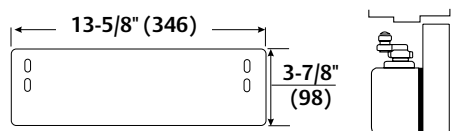


**Exposed Back - #8445 Molded Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

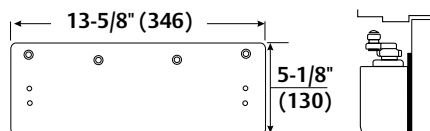


**Exposed Back/Narrow Top Rail - #8158 Molded Full Cover Drop Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the back of the closer is exposed. This covers the back of the installation and gives a pleasing appearance from the reverse side.

## Metal Cover Installations

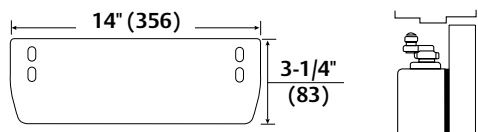


**Exposed Back - #8545 Metal Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with full metal cover is installed and the back of the closer is exposed. This plate covers the back of the installation and gives a pleasing appearance from the reverse side.

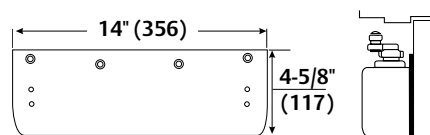


**Exposed Back/Narrow Top Rail - #8548 Metal Full Cover Drop Plate:** For use on doors with glass lights where a closer with metal full cover is installed on a narrow top rail, and the back of the cover is exposed. This drop plate can be used to mount a closer on a top rail as narrow as 2-9/16" (65mm) in height. This plate covers the back of the installation and gives a pleasing appearance from the reverse side.

## Architectural Plastic or Metal Cover Installations



**Exposed Back - #8545A Architectural Plastic or Architectural Metal Cover Decorative Back Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

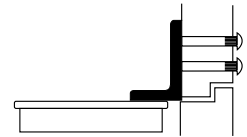
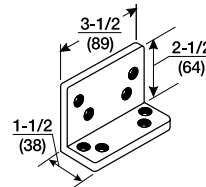
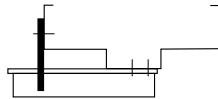
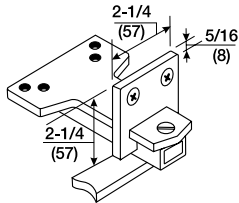


**Exposed Back/Narrow Top Rail - #8548A Architectural Plastic or Architectural Plastic or Architectural Metal Cover Drop Plate:** For use on doors with glass lights where a closer with an architectural plastic or metal cover is installed on a narrow top rail, and the back of the cover is exposed. This drop plate can be used to mount a closer on a top rail as narrow as 2-7/16" (62mm) in height. This plate covers the back of the installation to give a pleasing appearance from the reverse side.

Note: All measurements are inches/mm

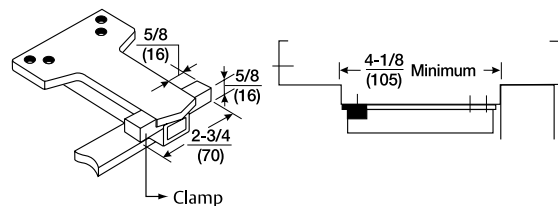
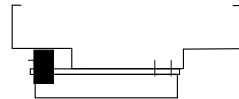
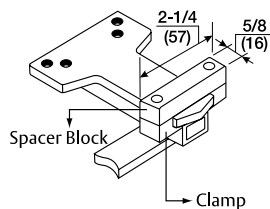
## Closer Mounting Plate

### Soffit Plate Reinforcing Brackets (for Parallel Arm)



**Additional Support - #6190 Reinforcing Bracket:** Standard for use with all parallel arm *Unitrol* door controls. Provides additional support to the soffit plate on installations with door frame reveals from 1-7/8" to 4-5/8" (48 to 117mm).

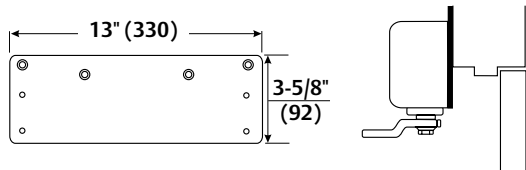
**Flush Rabbeted Transom - #2022 Angle Bracket:** Optional for use with all parallel arm *Unitrol* door controls. For use where rabbeted or flush transom conditions prevent installation of the soffit plate assembly. This bracket fastens to the overhead transom to provide a mounting surface for the soffit plate assembly.



**Wide Frame - #6191 Reinforcing Kit:** Optional for use with all parallel arm *Unitrol* door controls. Used to support the soffit plate on installations with wide frames. Clamps may be used with or without the spacer block, depending on frame conditions.

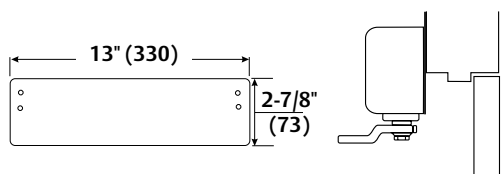
Note: All measurements are inches/mm

## Closer Mounting Plates Top Jamb

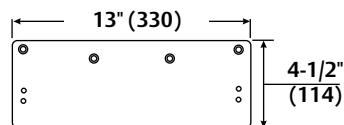


**Narrow Top Rail - #8148 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-7/16" (62mm) in height.

## Full Cover Installations

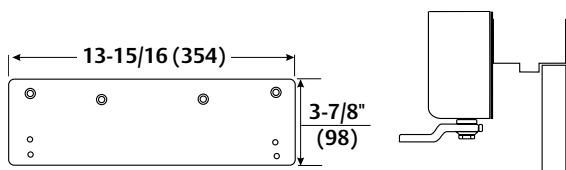


**Exposed Back - #8445 Molded Full Cover Decorative Back Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the closer back is exposed. This plate covers the back of the installation to give a pleasing appearance from the reverse side.



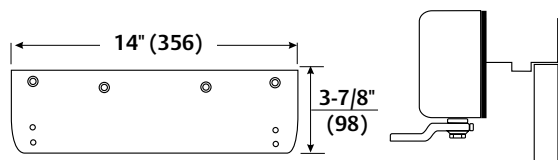
**Exposed Back/Narrow Top Rail - #8158 Molded Full Cover Drop Plate:** For use on doors with glass lights where a closer with molded full cover is installed and the back of the closer is exposed. This covers the back of the installation and gives a pleasing appearance from the reverse side.

## Metal Cover Installations



**Low Ceiling Clearance - Overhead Door Holder - #8547 Metal Full Cover Drop Plate:** For use where a low ceiling clearance prevents normal top jamb mounting. This plate is used when the clearance is between 1-5/8" and 3-3/4" (41mm and 95mm). Or for use where a surface or concealed overhead door holder prevents normal top jamb mounting of a closer with a metal full cover. This plate drops the closer and allows arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 3-7/8" (98mm) from the top of the door.

## Architectural Plastic or Metal Cover Installations

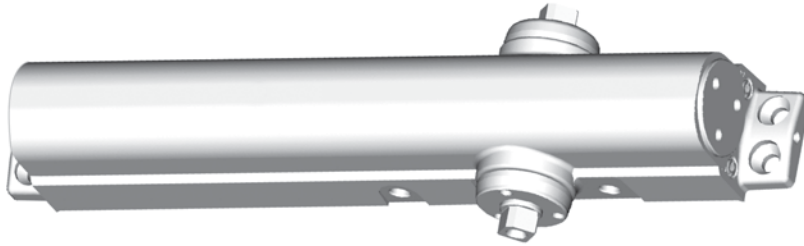


**Low Ceiling Clearance - Overhead Door Holder - #8547A Architectural Plastic or Architectural Metal Cover Drop Plate:** For use where low ceiling clearance prevents normal top jamb mounting. This plate is used when the clearance is between 1-5/8" and 3-3/4" (41 and 95mm). Or for use where a surface or concealed overhead door holder prevents normal top jamb mounting of a closer with an architectural plastic or metal full cover. This plate drops the closer and allows arm mounting screws to clear the bottom of the door holder. This places the centerline of the arm mounting screws at 3-7/8" (98mm) from the top of the door.

Note: All measurements are inches/mm.

# 8000 Series Door Closers

**DOOR CLOSER  
BODY ASSEMBLIES**



Model Number	Description
810XLAP	Sized closer bodies (8100, 8300 or 8500)
8101LAP	Multi-sized closer bodies (8101, 8301 or 8501)

X= Specify Closer Size

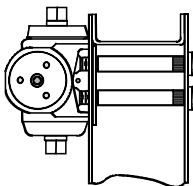
LAP = Less All Parts

## Covers (Material)

Closer Series	Plastic	Metal	Arch. Plastic	Arch. Metal
8300 8301	8200P	N/A	N/A	N/A
8500 8501	8400P	8400M	8400A	8400MA

## Steel Door Application

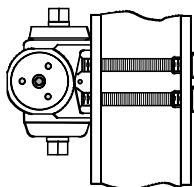
Sleeve-nut : "SN" (4 per pack) or  
Sleeve-nut & Screw: "SNB" (4 per pack)



Door	SN's	SNB's
1-3/4"	SN-134	SNB134-38
2"	N/A	SNB200-38
2-1/4"	SN-214	SNB214-38
S.S. SNB's 1-3/4"	SN-134SS	SNB134SS-38

## Aluminum and Wooden Door Application (Aluminum Door Shown)

Thru Bolt & Grommet Nut : "TBGN" (4 per pack)

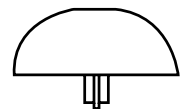


Door	TBGN's
1-3/8"	TBGN138-38
1-3/4"	TBGN134-38
2-1/4"	TBGN214-38

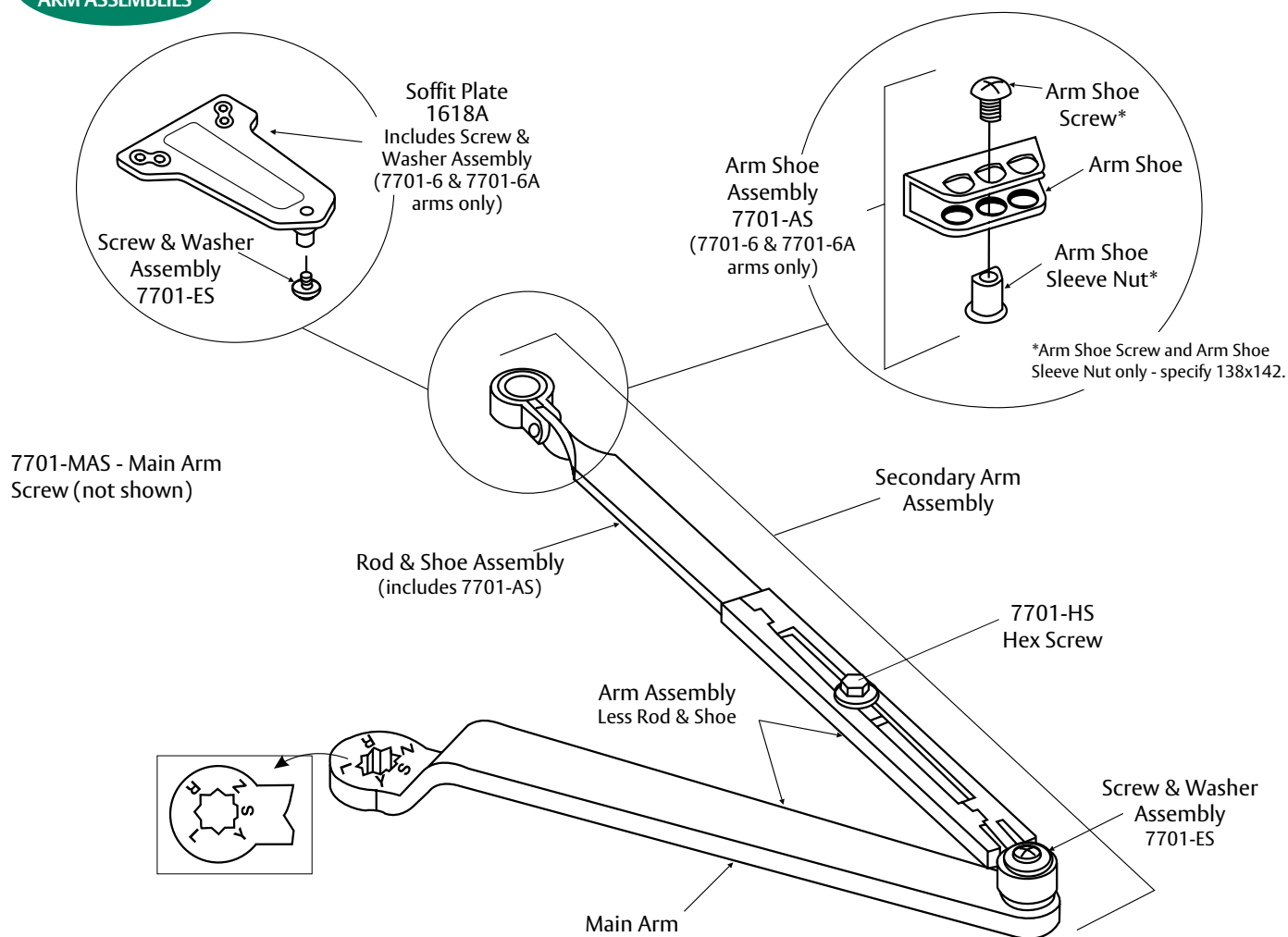
Cover Model	Cover Drawing
<b>Slim Line*</b> <b>8200P or 8200PG</b> 1-3/4" high x 2-1/8" deep x 13" long (44 x 54 x 330)	
<b>Full Plastic</b> <b>8400P or 8400PG</b> 2-7/8" high x 2-1/8" deep x 13" long (73 x 54 x 330)	
<b>Full Metal</b> <b>8400M</b> 3-7/8" high x 2-3/16" deep x 13-5/8" long (98 x 54 x 346)	
<b>Architectural Plastic</b> <b>8400A or 8400AG</b> 3-3/32" high x 2-1/4" deep x 13-7/8" long (79 x 56 x 352)	
<b>Architectural Metal</b> <b>8400MA</b> 3" high x 2-3/16" deep x 13-15/16" long (76 x 56 x 354)	

Arm Type	Torx® Screw Packs
Regular, Parallel & Top Jamb	TX38
Parallel Rigid, CloserPlus® & CloserPlus Spring™	PRTX38
Regular Rigid Heavy-Duty	RTX38
Unitrol®	UNITX38

\*Pinion cap not included  
with Slim Line cover.  
Part #1639



## NON-HOLD OPEN ARM ASSEMBLIES



Closer Series	Complete Arm Assembly	Main <sup>®</sup> Arm Assembly (length)(mm) (includes 7701-E5)	Secondary Arm Assembly (includes 7701-E5)	Arm Assembly Less Rod and Shoe	Rod & Shoe Assembly <sup>®</sup> (length)(mm)
8000	7701-1	7701-1M (11)(279)	7701-111	7701-1W	7701-11 (8-7/8)(225)
J8000	7701-1A		7701-121		7701-11A (12-9/16)(319)
P8000	7701-6		7701-116		7701-16 (8-7/8)(225)
P8000 <sup>©</sup>	7701-6A		7701-116A		7701-16A (12-9/16)(319)
8000	7701-26 (tri pack includes 7701-1 plus 1618A plate)				

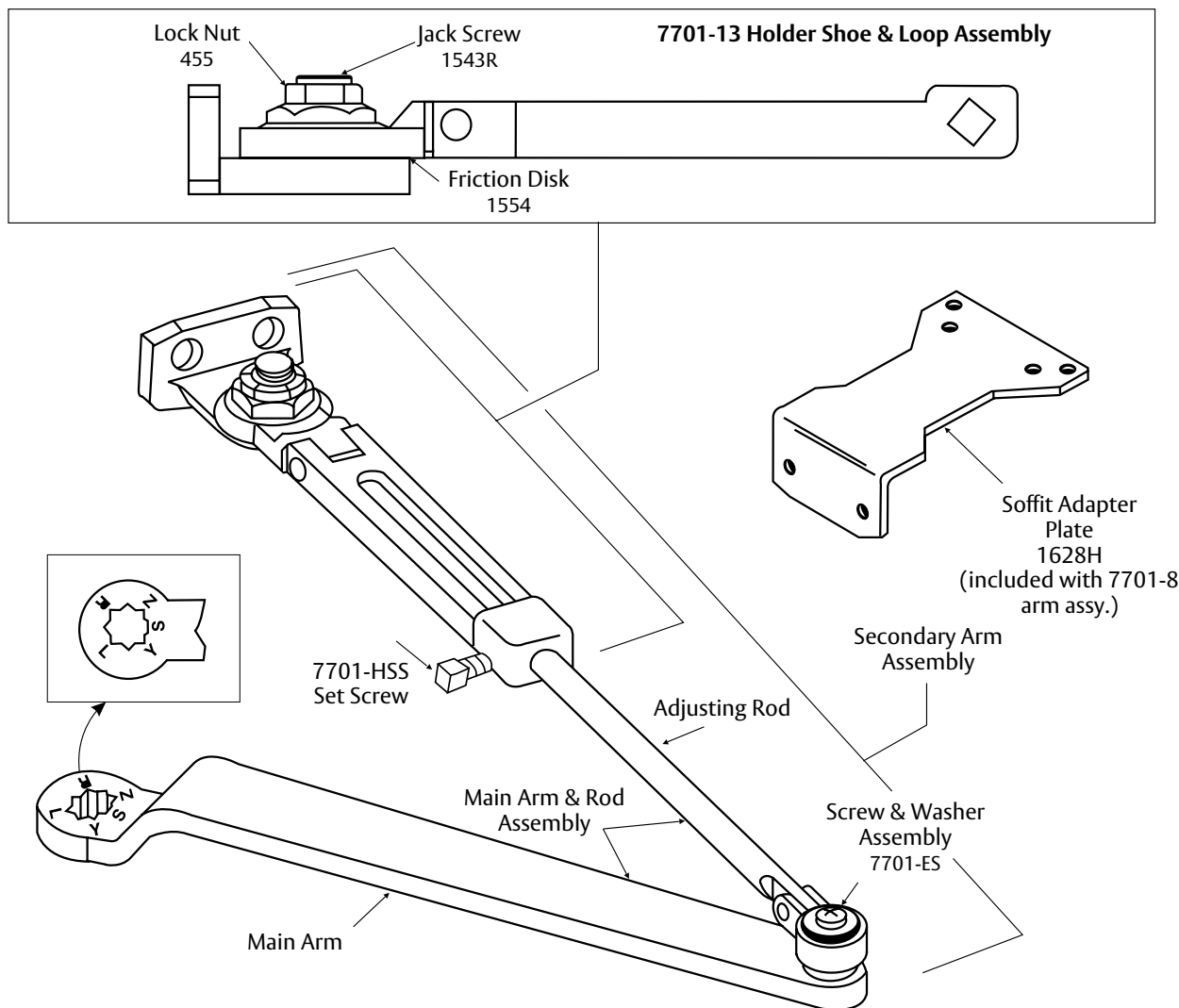
Ⓐ C to C length shown in parentheses.

Ⓑ C of connecting link to end of rod shown in parentheses.

© For 180° door swing when using a special template for doors hung on 6" to 8" (162mm to 203mm) wide throw hinges.

Note: Mounting hardware included with all parts orders.





Closer Series	Complete Arm	Main Arm <sup>Ⓐ</sup> (Length)(mm) (includes 7701-ES)	Secondary Arm (includes 7701-ES)	Main Arm & Rod Assembly	Holder Shoe & Loop Assembly	Adjusting Rod <sup>Ⓒ</sup> (Length)(mm)
8000H	7701-3/7701-8 <sup>Ⓒ</sup>	7701-1M (11)(279)	7701-113/7700-118 (Reg.) / (Par.)	7701-3W	7701-13/7701-18 <sup>Ⓓ</sup>	7701-31 (7-3/8)(187)
J8000H	7701-3A		7701-123	7701-3WA	7701-13	7701-31A (10-13/16)(275)

Note: Mounting hardware included with all parts orders.

<sup>Ⓐ</sup> C to C length shown in parentheses.

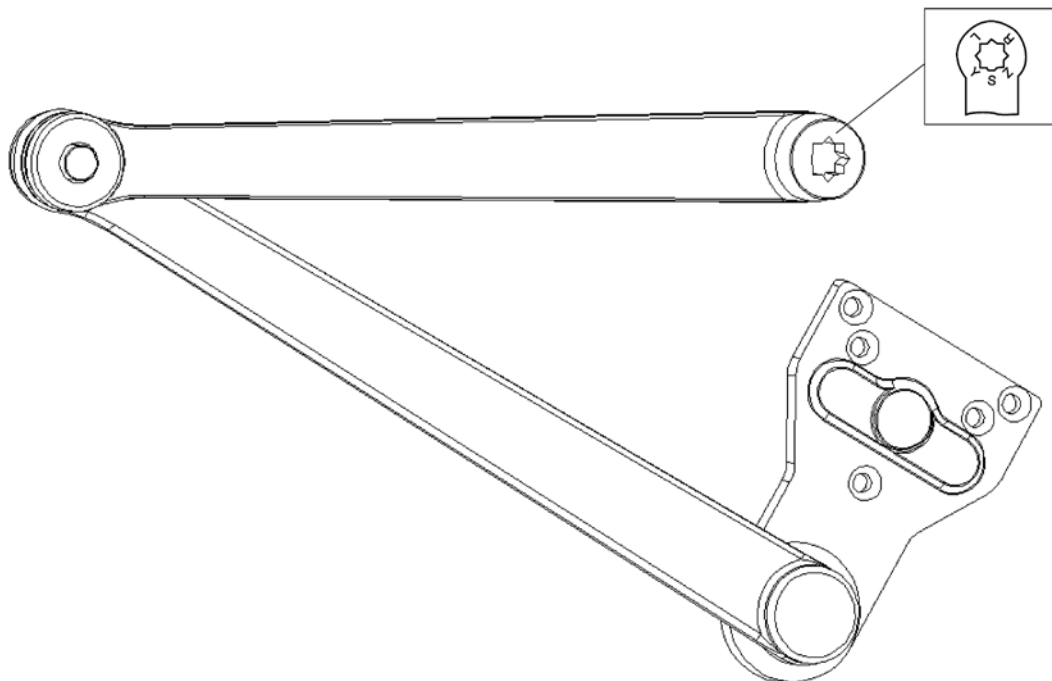
<sup>Ⓑ</sup> C of connecting link to end of rod shown in parentheses.

<sup>Ⓒ</sup> Same as 7701-3 but includes #1628H soffit adapter plate.

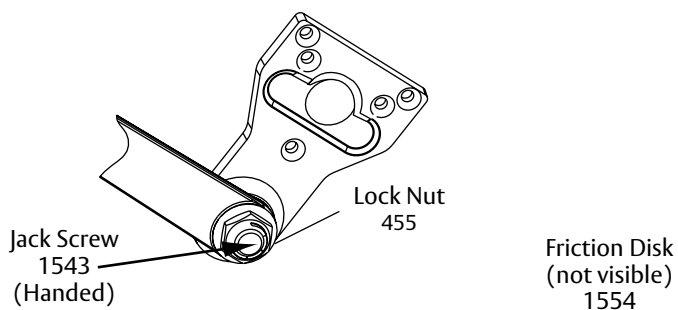
<sup>Ⓓ</sup> Same as 7701-13 but includes #1628H soffit adapter plate.

PARALLEL RIGID  
ARM ASSEMBLIES

Non-Hold Open Arm Shown



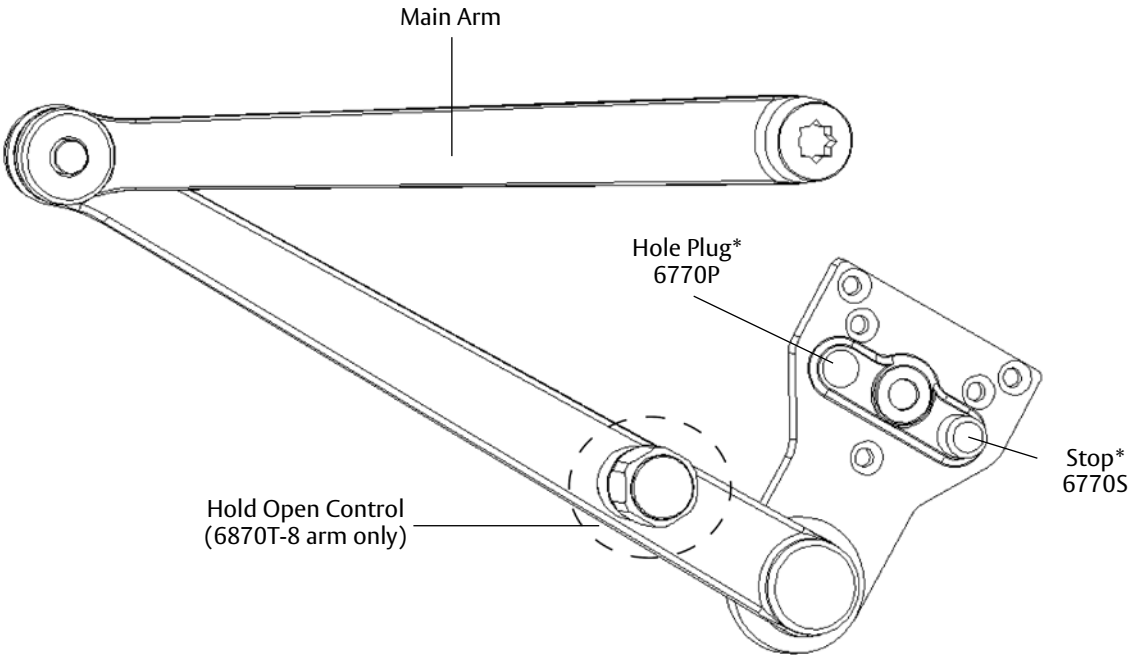
Hold Open Arms Only



Arm Function	Complete Arm Assembly
Non-Hold Open	PR7701-5
Hold Open	PR7701-8R (Right Hand)
	PR7701-8L (Left Hand)

Note: Mounting hardware included with all parts orders.

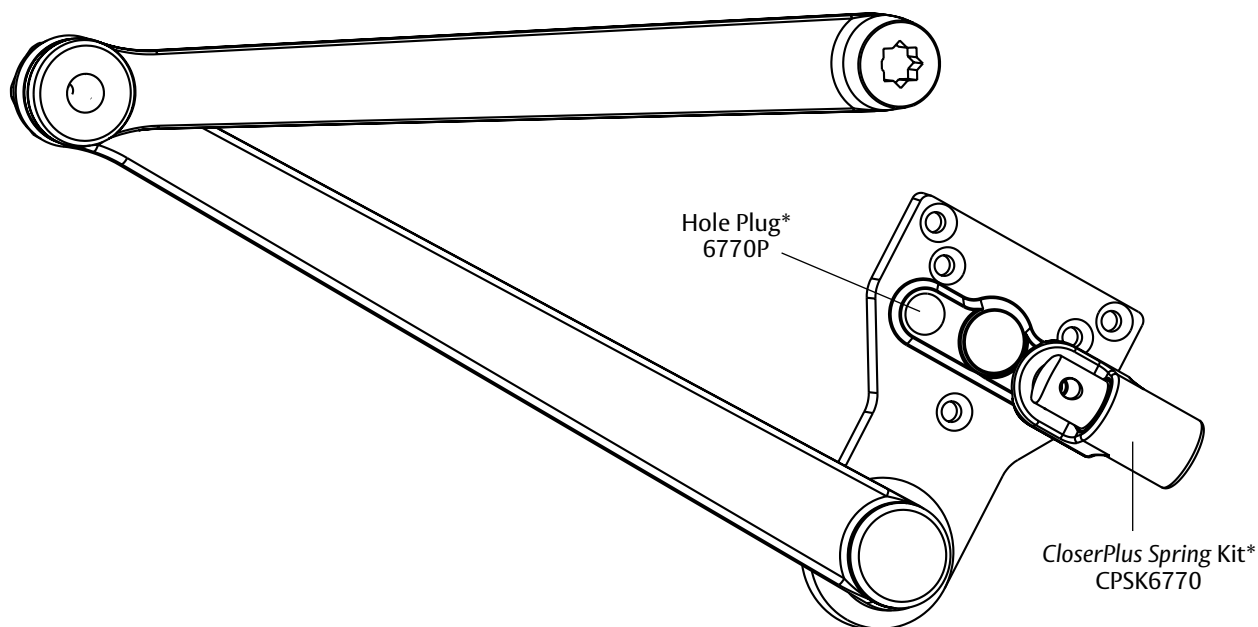
Hold Open Arm Shown (CLP-T)



Arm Function	Complete Arm Package
Non-Hold Open	6770-5
Thumbturn Hold Open	6870T-8

\* These parts and screw pack are included with complete arm assemblies.

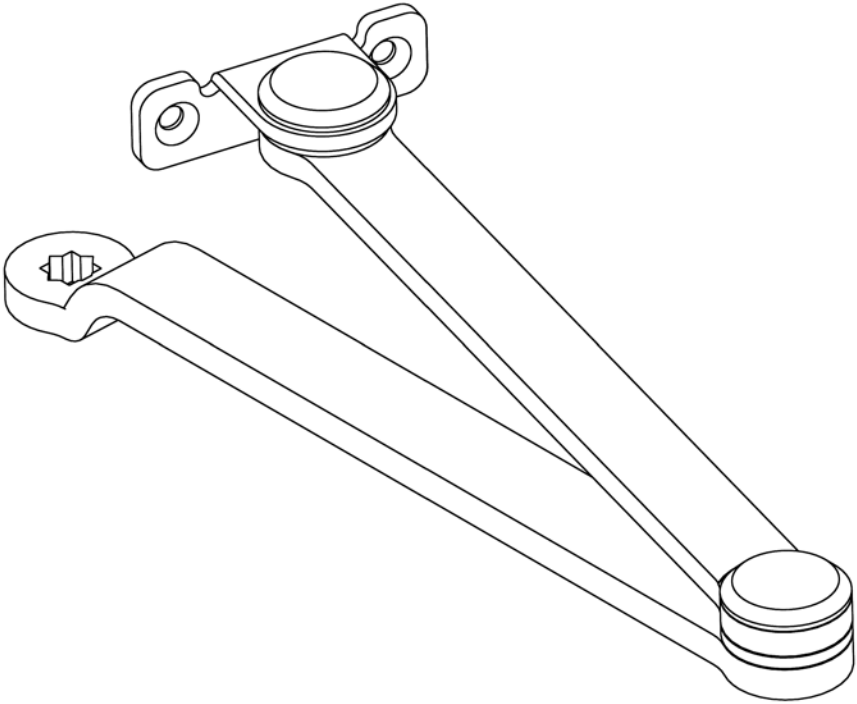
Note: Mounting hardware included with all parts orders.



Arm Function	Complete Arm Package
Non-Hold Open	CPS6770-5
Thumbturn Hold Open	CPS6870T-8

\* These parts and screw pack are included with complete arm assemblies.

Note: Mounting hardware included with all parts orders.

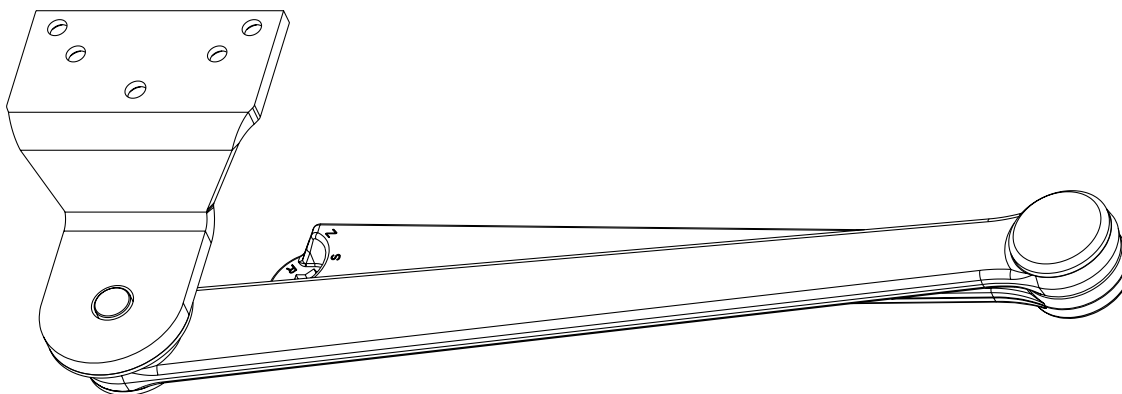


Arm Function	Complete Arm Package
Non-Hold Open	R7701-1

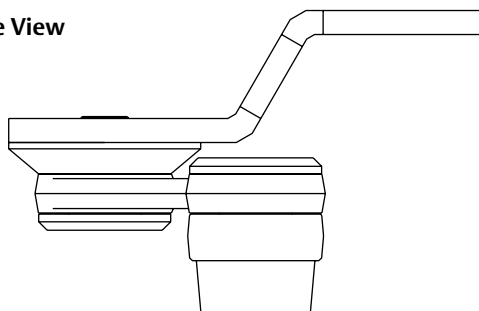
Note: Mounting hardware included with all parts orders.

PARALLEL RIGID  
OFFSET ARM  
ASSEMBLIES

Non-Hold Open



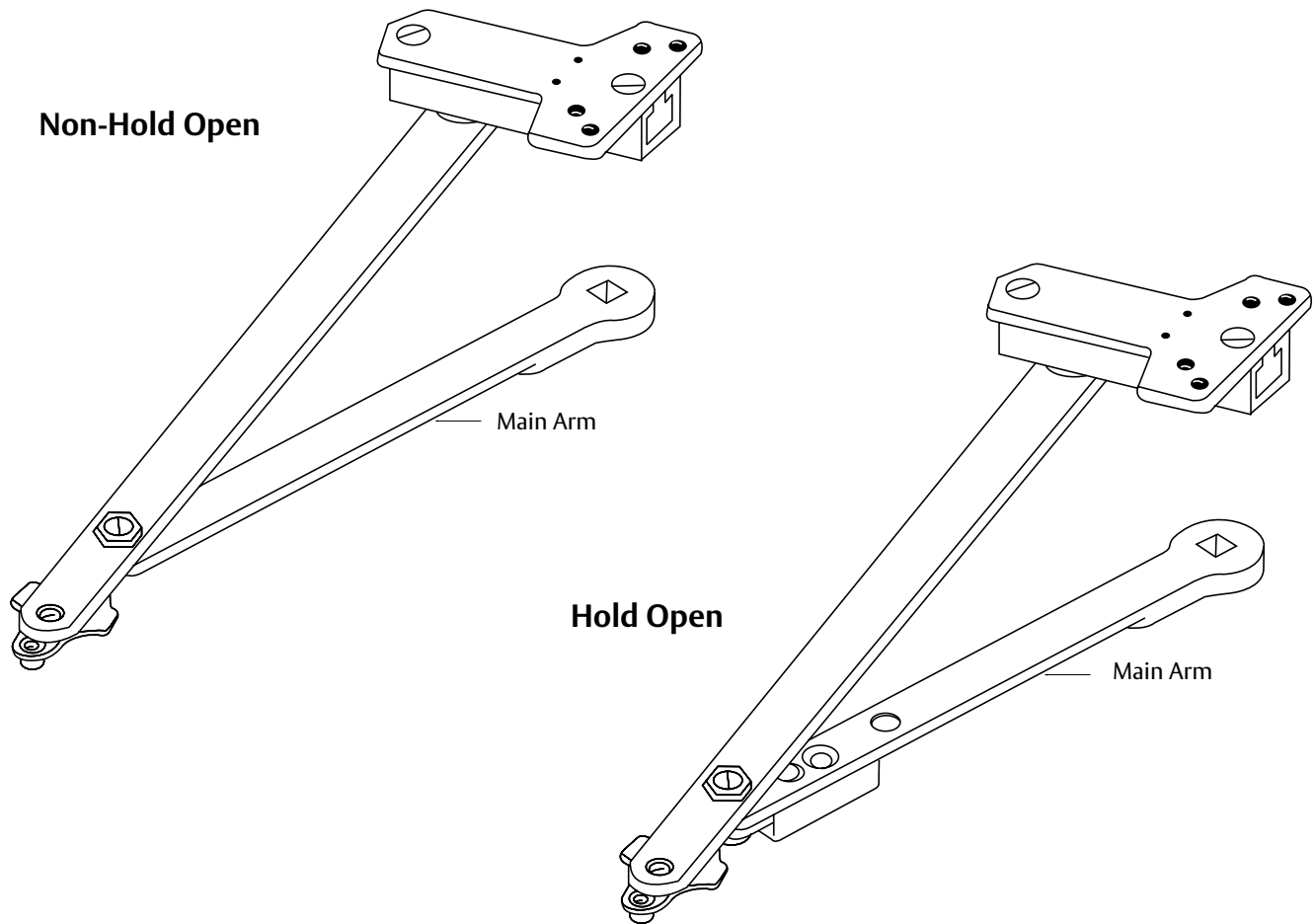
Side View



Arm Function	Complete Arm Assembly
PRO7701-5	Non-Hold Open
PRO7701-8R	Hold Open, Right Hand
PRO7701-8L	Hold Open, Left Hand

**Note:** Mounting hardware included with all parts orders.

Parallel Arm



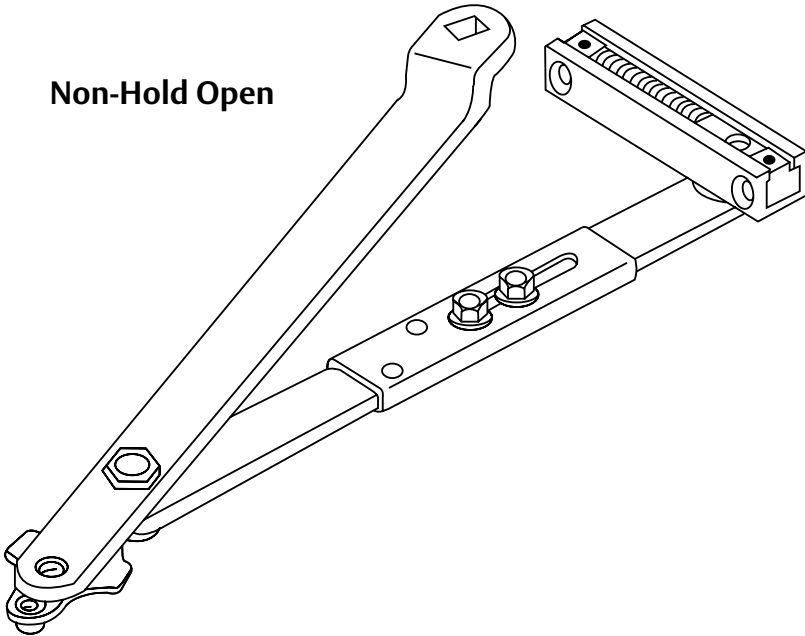
Complete Arm Assembly			
Door Width (cm)	Main Arm Length* (mm)	Non-Hold Open	Hold Open
28" - 32" (71 - 81)	9-1/2" (241)	6100-11	6100-1
33" - 41" (84 - 104)	11" (279)	6100-13	6100-3
42" - 48" (107 - 122)	12-1/2" (318)	6100-14	6100-4

\* Center to center length.

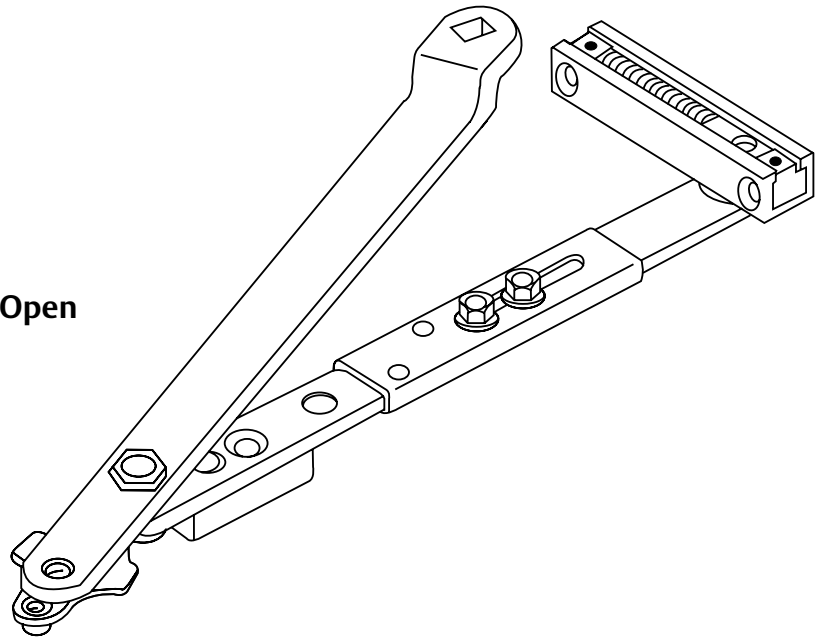
Note: Mounting hardware included with all parts orders.

Top Jamb

Non-Hold Open



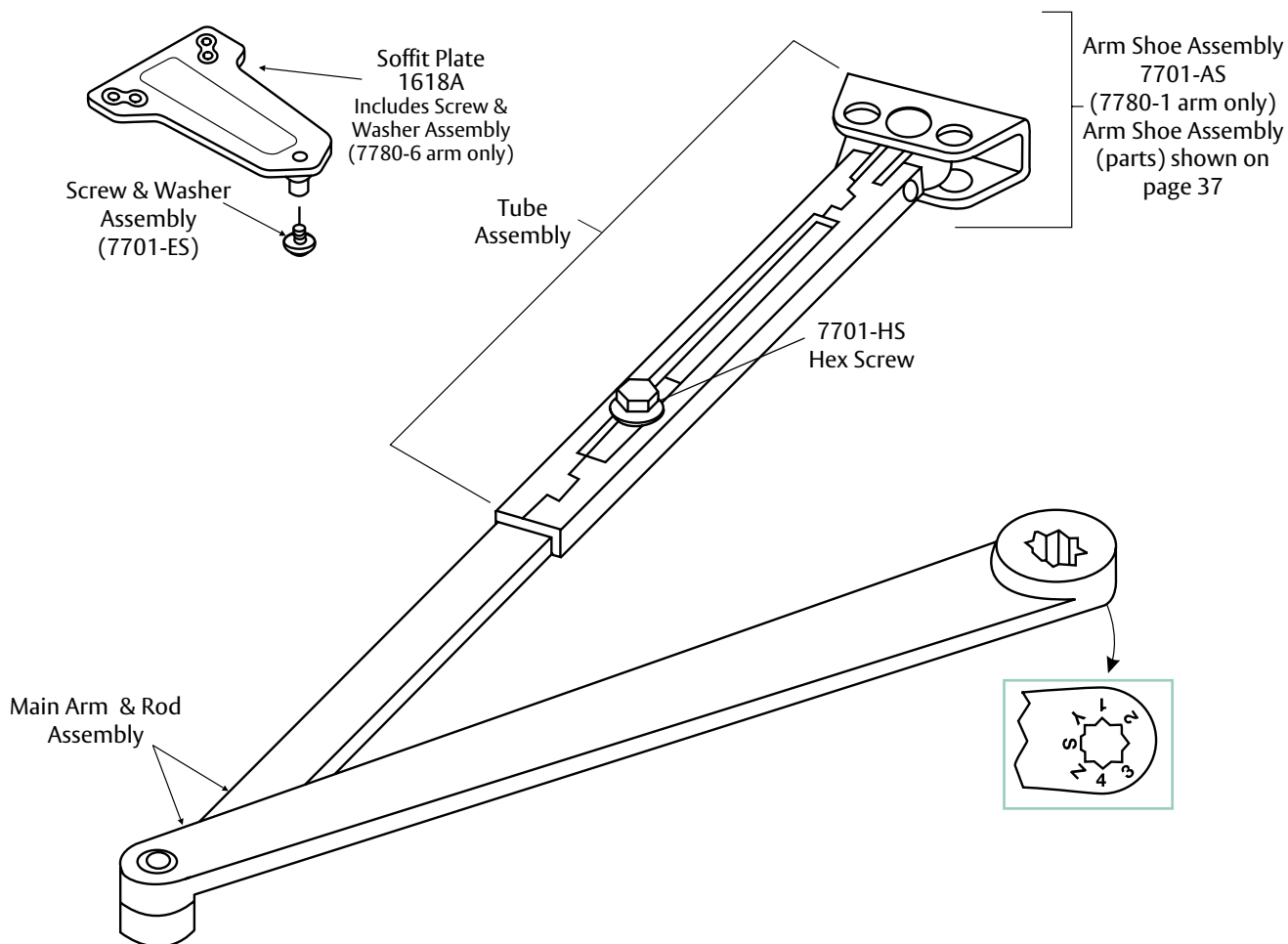
Hold Open



Non-Hold Open	Hold Open	For Frame Reveals (mm)
J6100-4	J6100-7	2-1/8" - 3-1/4" (54 - 83)
J6200-4	J6200-7	1/2" - 2" (13 - 51)
J6400-4	J6400-7	3-3/8" - 4-1/4" (86 - 108)
J6500-41	J6500-71	4-3/8" - 5-3/8" (111 - 137)
J6500-42	J6500-72	5-1/2" - 6-3/8" (140 - 162)
J6500-43	J6500-73	6-1/2" - 7-3/8" (165 - 187)
J6600-4	J6600-7	0 - 3/8" ( 0 - 10)

Note: Mounting hardware included with all parts orders.



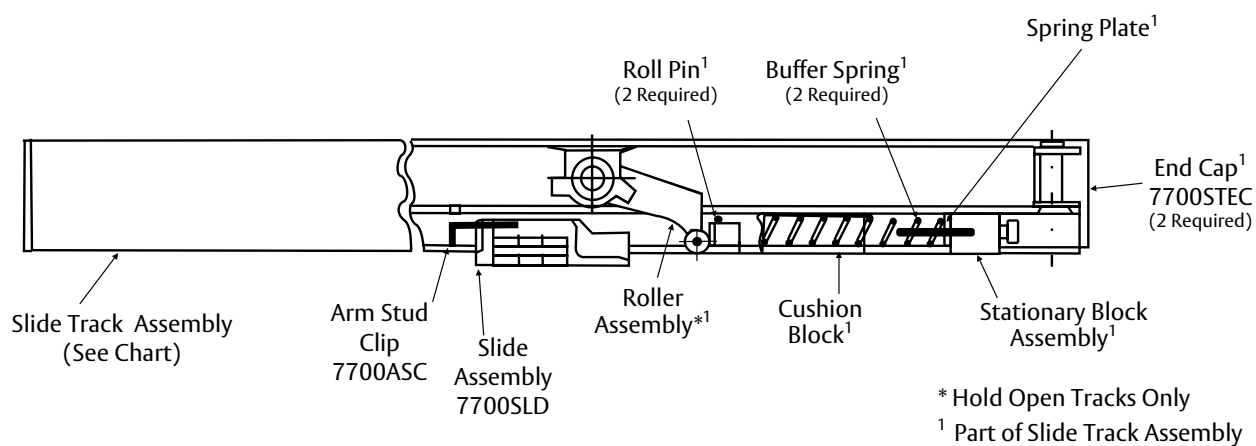


Arm Application	Complete Arm Assembly	Main Arm & Adjusting Rod Assembly	Tube & Shoe/Soffit Soffit Assembly
Regular Arm	7780-1	7780-1MR	7780-1TS (With 7701-AS)
Parallel Arm	7780-6		7780-6TS (With 1618A)
Tri-pack	7780-26		

Note: Mounting hardware included with all parts orders.

## TRACK AND ARM ASSEMBLIES

Model	Slide Track Assembly	
	Non-Hold Open	Hold Open
Pull Side	7701ST-1T	7701ST-3T
Pull Side (180°)	7701ST-1T180	N/A
Push Side	7701ST-5T	7701ST-8T

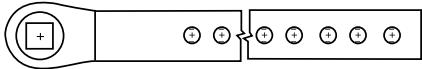


Note: Mounting hardware included with all parts orders.

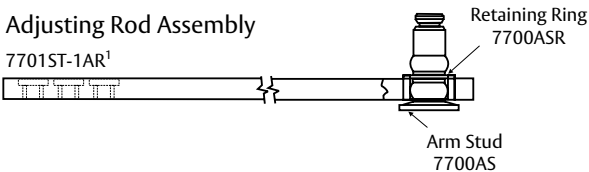
TRACK AND ARM ASSEMBLIES

Standard Arm Assembly  
7701ST-1A\*1

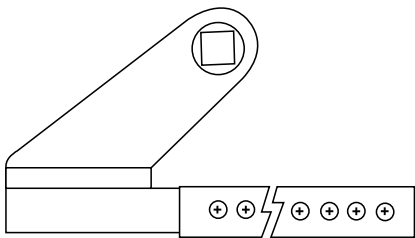
Arm Tube Assembly  
7701ST-1AT<sup>1</sup>



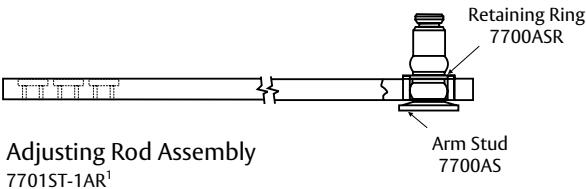
Adjusting Rod Assembly  
7701ST-1AR<sup>1</sup>



Double Egress Arm Assembly  
7701PT-DE-1R (Right Hand)\*1  
7701PT-DE-1L (Left Hand)\*1



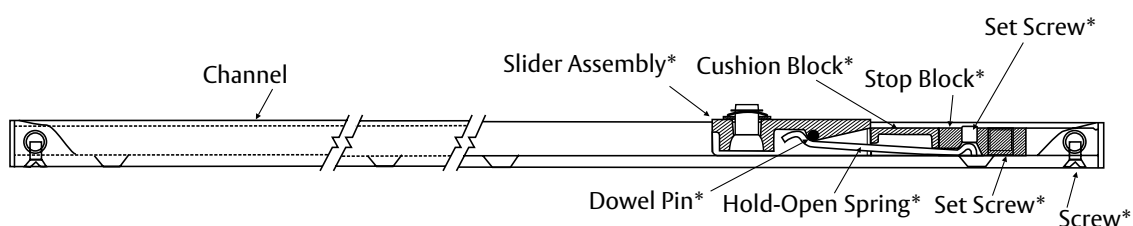
Arm Tube Assembly  
7701ST-1ATR<sup>1</sup> (right hand)  
7701ST-1ATL<sup>1</sup> (left hand)



Note: Mounting hardware included with all parts orders.

LOW PROFILE  
TRACK AND ARM  
ASSEMBLIES

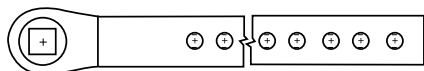
Track Assemblies	Part Number	
Description	Non-Hold Open	Hold Open
Pull-side mounted	7740ST-1T	7740ST-3T
Push-side mounted	7740ST-5T	7740ST-8T



\*Part of an Assembly Pack  
NHO= 7740SLD  
HO= 7740HSLD

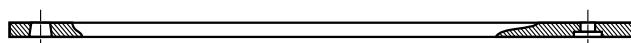
**ARM ASSEMBLY**

7740ST-1A<sup>1,2</sup>



Arm Tube Assembly

7701ST-1AT<sup>2</sup>



Adjusting Rod Assembly

7740ST-1AR<sup>2</sup>

- 1 Includes arm length adjusting screw.
- 2 Includes arm tube & adjusting rod assembly.

Note: Mounting hardware included with all parts orders.

NOTES



ASSA ABLOY

## 8000 Series Door Closers

NOTES

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NOTES



**ASSA ABLOY**

For a complete listing of products and applications please visit our web site.

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[www.assaabloy.ca](http://www.assaabloy.ca)

Or contact us at:

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Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

160 Four Valley Drive  
Vaughan, Ontario, L4K 4T9 Canada  
Tel: 800-461-3007  
Fax: 905-738-2478

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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.



**Norton®**

ASSA ABLOY

# 9300BC Series

## Light Commercial Door Closers



ASSA ABLOY, the global leader  
in door opening solutions

GENERAL  
INFORMATION

The 9300BC is a light commercial door closer designed for exterior and interior doors such as condominiums, apartments, motels or hotels.

FEATURES

- Spring size 2, 3, 4, 5
- Separate and independent valve for sweep speed and latch speed
- Adjustable backcheck standard
- Regular and top jamb mounting

Optional Features

- Parallel mount (prefix P to model number)
- Friction hold open arm

Certifications

- UL listed
- UL10C compliant
- ANSI/BHMA A156.4, Grade 3

Note: See the Norton® Series 1600 catalog for ADA compliance of heavy-duty applications.

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How to Order..... 3

Applications ..... 4

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Accessories ..... 6

Technical Details..... 7-8

Parts List ..... 9-11

## HOW TO ORDER

<b>No Prefix</b> - regular and top jamb mount <b>P</b> - parallel arm only  <b>P</b> <b>PREFIXES</b>	Defines closer series  <b>930</b> <b>FIRST, SECOND &amp; THIRD DIGIT</b>	"2" - ANSI size 2 "3" - ANSI size 3 "4" - ANSI size 4 "5" - ANSI size 5  <b>2</b> <b>FOURTH DIGIT</b> Closer Power Sizing	Adjustable backcheck cushioning (Standard)  <b>BC</b>	<b>H</b> - Hold open arm (Optional)  <b>H</b> <b>SUFFIX</b>
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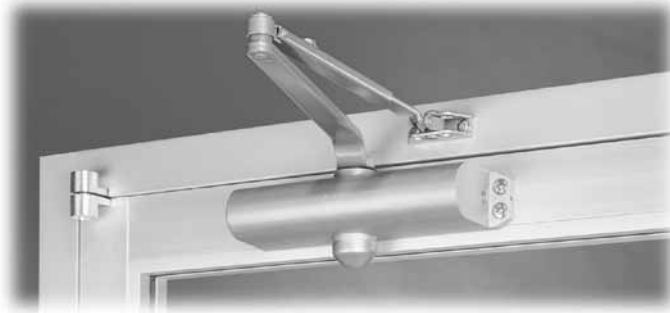
Note: Contact factory if door weight exceeds 250 lbs.

## COMPLIANCE STANDARDS

All series 9300BC closers comply with ANSI/BHMA A156.4 Grade 3 Specifications. All Norton® series 9300BC closers with non-hold open arms are listed by Underwriters' Laboratories (UL) for labeled fire doors. This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are also listed by the New York City Board of Standards and Appeals; Materials and Equipment Acceptance Division.

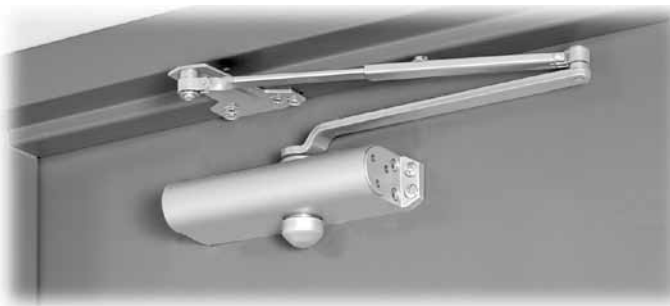


## APPLICATIONS

**Regular Arm**

This is the only pull-side application for the 9300BC series door closer. It is the most power-efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.

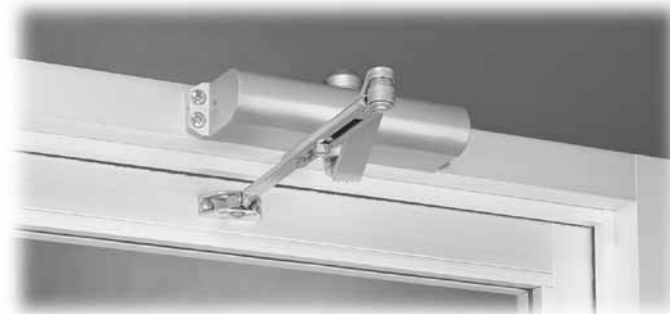
Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.

**Parallel Arm**

This application provides the most appealing design appearance for the 9300BC series door closer. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

The entire closer and arm assembly are mounted below the frame stop, requiring a top rail clearance on the door of 5" (127mm), without using a drop plate. A 9388 drop plate requires a top rail clearance of just 2-5/8" (67mm).

Due to the geometry of the arm it is approximately 25% less power efficient than a regular arm application.

**Top Jamb**

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 1-7/8" (48mm). This application provides the best door control for doors in exterior walls that swing out of a building. It will accommodate frame

reveals to a maximum of 2-7/8" (73mm). The entire door closer and arm assembly project from the frame, similar to the regular arm application, where matters of appearance can be of concern.

## FEATURES

**Aluminum Alloy Housing**

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interactive steel components and operating conditions.

**Rack & Pinion Operation**

Provides a smooth constant control of the door through its full opening and closing cycle. 180° door swing can be achieved when door, frame, hardware and arm function do not interfere.

**Non-Handed**

Pinion shaft extends vertically through the closer body in both directions. This permits the closer to be positioned on either right or left-hand doors for most applications.

**Non-Critical Control Valves**

All control valves for sweep speed, latch speed and backcheck cushioning are non-critical and are adjusted by a standard 1/8" (3mm) hex wrench.

**Adjustable Backcheck Cushion Valve**

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It slows/cushions the door opening, when the door is forcibly opened beyond its pre-adjusted speed limitation.

**Finishes**

All door closers are painted in waterborne acrylics. All steel parts, mounting plates and brackets are powder coated. The closers will withstand 120 hours of salt spray. ANSI requires 25 hours.

**Adjust Power Shoe**

Supplied as standard for a 15% ( $\pm 1/2\%$ ) power adjustment by relocating the forearm at the shoe, for regular arm and top jamb non-hold open installations.

**Sprayed Finishes**

Description	BHMA Designation	Complements the Following Finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat	600*	—	SRI

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 9303BC x 600 x 690).

## OPTIONAL FEATURES

**Hold Open Arm**

Closer arm has adjustable hold open feature (90° to 180°). This arm is non-handed. Order by suffixing "H" to the catalog number.

**Fasteners**

Type	Description	Applications		
		RA	PA	TJ
DOOR				
SDST	Self-Drilling Self-Tapping Screws	S	S	S
MS	Machine Screws	S	S	S
SN	Sleeve Nuts	O	O	O
TBGN	Through-Bolts & Grommet Nuts	O	O	O
FRAME				
SDST	Self-Drilling Self-Tapping Screws	S	S	S
MS	Machine Screws	S	S	S

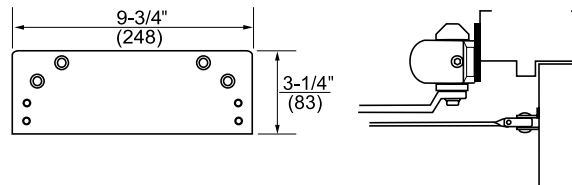
S = standard; O = optional

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for thru bolting on wood doors. SN are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57mm) thick doors.

**TBGN** are an alternative to SN for wood doors. TBGN are supplied standard for 1-3/4" (44mm) thick doors. They can be specified for 1-3/8" (35mm) thick doors.

TOP JAMB

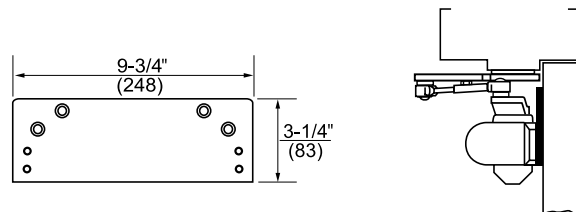
Closer Mounting Plate



**Top Jamb - #9388 Drop Plate:** For use when the door closer interferes with the ceiling or the frame face is too narrow to mount a closer body. This drop plate can be used to mount a closer on a frame face as narrow as 1-1/2" (38mm).

PARALLEL ARM

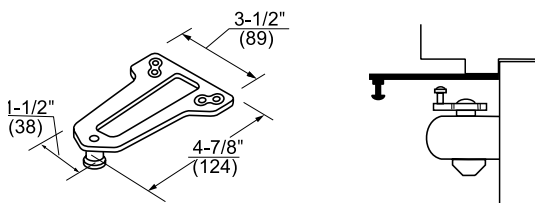
Closer Mounting Plate



**Parallel Arm - #9388 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-5/8" (57mm).

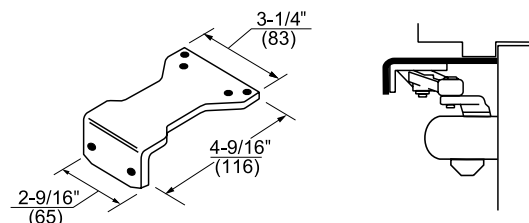
BRACKETS

Non-Hold Open Arms



**#9318A Soffit Plate:** This soffit plate is supplied to permit parallel arm mounting. It can be mounted where the frame soffit is as narrow as 1" (25mm).

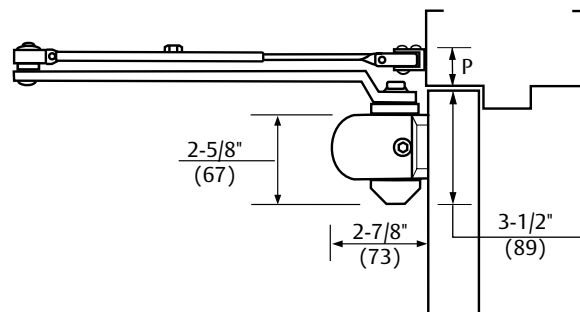
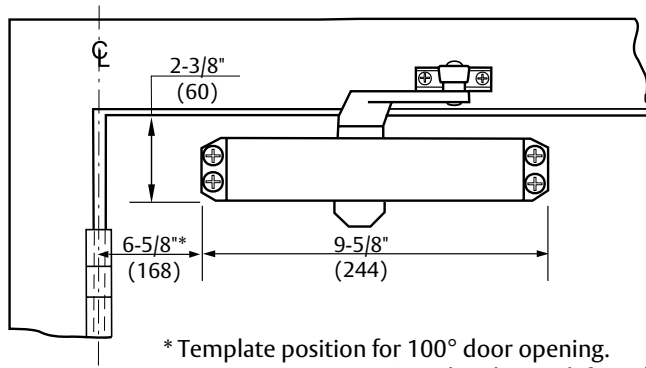
Hold Open Arms



**#9328H Adapter Plate:** This adapter plate is supplied standard with parallel arm hold open closer. It can also be used to convert hold open arms for parallel arm installation. It can be mounted where the frame soffit is as narrow as 1" (25mm).

# 9300BC Series Door Closer

## REGULAR ARM

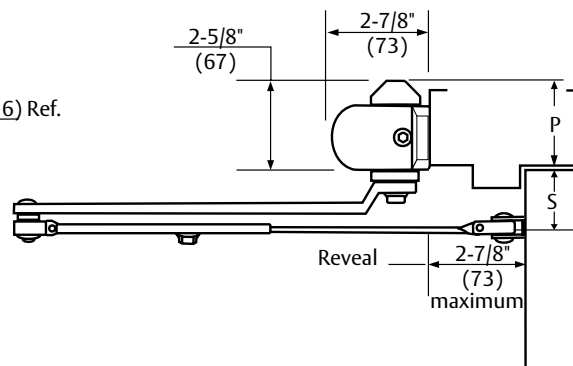
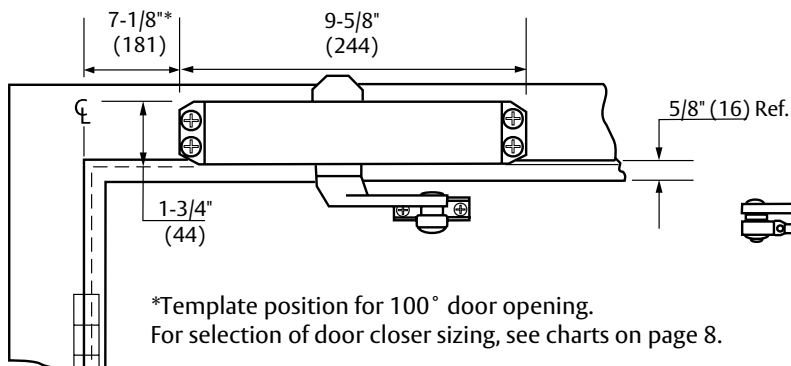


\* Template position for 100° door opening.  
Door openings to 180° can be obtained if conditions permit.  
For selection of door closer sizing, see charts on page 8.

P Minimum Ceiling Clearance Inches (mm)	
Non-Hold Open	Hold Open
1-1/2" (38)	1-5/8" (41)

Mounting holes on body are spaced centerline to centerline: 9-1/16" (230mm) horizontally x 3/4" (19mm) vertically.

## TOP JAMB

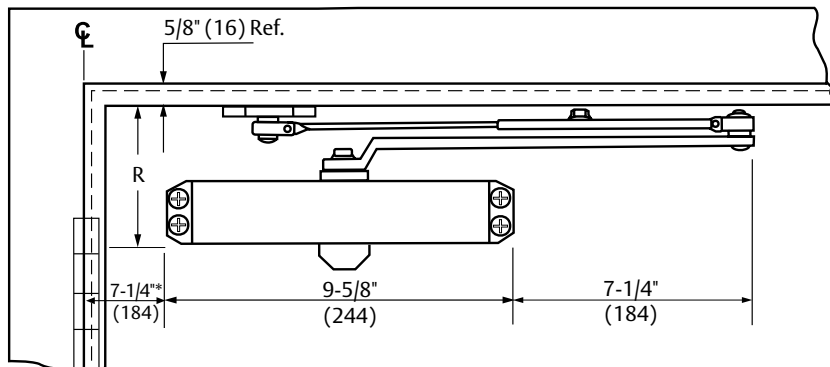


\*Template position for 100° door opening.  
For selection of door closer sizing, see charts on page 8.

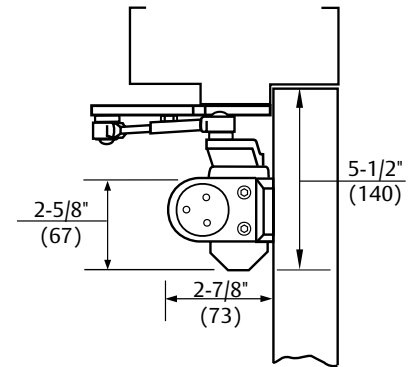
P Minimum Ceiling Clearance Inches (mm)		S Minimum Top Rail Clearance Inches (mm)	
Without Drop Plate	With 9388 Drop Plate	Without Drop Plate	With 9388 Drop Plate
2-5/8" (67)	1-3/4" (44)	1-7/8" (48)	3-3/8" (86)

Mounting holes on body are spaced centerline to centerline: 9-1/16" (230mm) horizontally x 3/4" (19mm) vertically.

**PARALLEL ARM**



\*Template position for 100° door opening.



R Minimum Top Rail 5/8" (16mm) Frame Stop Inches (mm)	
Without Drop Plate	With 9388 Drop Plate
5" (127)	2-5/8" (67)

Mounting holes on body are spaced centerline to centerline: 9-1/16" (230mm) horizontally x 3/4" (19mm) vertically.

**DOOR  
CLOSER SIZE**

**Note:** Door closing force is not adjustable. Correct size must be selected.

**Interior Doors**

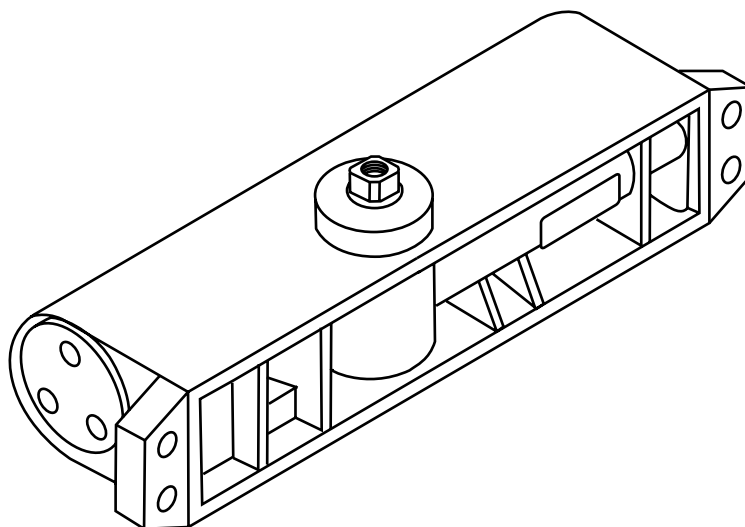
Door Closer Size	Recommended Max. Door Width Inches (cm)		
	Regular Arm	Top Jamb	Parallel Arm
9302BC	34" (86)	34" (86)	32" (81)
9303BC	40" (102)	40" (117)	38" (97)
9304BC	48" (122)	48" (122)	46" (117)
9305BC	—	—	52 (132)

**Exterior Doors**

Door Closer Size	Recommended Max. Door Width Inches (cm)		
	Regular Arm	Top Jamb	Parallel Arm
9302BC	30" (76)	30" (76)	28" (71)
9303BC	34" (86)	34" (86)	32" (81)
9304BC	40" (102)	40" (102)	36" (91)
9305BC	48" (122)	48" (122)	42" (107)

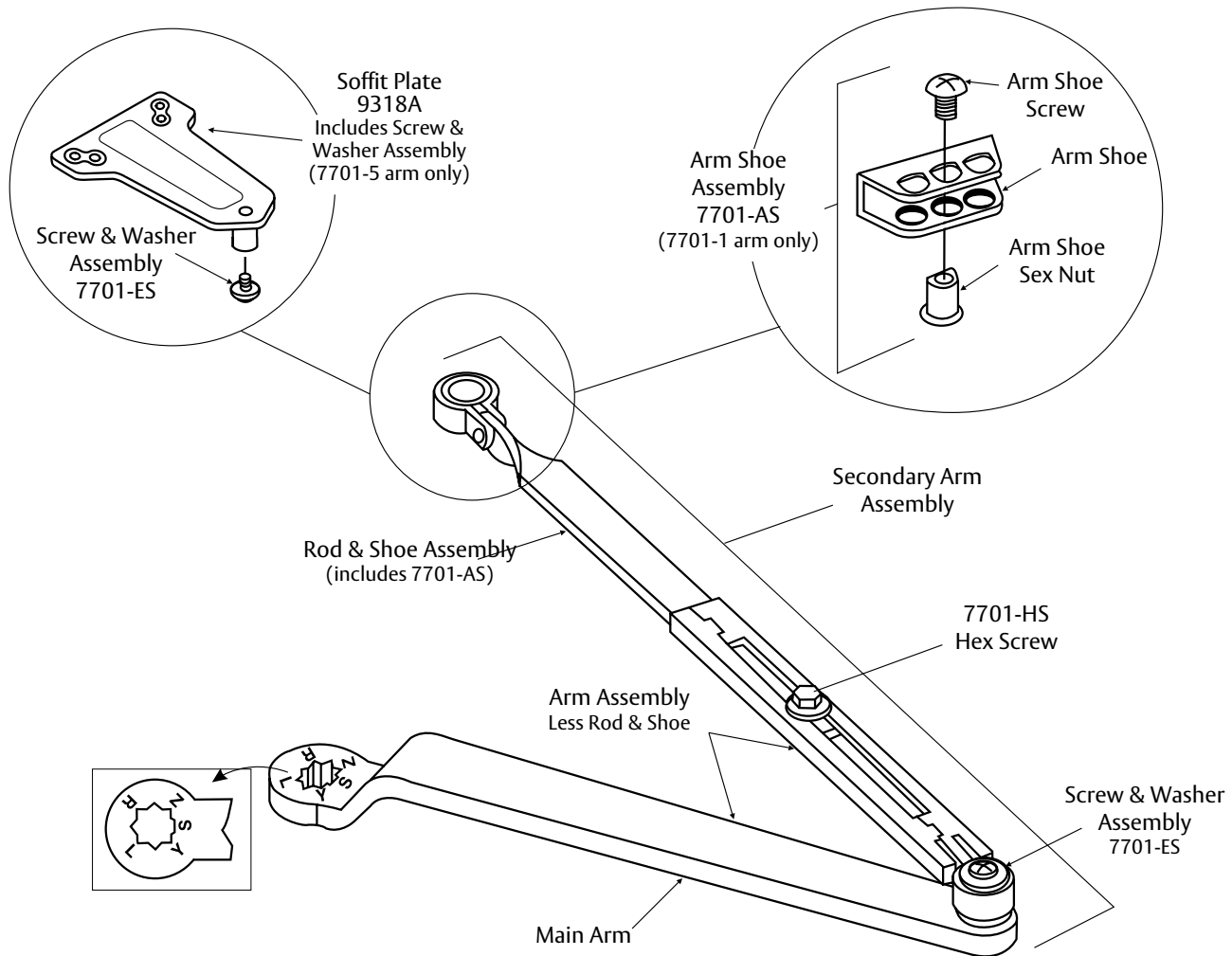
All dimensions are for reference only and are in inches (mm) unless otherwise noted. Door sizing information is based on installation on standard weight doors, 7'0" (213cm) high x 1-3/4" (44mm) thick; hung on anti-friction hinges and operating under normal conditions. Doors in excess of 7'8" (234cm) high or 1-3/4" (44mm) thick, templated openings beyond 150° or doors subject to wind or draft conditions will generally require the next larger size closer.



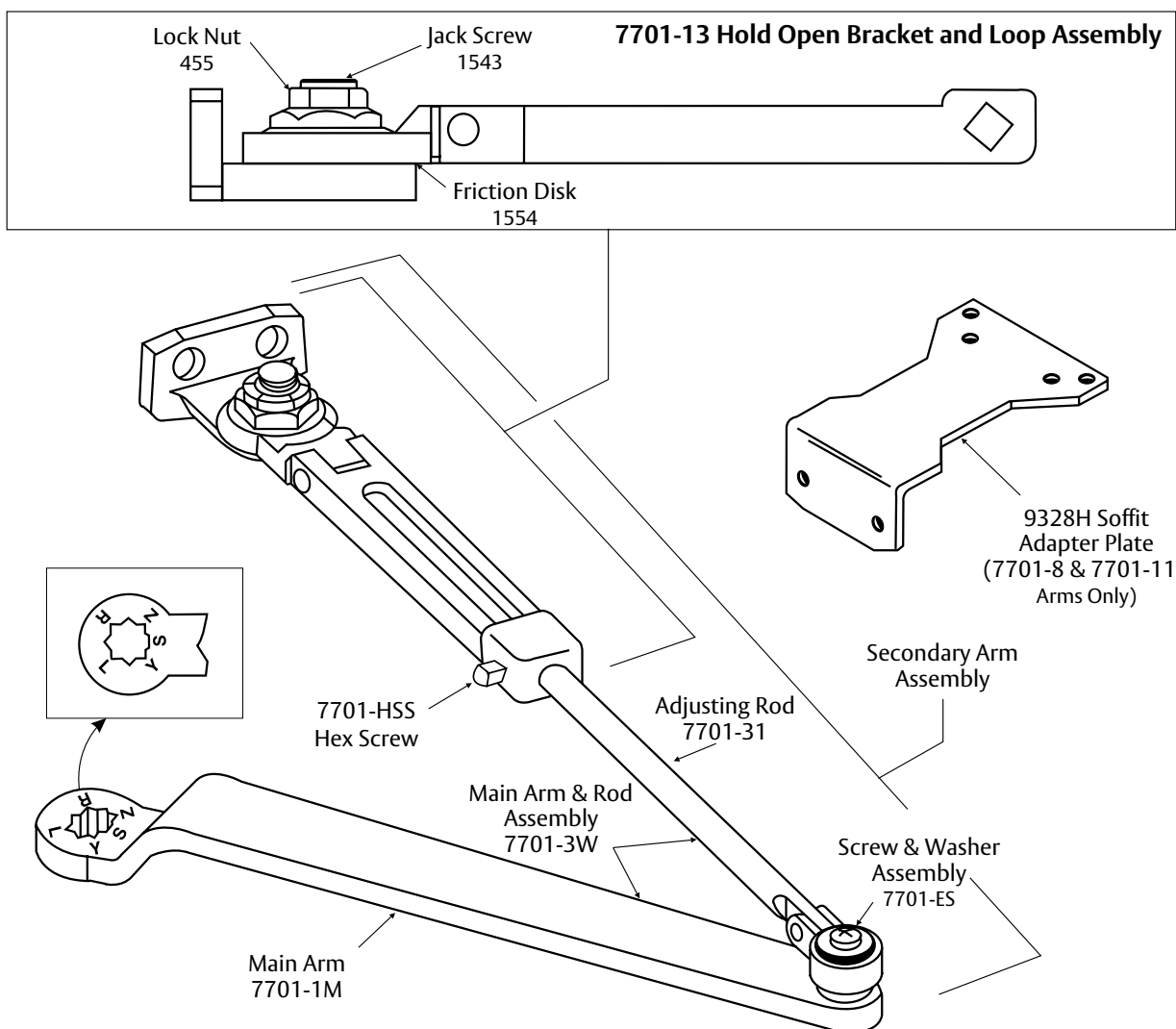


Model Number
9302BCLAP
9303BCLAP
9304BCLAP
9305BCLAP

**NON-HOLD OPEN  
ARM ASSEMBLIES**



Closer Series	Complete Arm	Main Arm	Arm Assembly Less Rod and Shoe	Secondary Arm Assembly	Rod & Shoe Assembly
9300BC	7701-1	7701-1M	7701-1W	7701-111	7701-11
P9300BC	7701-5			7701-115	7701-15



Closer Series	Complete Arm	Secondary Arm Assembly
9300BCH	7701-3	7701-113
P9300BCH	7701-8	7701-118



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**Norton®**

ASSA ABLOY

# 7570/7770 Series Security Door Closers



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in door opening solutions





ASSA ABLOY

# 7570/7770 Series Security Closers

## INTRODUCTION

Norton High Security Closers are designed for use in prisons, government buildings, schools, financial institutions, or any installation where vandalism, abuse, escape, personal injury, or damage to doors, walls, and hardware are major concerns.

The Security Closer Line uses Norton 7500 and 7700 series institutional door closers with a variety of regular rigid and parallel arms and track options. Hold open arms are also available. Fixed link arm assemblies, permanent joints, orbital riveted elbows, arm shoe, soffit joints and Torx® screws with tread lock prevent disassembly. Norton 7500/7700 and 8000 series door closers are also offered with some of the same arm options as the 7770/7570 but without the security cover. Torx screws are available standard for tamper resistance. These closers are utilized in schools and industrial environments where heavy abuse and vandalism may occur.

## OVERVIEW

### Features

- Security arms – joints feature permanent, orbital riveted elbow and arm shoe/soffit plate joints which prevent disassembly
- Adjustable backcheck cushioning and positioning
- Torx drive machine screws with security pin
- Heavy-duty arms: Regular Rigid, Parallel Rigid, CloserPlus® and CloserPlus Spring™
- 10-year limited warranty

### Optional Features

- Slide track – push or pull mounting
- Delayed action
- Enhanced backcheck

### Compliance Standards

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure



	7570	7770
Adjustable spring sizes 1 through 6	X	
Sized springs 2,3,4,5,6 with 50% power adjustment		X

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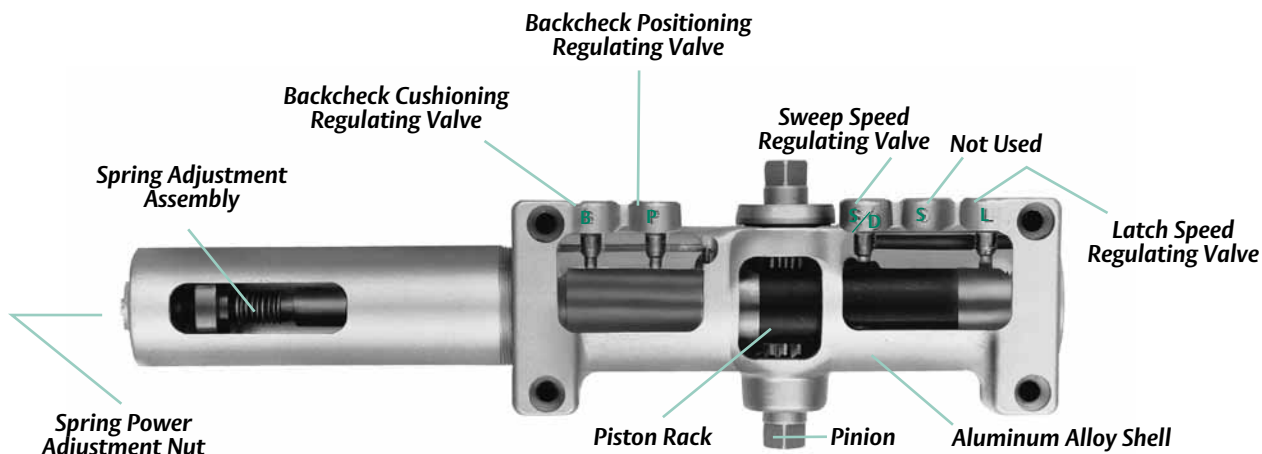
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## Exploded View of Closer Body (without delayed action)



## COMPLIANCE STANDARDS

 The series 7570 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI standard A117.1. **BHMA** CERTIFIED All series 7570/7770 are ANSI/BHMA A156.4, Grade 1 certified.  All Norton series 7570/7770 closers with non-hold open arms are listed by Underwriters' Laboratories for labeled fire doors. This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are also listed by the New York City Materials and Equipment Acceptance Division.

### CAUTION: Door Closers for Low Opening Force Applications:

Door closers installed in openings required to meet the requirements of The Americans with Disabilities Act or ANSI Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.

HOW TO ORDER

For optimum protection of door and frame assemblies, always use auxiliary wall, floor, or overhead door stop.

**No Prefix** - Regular Rigid arm

**PR** - Parallel Rigid arm (parallel arm only). Non-hold open only.

**PS** - 7570ST / 7770ST for push side mounting only.

**CLP** - CloserPlus® arm (parallel arm only).

**CPS** - CloserPlus Spring™ arm (parallel arm only).

**UNI** - Unitrol® arm (parallel arm only - specify door width).  
Frame reveals 1-7/8" to 4-5/8" (48mm-117mm) standard.

**CLP**  
PREFIXES

**7 5**  
FIRST & SECOND DIGIT  
Defines closer series

**7**  
THIRD DIGIT  
Specifies some options

**77** Specifies 7770 sized  
closer.  
**75** Specifies 7570 multi-  
sized closer.

**7** - Specifies closer having a security arm, security cover and Torx® security screws (specify hand).

Sizing charts provided on pages 11-17 are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110°. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.

**Series 7570**

**0** - Power range 1 through 6

**Series 7770**

**"2"** - ANSI size 2

**"3"** - ANSI size 3

**"4"** - ANSI size 4

**"5"** - ANSI size 5

**"6"** - ANSI size 6

**0**  
FOURTH DIGIT  
Closer power sizing

**T**  
SUFFIXES

**None** - Non-hold open arm function

**ST** - Slide track - single lever arm (auxiliary stop recommended)

**T** - Thumbturn hold open on CloserPlus® (CLP) or CloserPlus Spring™ (CPS) arm

**EBC** - Enhanced Backcheck

**DA** - Delayed Action

**EP** - Extra Power (size 6 closer only)

**Note:**

- Door closer warranty becomes void if it is installed on the exterior side of a door in the exterior wall of a building.
- It is strongly recommended, and it is required on most fire door assemblies, that doors having a door closer be hung on ball-bearing or anti-friction hinges or pivots.
- Failure to use the correct type and size fasteners may void factory warranty.
- Fasteners for fire/smoke door assemblies must conform to NFPA 80. In some applications additional fasteners may be mandated by NFPA 80 that are not shipped with standard product, such as sleeve-nuts/sex-nuts or through-bolts and grommet nuts.
- The Torx® drive screws (with security pin), provided with the 7570/7770 door closers are only available with machine screw threads.



# 7570/7770 Series Security Closers

## Fasteners

Type	Description	Arm					
		RA	PR	CLP	CPS	UNI	ST
Torx®	Lobular Torx drive screws	S	S	S	S	S	S
SN	Sleeve Nut	O	O	O	O	S	S
SDST	Self Drilling Self Tapping	O	O	O	O	S	S

**S = standard; O = Optional**

**Torx** drive screws, for tamper resistance are standard with 7570 and 7770 closers. These screws are only offered with machine threads for fastening to metal doors and frames. #14-10 wood or sheet metal fasteners if required, must be supplied by others.

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for through bolting on wood doors. SN are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57) thick doors.

## Sprayed Finishes

Description	Specify (BHMA) Designation	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat*	600	—	SRI

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 7570 x 600 x 689).

## Plated Finishes

Description	Specify (BHMA) Designation	Old Designation
Bright Brass	605E	US3
Satin Brass	606E	US4
Bright Bronze	611E	US9
Satin Bronze	612E	US10
Oxidized Oil Rubbed Bronze	613E	US10B
Bright Chrome	625E	US26
Satin Chrome	626E	US26D

Finishes other than those listed above may be available on special order. A sample will be required.

**When a plated finish is ordered, arm and cover will be plated unless "cover only" is specified.**

## FEATURES

**Aluminum Alloy Housing**

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interactive steel components and operating conditions.

**Rack & Pinion Operation**

Provides a smooth constant control of the door through its full opening and closing cycle. 180° door swing can be achieved when door, frame, hardware and arm function do not interfere.

**Handed**

All series 7570 and series 7770 closer covers are handed (closer cover must match hand of door).

**Sweep Speed Control Valve**

Allows adjustment of door speed from the door's full open position down to approximately 5° from the closed position.

**Latch Speed Control Valve**

Allows adjustment of door speed from approximately 5° down to the door's fully closed position.

**Non-Critical Control Valves**

All control valves for sweep speed, latch speed and backcheck cushioning are non-critical and are adjusted by a standard 1/8" (3mm) hex wrench.

**Adjustable Backcheck Cushion Valve**

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It slows/cushions the door opening, when the door is forcibly opened beyond its pre-adjusted limits.

**Adjustable Backcheck Position Valve**

Allows the door opening position, where backcheck cushioning begins, to be adjusted to a greater door angle, up to a maximum of 20° farther (approximately 95°).

**Security Cover**

Supplied standard with all series 7570/7770 door closers. This deep drawn steel cover is handed for all applications. The cover is fastened to the closer body at two points on top and to the door closer body stand-offs at two points on the bottom.

**Warranty**

These closers carry a limited ten-year warranty against defect, and life of the building on the aluminum housing.

**Closer Fluid**

NorGlide® closer fluid is a specially formulated multi-viscosity hydraulic fluid that contains lubricity and anti-oxidation agents that provide optimum performance and efficiency. This fluid complements the interaction of the door closer's aluminum housing with its steel and brass components, while maintaining stable viscosity to allow the door closer to perform in temperatures ranging from extremely high to as low as -40° F.

**Door Closer Power Options****Series 7770 Sized Door Closer**

Available in five different power sizes (2, 3, 4, 5 or 6). Each power size is adjustable up to 50% stronger than the minimum closing force for that size, as outlined in ANSI/BHMA standard A156.4. Option PT-4C.

**Series 7570 Multi-Sized Door Closer**

Adjustable through the entire power range of door closer sizes 1 through 6, as outlined in ANSI/BHMA standard A156.4. Option PT-4H.

The series 7570 also conforms to the minimum opening force requirements of the Americans with Disabilities Act (A.D.A.) and ANSI/BHMA standard A117.1 for interior doors.

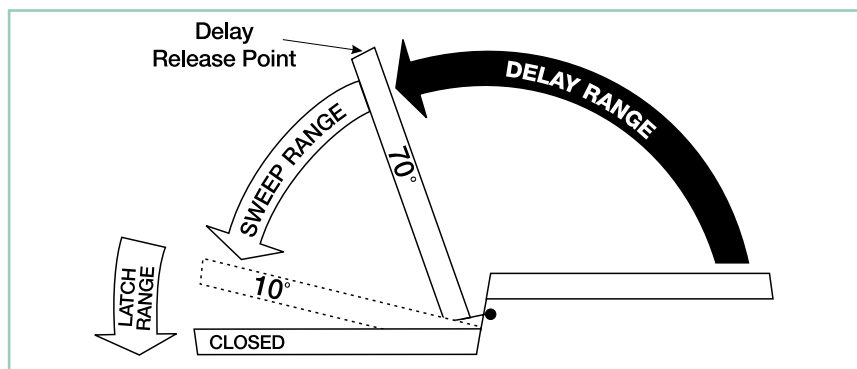
## Adjustable Delayed Action Closing

An optional hydraulic feature that adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened and Released at	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds

## Pressure Relief Safety Valve

The delayed action hydraulic system contains a pressure relief valve. Any time the door is forced toward the closed direction while it is in the closing cycle, the valve will open and permit the door to close. This prevents damage to door, frame and closer.



## Suggested Applications

Delayed Action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can accommodate the facility's staff with movement of food service carts, beds, and other wheeled traffic.

Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/warehouse facilities, doors to workshops or laboratories, to kitchen and food processing areas.

## Non-Hold Open

Self-closes door every time door is opened. Auxiliary stop (by others) required except when using the CloserPlus®, CloserPlus Spring™ or Unitrol® arms.

## Hold Open

Achieved by means of ball and detent/roller. Ball and detent or roller hold open is effective in a range of 85° to 110°.

Hold open arm door closers are not permitted to be used on fire door assemblies.

## Door Opening Degrees

Arm Function	Regular Rigid Arm	Parallel Rigid Arm	CloserPlus® Parallel Arm	CloserPlus Spring™ Parallel Arm	Unitrol® Parallel Arm	Slide Track
Non-Hold Open	✓	✓	85° to 110°	85° to 110°	85° to 110°	85° to 110°/180°
Hold Open	—	—	85° to 110°	85° to 110°	—	—

✓=180° trim and template permitting

SUGGESTED  
SPECIFICATIONS**7570 Series**

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy body. Closers shall be surface mounted and shall project no more than 2-3/16" from the surface of the door. Closers shall be reversible but supplied with a handed metal cover. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have multi-size spring power adjustment to permit setting of spring from 1 through 6. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep and latch speed. Closers shall have backcheck cushioning controlled by a hex key adjustable valve. Closers shall have backcheck position controlled by a hex key adjustable valve.

[Closers shall have adjustable delayed-action closing controlled by a hex key adjustable valve.]

\*\*Closers shall be enclosed in a [plated] [sprayed] metal cover. Closers to be Norton® [7570]. Covers shall be fastened to the body at four points, two at the top and two at the bottom to prevent prying.

\*\*For special arms insert the appropriate specification from column three on this page.

**7770 Series**

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-3/16" from the surface of the door. Closers shall be reversible but supplied with a handed metal cover. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have power adjustment to permit a 50% increase in power over the minimum closing force for each size. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep and latch speed. Closers shall have backcheck cushioning controlled by a hex key adjustable valve. Closers shall have backcheck position controlled by a hex key adjustable valve.

[Closers shall have adjustable delayed action closing controlled by a hex key adjustable valve.]

\*\*Closers shall be enclosed in a [plated] [sprayed] metal cover. Closers to be Norton [7570]. Covers shall be fastened to the body at four points, two at the top and two at the bottom to prevent prying.

\*\*For special arms insert that specification here (see column three on this page).

**\*\*Unitrol® Arm**

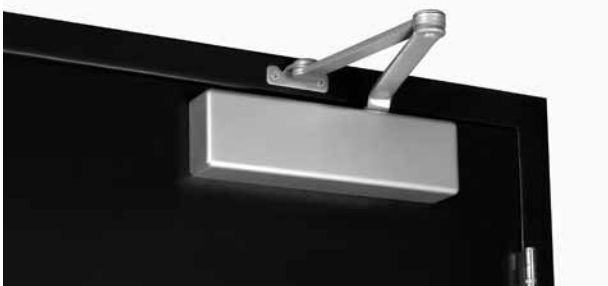
Door closers shall have built-in door stop effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop shall be cushioned by a shock-absorbing heavy-duty spring action effective at the soffit plate pivot. Closers shall be provided for parallel arm installation using rigid steel main arm and secondary arm lengths proportional to the door width.

**\*\*CloserPlus® Arm**

Door closers shall have built-in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall be reversible and attached to soffit plate. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel arm installation using rigid steel main and secondary arms.

**\*\*CloserPlus Spring™ Arm**

Door closers shall have built in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall have a buffer spring that engages prior to the dead stop feature, reducing shock loads to the door and frame assembly. Door stop mechanism shall be reversible and attached to soffit plate. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel installation using rigid steel main and secondary arms.



## Regular Rigid Arm

This double lever arm features a non-adjustable secondary arm. Orbitally riveted joints prevent tampering or disassembly. The rigid heavy-duty arm is standard with the security closers featuring a regular arm application.

Auxiliary door stop required. Available non-hold open only.



## Parallel Rigid Arm

An enhanced variation of the standard parallel arm assembly that is intended for use in heavy traffic areas where auxiliary door stops are installed.

Auxiliary door stop required. Available non-hold open only.



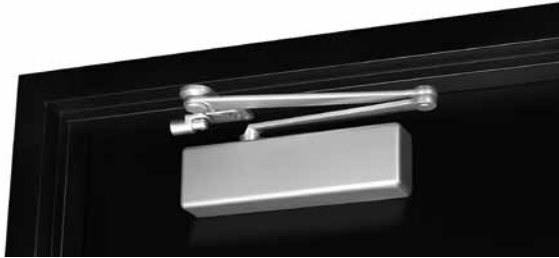
## CloserPlus® Arm

Similar to the Parallel Rigid arm, this arm incorporates a stop at the arm's soffit plate to dead stop the door at a predetermined degree of door swing between 85° and 110°, in 5° increments. Prior to dead stop the door closer's backcheck feature slows the door speed to reduce the impact of the stop action.

*CloserPlus* arm is intended for use where an auxiliary door stop cannot be utilized and no more than moderate abuse is anticipated. Where more extreme conditions are expected, use of a Unitrol® arm is recommended.

Thumbturn hold open available. (Hold open strength is adjustable.)

**APPLICATIONS**



**CloserPlus Spring™ Arm**

This heavy-duty stop arm includes all of the features of the *CloserPlus* Arm, plus an added buffer spring that is compressed prior to the arm hitting the dead stop point. This greatly reduces the shock of the stopping action that occurs with the *CloserPlus* arm.

*CloserPlus Spring* Arm is intended for use where an auxiliary door stop cannot be utilized and no more than moderate abuse is anticipated. Where more extreme conditions are expected, use of a *Unitrol* arm is recommended.

Thumbturn hold open available. (Hold open strength is adjustable.)



**Unitrol® Arm (Parallel Arm)**

*Unitrol* arms combine the features of a double lever arm overhead door stop/holder with the backcheck feature of the door closer to reduce door stopping shock loads to a minimum. This arm uses a compression spring buffer at the soffit plate/arm shoe that will absorb 30 lbs. of force, 5° prior to the door's dead stop. Coupled with the door closer's backcheck feature, the *Unitrol* Arm offers the most controlled stop available with a surface door closer.

There are three different length arm assemblies. Each length is designed for a specific range of door widths to provide precise door control. This further lessens the dead stop impact on the door's hinges/pivots.



Pull Side



Push Side

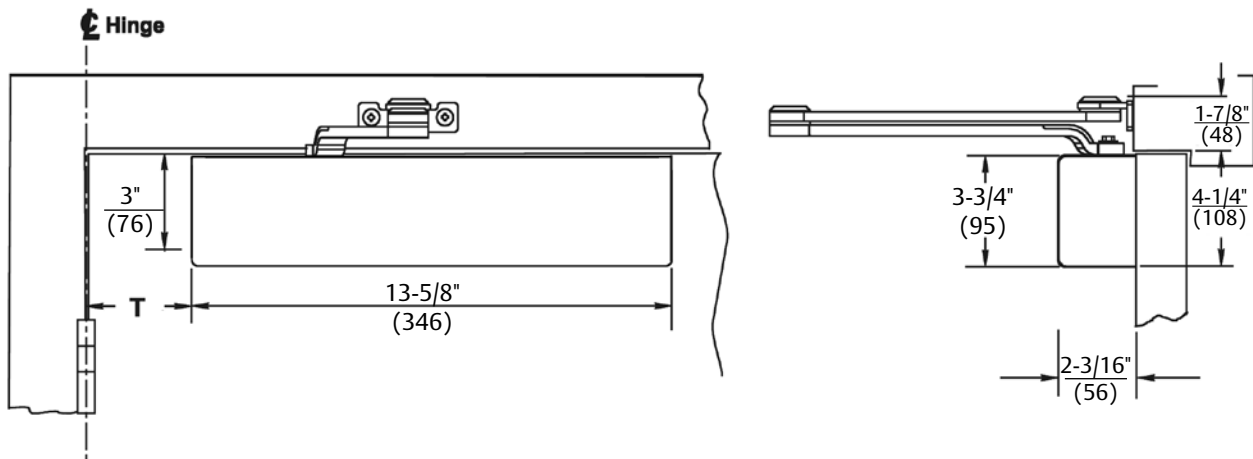
**Slide Track Mounting**

Whether pull or push side mounted, this application provides the designer with the smoothest lines available in a surface-mounted door closer. The single lever arm allows components to be located in a stack configuration to minimize projection and eliminate obtrusive arm angles.

Auxiliary door stop is recommended for this application.

# 7570/7770 Series Security Closers

REGULAR  
RIGID ARM



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

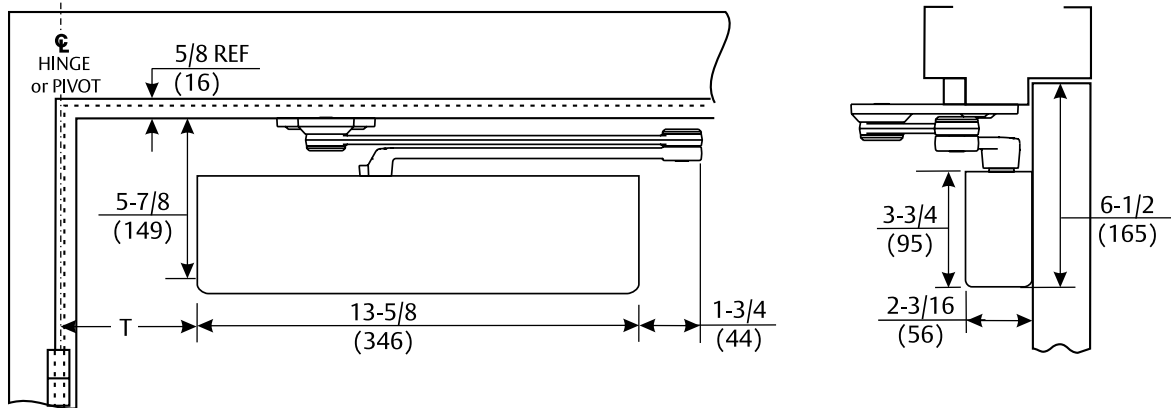
T Template Position			
0° to 100°	101° to 120°	121° to 150°	151° to 180°
6-3/8" (162)	5-3/8" (137)	3-3/8" (86)	3-1/8" (79)

Maximum Door Width Inches (cm)		Model Number	
		Sized Closers	Multi-Sized Closers
Interior	Exterior	Non-Hold Open	
36" (91)	30" (76)	7772	7570
42" (107)	36" (91)	7773	
46" (117)	42" (107)	7774	
54" (137)	48" (122)	7775	
—	52" (132)	7776	

## Notes:

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Contact factory if door weight exceeds 250 lbs.

PARALLEL  
RIGID ARM



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

T Template Position		
0° to 100°	101° to 120°	121° to 180°
8-1/8" (206)	7-1/8" (181)	6-1/8" (156)

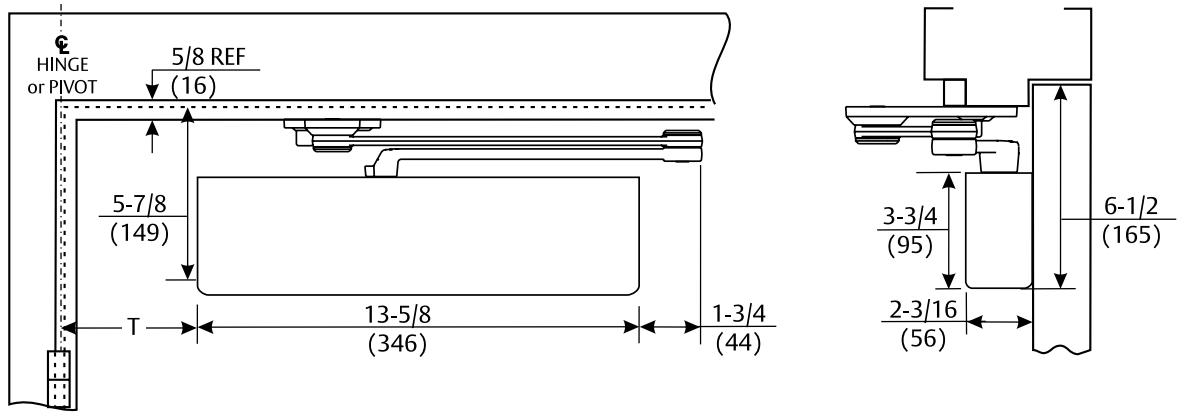
Maximum Door Width Inches (cm)		Model Number	
		Sized Closers	Multi-Sized Closers
Interior	Exterior	Non-Hold Open	
30" (76)	—	PR7772	PR7570
36" (91)	32" (81)	PR7773	
42" (107)	36" (91)	PR7774	
48" (122)	42" (107)	PR7775	
—	48" (122)	PR7776	

**Notes:**

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Contact factory if door weight exceeds 250 lbs.



# 7570/7770 Series Security Closers



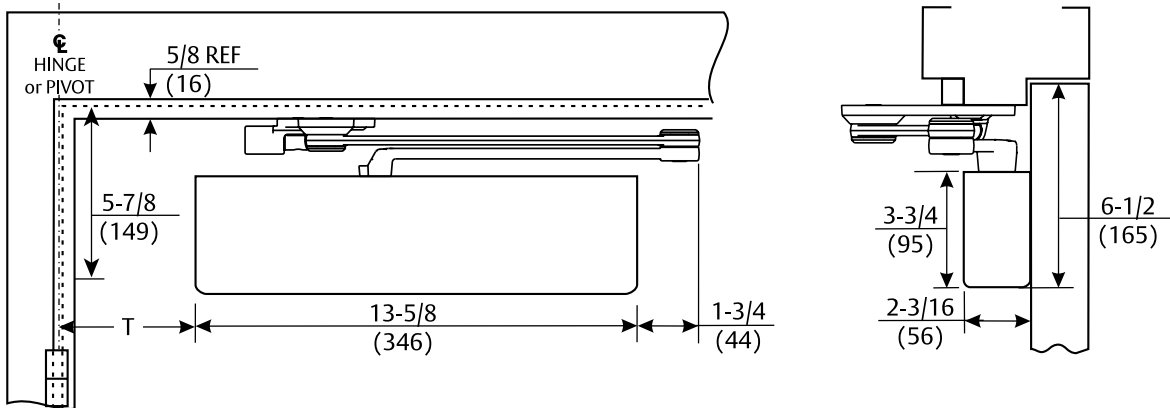
Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

<b>T</b> <b>Template Position</b> <b>for Hold Open or Stop at Listed Angle (mm)</b>					
85°	90°	95°	100°	105°	110°
9-5/8 (244)	8-3/4 (222)	8-1/4 (210)	7-3/8 (187)	6-7/8 (175)	6-1/4 (159)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
30" (76)	—	CLP7772	CLP7772T	CLP7570	CLP7570T
36" (91)	32" (81)	CLP7773	CLP7773T		
42" (107)	36" (91)	CLP7774	CLP7774T		
48" (122)	42" (107)	CLP7775	CLP7775T		
—	48" (122)	CLP7776	CLP7776T		

## Notes:

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Contact factory if door weight exceeds 250 lbs.



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

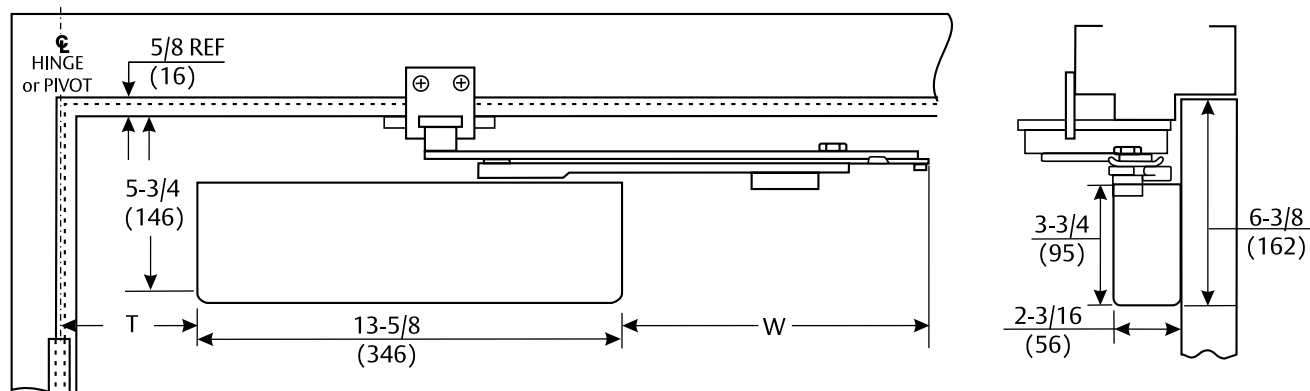
<b>T</b> <b>Template Position</b> <b>for Hold Open or Stop at Listed Angle (mm)</b>					
85°	90°	95°	100°	105°	110°
9-5/8 (244)	8-3/4 (222)	8-1/4 (210)	7-3/8 (187)	6-7/8 (175)	6-1/4 (159)

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
		Non-Hold Open	Thumbturn Hold Open	Non-Hold Open	Thumbturn Hold Open
Interior	Exterior				
30" (76)	—	CPS7772	CPS7772T	CPS7570	CPS7570T
36" (91)	32" (81)	CPS7773	CPS7773T		
42" (107)	36" (91)	CPS7774	CPS7774T		
48" (122)	42" (107)	CPS7775	CPS7775T		
—	48" (122)	CPS7776	CPS7776T		

**Notes:**

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Contact factory if door weight exceeds 250 lbs.

# 7570/7770 Series Security Closers



## Door width must be specified when ordering.

Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

Use 6190\* bracket for reveals 1-7/8" - 4-5/8" (48 to 117mm). Reveals in excess of 4-5/8" (117mm) requires use of 6191\*\* reinforcing kit. Reveals to 1/8" (3mm) require use of a 2022\*\* angle bracket.

\* 6190 bracket is supplied standard with *Unitrol* arms.

\*\* 6191 and 2022 must be specified in lieu of 6190 when required.

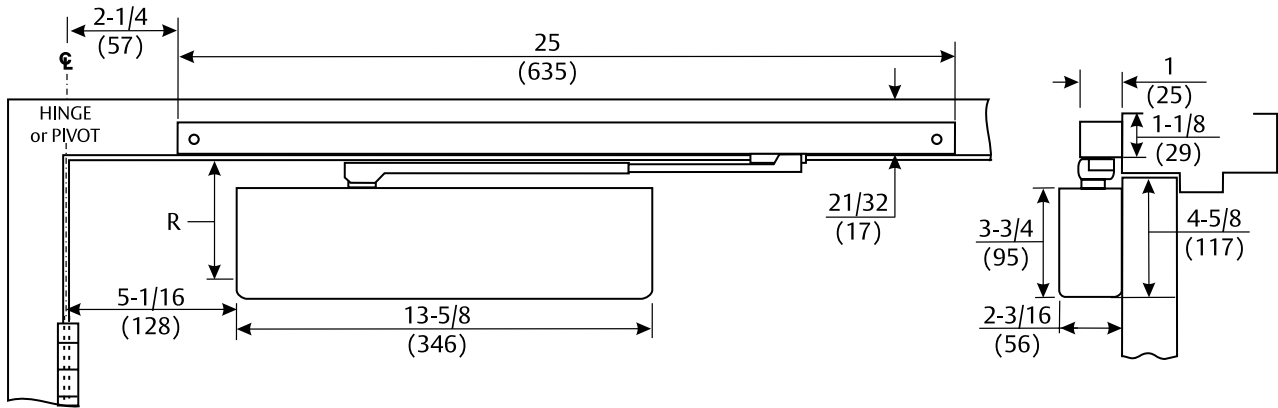
Door Width Inches (cm)	T Template Position Dead Stop at Listed Angle Plus 5°						W Arm Extension Beyond Closer
	85°	90°	95°	100°	105°	110°	
28-32" (71-81)	4" (102)	3-3/8" (86)	2-7/8" (73)	2-1/2" (64)	2-1/8" (54)	1-3/4" (44)	8-5/8" (219)
33-41" (84-104)	6-3/8" (162)	5-3/4" (146)	5-1/8" (130)	4-5/8" (117)	4-1/8" (105)	3-3/4" (95)	10-1/8" (257)
42-48" (107-122)	8-5/8" (219)	7-7/8" (200)	7-1/4" (184)	6-5/8" (168)	6-1/8" (156)	5-5/8" (143)	11-1/2" (292)

Maximum Door Width Inches (cm)		Model Number	
		Sized Closers	Multi-Sized Closers
Interior	Exterior	Non-Hold Open	
30" (76)	—	UNI7772	UNI7570
36" (91)	30" (76)	UNI7773	
42" (107)	36" (91)	UNI7774	
48" (122)	42" (107)	UNI7775	
—	48" (122)	UNI7776	

## Notes:

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Contact factory if door weight exceeds 250 lbs.

**PULL SIDE  
SLIDE TRACK**



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

R Minimum Top Rail of Door with Frame Stop	
Without Drop Plate	With 7786 Drop Plate
3-1/2" (89mm)	2" (51mm)

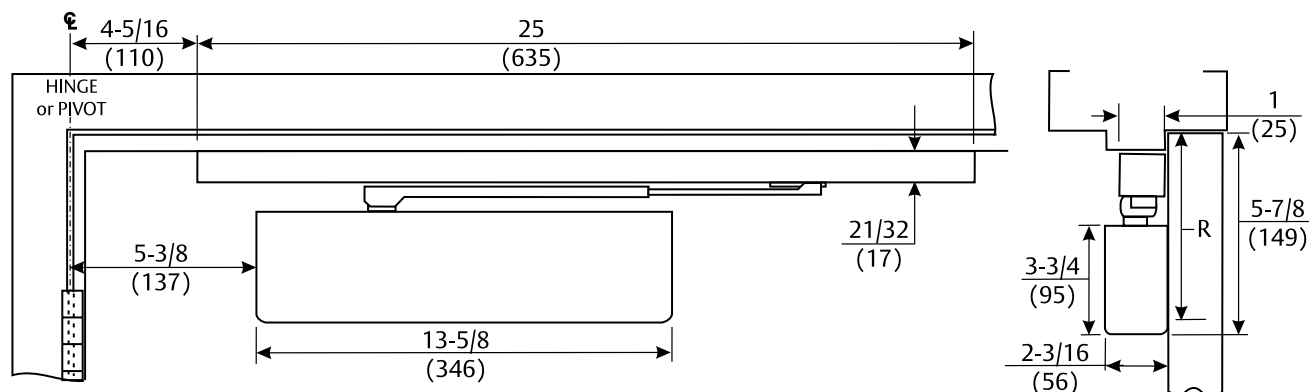
Maximum Door Width Inches (cm)	Model Number	
	Sized Closers	Multi-Sized Closers
Interior	Non-Hold Open	
32" (81)	7774ST	7570ST
38" (97)	7775ST	
48" (122)	7776ST	

**Notes:**

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Door will swing up to 110° with buffer. Without buffer, door will swing to 180°. Auxiliary stop required for all applications.
- Contact factory if door weight exceeds 250 lbs.

# 7570/7770 Series Security Closers

PUSH SIDE  
SLIDE TRACK



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.

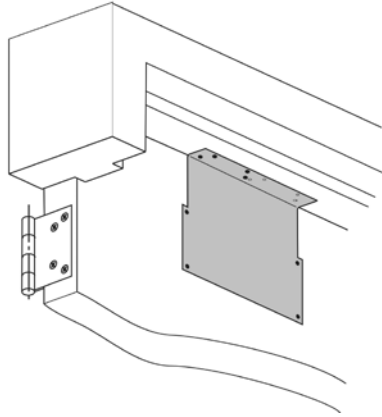
R Minimum Top Rail of Door with Frame Stop 5/8" (16mm)	
Without Drop Plate	With 7788 Drop Plate
5-1/4" (133mm)	3-5/8" (92mm)

Maximum Door Width Inches (cm)	Model Number	
	Sized Closers	Multi-Sized Closers
Interior	Non-Hold Open	
32" (81)	PS7774ST	PS7570ST
38" (97)	PS7775ST	
48" (122)	PS7776ST	

## Notes:

- 7570 door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.
- Sizing charts are based on 1-3/4" (44mm) x 7'0" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.
- Maximum degree of door swing is 125°. Auxiliary stop required for all applications.
- Contact factory if door weight exceeds 250 lbs.

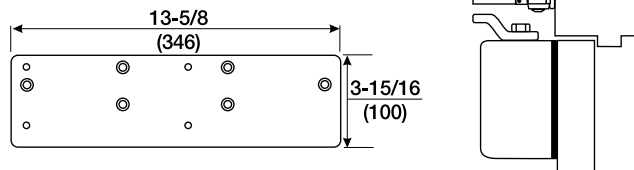
**METAL  
TEMPLATE**



Metal template helps the installer locate the correct mounting holes for several parallel arm applications.

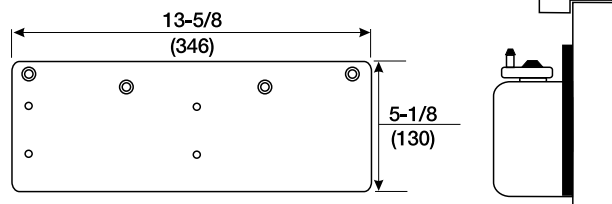
Model Number	Arm Applications
P77MT	Parallel Rigid, CloserPlus®, CloserPlus Spring™

## Closer Mounting Plate



**Narrow Top Rail - #7786 Drop Plate:** For use where the narrow top rail of the door prevents the closer from being mounted directly to the door surface. This drop plate must be used for a closer mounted on a top rail between 1-7/8" and 3-3/8" (48 and 86mm) in height.

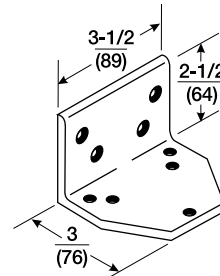
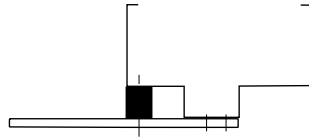
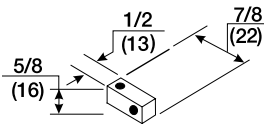
## Closer Mounting Plate



**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-1/2" (64mm) in height.

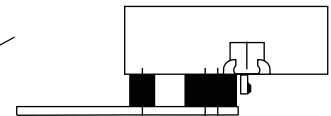
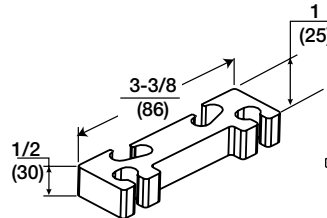
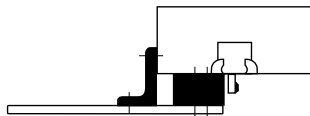
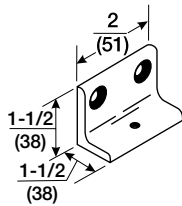
PARALLEL  
RIGID ARM

Brackets for Non-Hold Open Arms



**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied as standard with all parallel rigid arm closers.

**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the standard soffit plate.

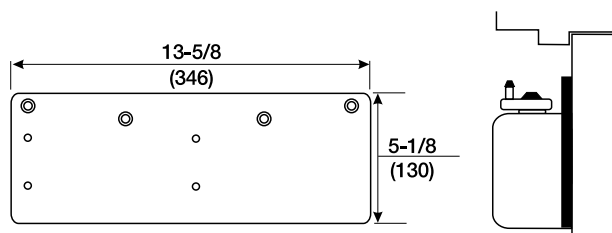


**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow, and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop.

**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard spacer block to provide clearance of the blade stop.

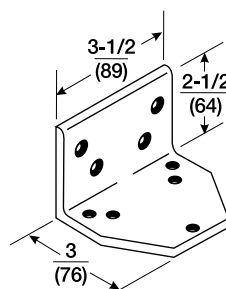
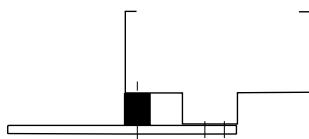
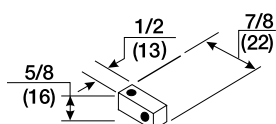


## Closer Mounting Plate



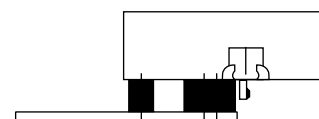
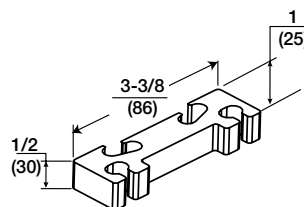
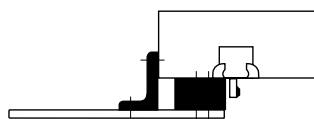
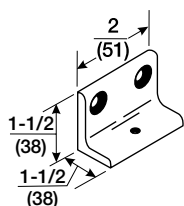
**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-1/2" (64mm) in height.

## Brackets for Non-Hold Open Arms & Hold Open Arms



**Standard - #2019S Spacer Block:** For use where a narrow frame soffit does not provide adequate support for the soffit plate. Supplied standard with all parallel rigid arm closers.

**Flush Rabbeted Transom - #2019L Angle Bracket:** For use where flush transom conditions prevent mounting of the standard soffit plate. This bracket is used in combination with the standard soffit plate.

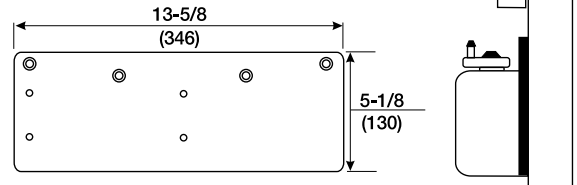


**Narrow Frame - #6890 Support Bracket:** For use where the frame is narrow, and the soffit plate cannot be mounted directly to the frame soffit or rabbet. Used in combination with the #6891 Spacer Block on blade stop frames to provide extra support and needed clearance of the blade stop.

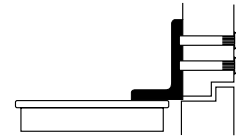
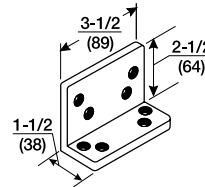
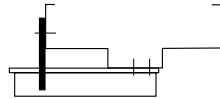
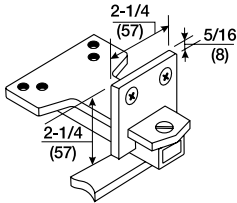
**Clearance/Support Blade Stop - #6891 Spacer Block:** For use where the door frame has a blade stop and the soffit plate must be mounted on the frame rabbet. This accessory is used in combination with the standard spacer block to provide clearance of the blade stop.

### Closer Mounting Plate

**Narrow Top Rail - #7788 Drop Plate:** For use where a narrow top rail prevents the closer from being mounted directly to the door surface. This drop plate can be used to mount a closer on a top rail as narrow as 2-3/8" (60mm) in height.

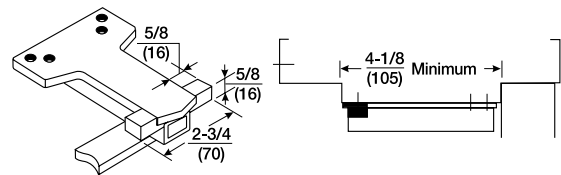
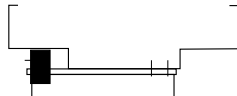
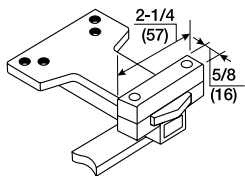


### Soffit Plate Reinforcing Brackets



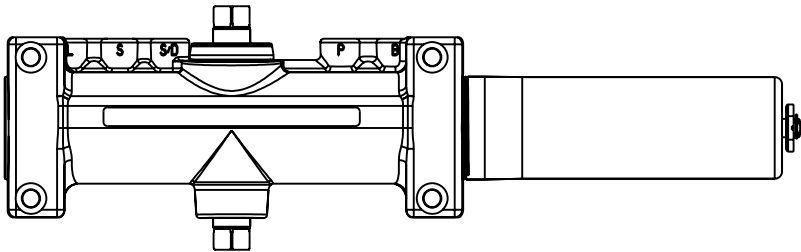
**Additional Support - #6190 Reinforcing Bracket:** Standard for use with all Parallel Arm *Unitrol* Door Controls. Provides additional support to the soffit plate on installations with door frame reveals from 1-7/8" to 4-5/8" (48 to 117mm).

**Flush Rabbeted Transom - #2022 Angle Bracket:** Optional for use with all Parallel Arm *Unitrol* Door Controls. For use where rabbeted or flush transom conditions prevent installation of the soffit plate assembly. This bracket fastens to the overhead transom to provide a mounting surface for the soffit plate assembly.



**Wide Frame - #6191 Reinforcing Kit:** Optional for use with all Parallel Arm *Unitrol* Door Controls. Used to support the soffit plate on installations with wide frames. Clamps may be used with or without the spacer block, depending on frame conditions.

# 7570/7770 Series Security Closers



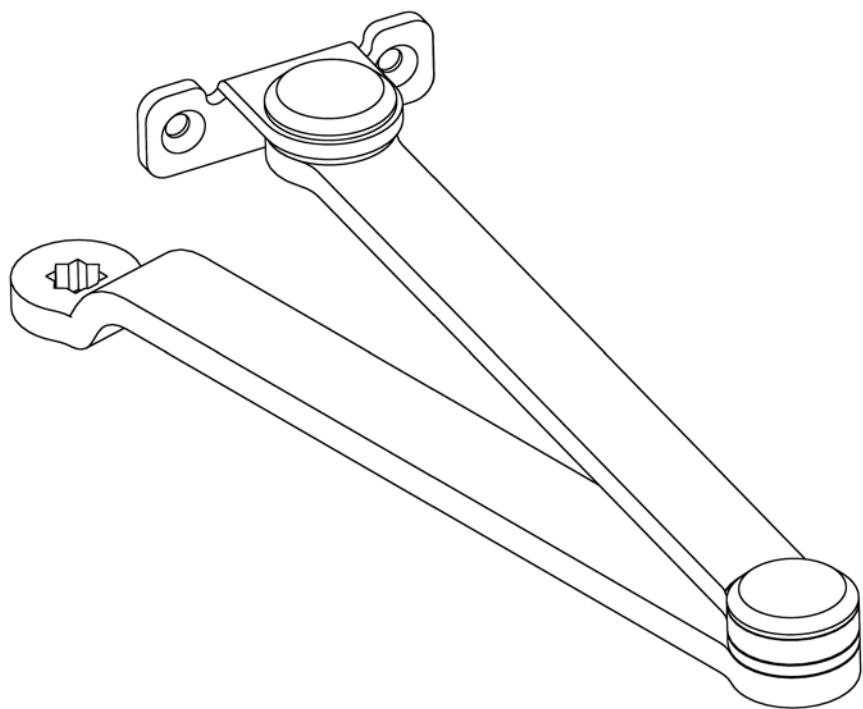
Torx® Screw Pack*	
Arm Type	Part Number
Regular Rigid Heavy-Duty	RTX47
Parallel Rigid, CloserPlus® CloserPlus Spring™	PRTX47
Unitrol® Arm	UNITX47

\*Torx screws with machine screw threads are supplied with security closers.

Closer Bodies	
Part Number	Description
7500LAP	Multi-Size Closer Body
7500DALAP	With Delayed Action
770*LAP	Sized Closer Body
770*DALAP	With Delayed Action

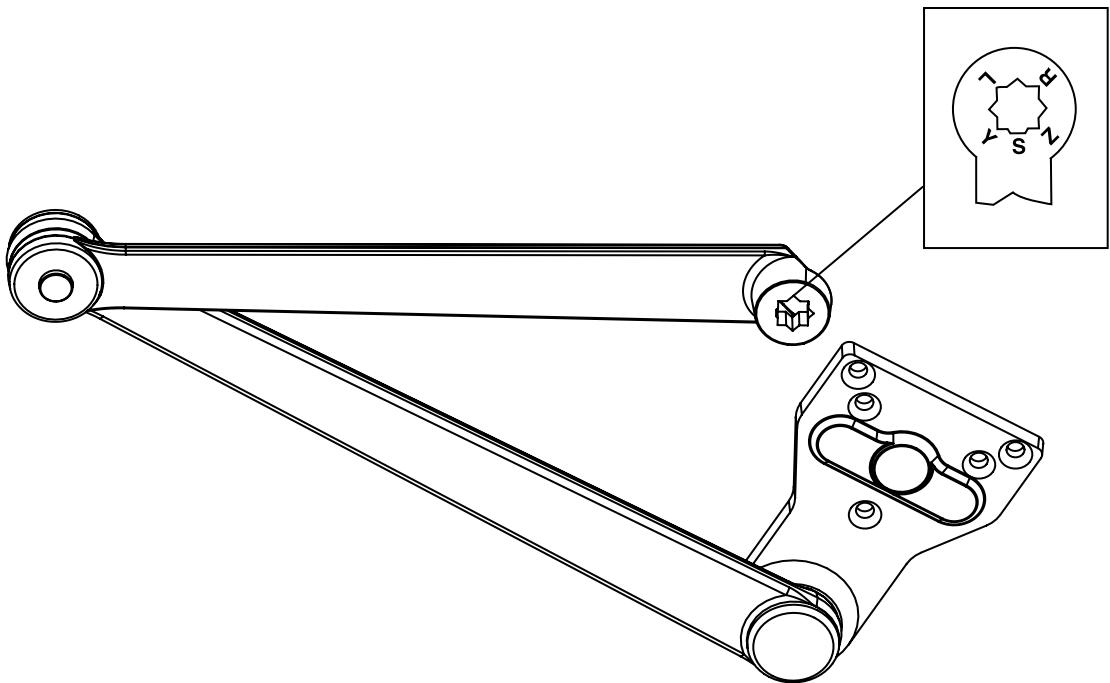
LAP = Less All Parts  
\* Specify power size 2,3,4,5,or 6 when ordering

Covers				
Part Number	Mounting	Handing	Dimensions	Material
7770MRR	Regular Arm	Right Hand	Length: 13-5/8" (346mm) Width: 3-3/4" (95mm) Projection: 2-3/16" (56mm)	Metal
7770MRL		Left Hand		
7770MPR	Parallel Arm	Right Hand		
7770MPL		Left Hand		



**Note:** Mounting hardware included with all parts orders.

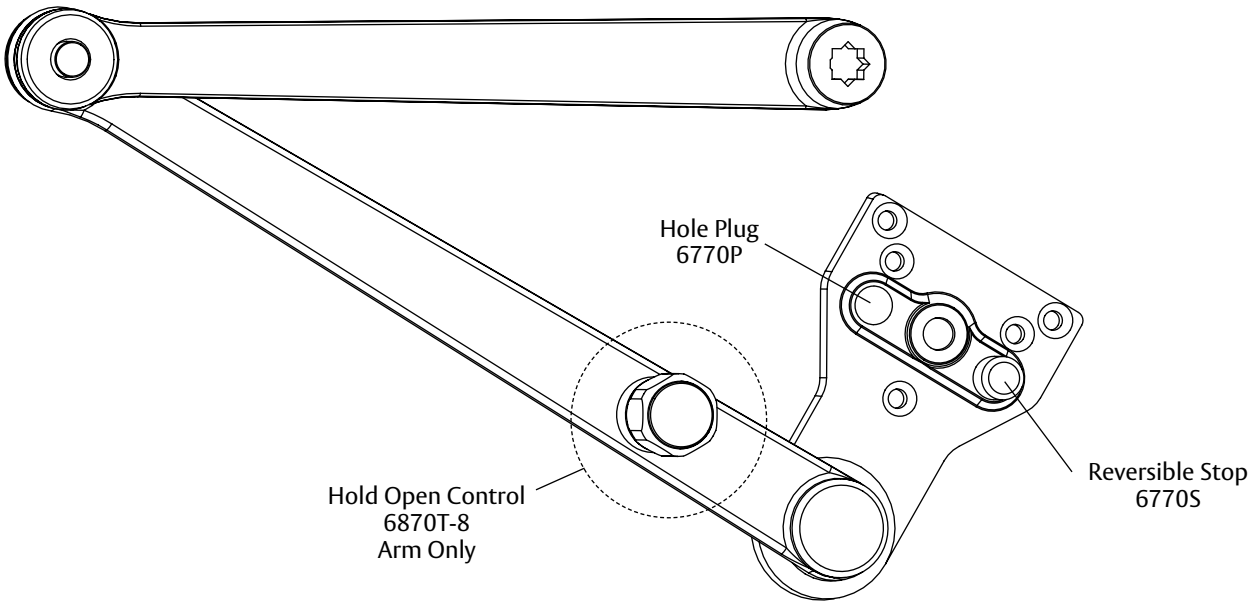
Closer Series	Arm Function	Complete Arm Assembly
R7570 / R7770	Non-Hold Open	7771-1



**Note:** Mounting hardware included with all parts orders.

Closer Series	Arm Function	Complete Arm Assembly
PR7570 / PR7770	Non-Hold Open	7771-5

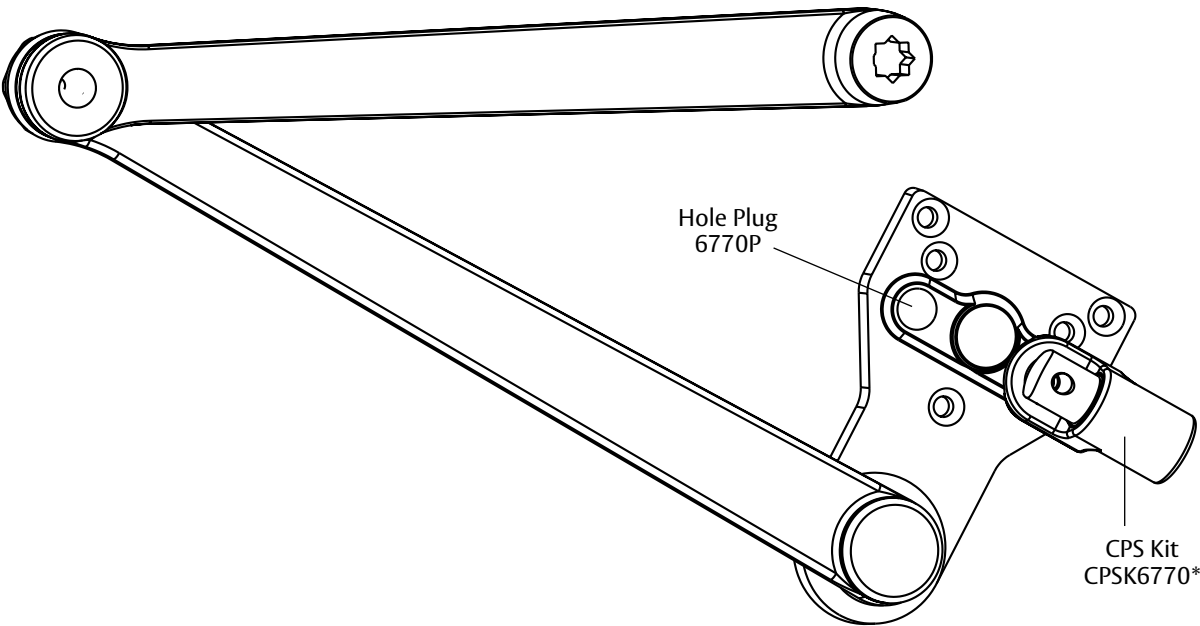
**Hold Open Arm Shown (CLP-T)**



**Note:** Mounting hardware included with all parts orders.

Closer Series	Arm Function	Complete Arm Assembly
CLP7570 / CLP7770	Non-Hold Open	CLP7771-5
CLP7570T / CLP7770T	Thumbturn Hold Open	CLP7771-8T

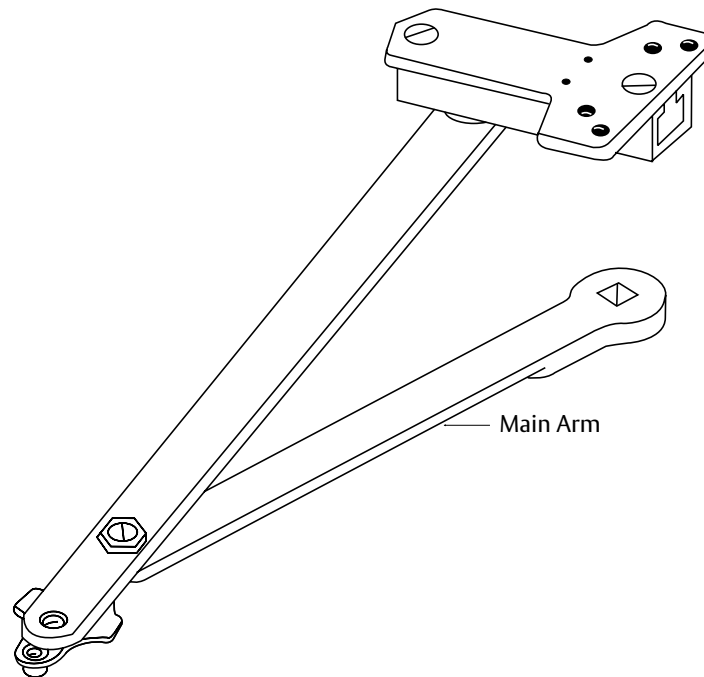
Non-Hold Open Arm Shown



**Note:** Mounting hardware included with all parts orders.

Closer Series	Arm Function	Complete Arm Assembly
CPS7570 / CPS7770	Non-Hold Open	CPS7771-5
CPS7570T / CPS7770T	Thumbturn Hold Open	CPS7771-8T

\* CPSK6770 Kit can be used to upgrade CLP7771-5 or CLP7771-8T arms.



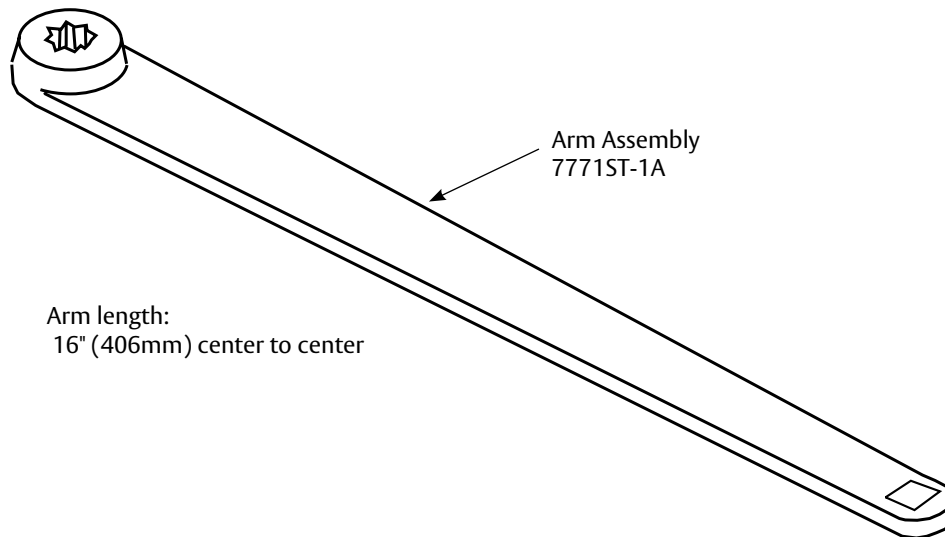
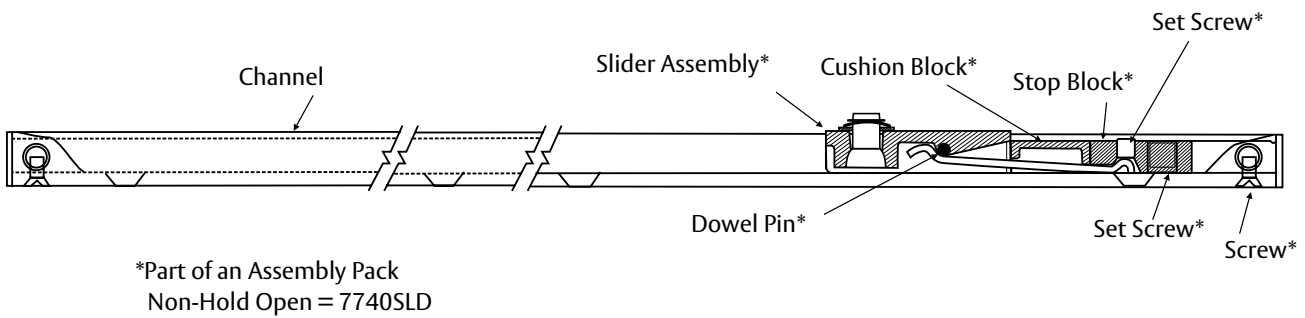
**Note:** Mounting hardware included with all parts orders.

Door Width (cm)	Main Arm Length* (mm)	Complete Arm Assembly
		Non-Hold Open
28" - 32" (71 - 81)	9-1/2" (241)	6100-11
33" - 41" (84 - 104)	11" (279)	6100-13
42" - 48" (107 - 122)	12-1/2" (318)	6100-14

\* Center to center length.



Non-Hold Open	
Model	Slide Track Assembly
Pull-side mounted	7771ST-1T
Push-side mounted	7771ST-5T



**Note:** Mounting hardware included with all parts orders.

NOTES

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NOTES



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# 5600 Series

## Low Energy Power Operator



ASSA ABLOY, the global leader  
in door opening solutions

**INTRODUCTION**

The 5600 Series, the newest addition to the POWERMATIC® Family of Operators, offers functionality and control at an affordable price. Ideal for retrofit applications, the 5600 Series converts interior, non-fire rated doors for ADA compliance easily and affordably and provides a simple way to achieve touchless environments in public restrooms. Furnished standard with a track assembly, the pull-side mounted unit can be operated manually or activated by wall switches, or radio frequency devices. Easy to install, set-up and adjust, the 5600 Series is perfect for ADA-compliant offices, classrooms and dorm rooms, and touch free applications like public restrooms, labs and examination rooms.



**FEATURES**

- Pull side mounting
- Non-handed
- Quiet operation
- Electrically controlled backcheck, sweep and latch
- Activation options: wall switches, radio frequency devices
- Ease of installation and set-up
- On/Off Switch
- Hold open options: 0-30 seconds (5 seconds minimum required for ADA and ANSI/BHMA A156.19)
- Onboard 24VDC (1.1A) power supply for accessories
- Door closer mode for manual usage
- Electronic motor dampening - provides feel of normal, manual door closer
- Electric hardware and access control interface
- Optional AC power cord

**PATENT**

- Patent Pending

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## 5600 Series

## FUNCTIONS

- Push & Go
  - As the door is manually opened, the operator "senses" movement and opens door to the full-open position.
- Obstruction Detection
  - Motor stops if door is obstructed during opening
- Motor Start Delay
  - 0-5 second delay to allowing locking hardware to release first
- Overload Safety Shut-Off
  - After two minutes of receiving a door activation signal, the inverter will time out
  - Prevents motor/inverter damage

## ELECTRICAL DATA

- Power Input; 120 VAC, 60Hz
- Current Draw: .6A
- Relay Output: SPDT
  - Normally Open/Normally Closed (jumper)
  - For electric strike function

## CERTIFICATIONS

- ETL certified; conforms to ANSI/UL standard 325 for automatic closing doors.
- Meets requirements for Americans with Disabilities Act (ADA)
- 1-year warranty (refer to current Norton® price book for terms & conditions)

## SPECIFICATIONS

**General Specifications**

Operators for interior doors shall be products of one manufacturer and be matched in style. Operator (non-fire rated doors) closing force shall be adjustable to ensure adequate closing control and shall simulate conventional door closer opening and closing forces unless the power operator motor is activated or in the event of a power outage to the operator. Operators shall be non-handed and have electrically controlled backcheck, sweep, and latch with manual adjustment to set both the full open and full closed door positions. Maximum door open shall be adjustable up to 95°, pull side mounting, conditions permitting. Operators can be SELECTIVELY ACTIVATED (i.e. external wall switches, radio frequency devices). Operators shall have input line rating of 120VAC, .6A, and include on board relay contact for interfacing with products having a rating of 24VDC at 1A. Door operators shall include an external On/Off Switch to defeat powered opening cycle and an internal circuit breaker switch to interrupt input power for servicing. Operators shall be ETL certified and conform to ANSI/U.L. standard 325 for automatic closing doors. Door operators shall be in compliance with the requirements of the Americans with Disabilities Act (ADA) and ANSI/BHMA standard A117.1.

**Additional Detailed Specifications:**

When activated, the door operator shall, by means of an integral motor, power open the door at both a speed and force adjustable to meet accessibility codes. The door shall be powered from a door closed position to a full door open position and remain in momentary hold open for 0 to 30 seconds (adjustable 0 to 30 seconds); (A.D.A requires 5 seconds minimum hold open). Operators shall be capable of allowing the door to be opened manually from 0 to 95°, conditions permitting. Once door operator reaches full hold open position, if reinitiated, the momentary hold open time shall restart from the initially set hold open time. If door operator is initiated during the closing cycle, the operator shall revert to opening cycle beginning at that door position. Obstruction detection during opening shall neutralize and reverse motor action reverting motor to closed position allowing door to close by means of the integral motor. The obstruction detection feature shall be integral to the door operator. During closing cycle, the door operator shall close door by means of integral motor power not to exceed a closing force of 15 lbf. In the event of power loss, the door will remain in the position at the time of the power loss during the opening or the closing cycles.

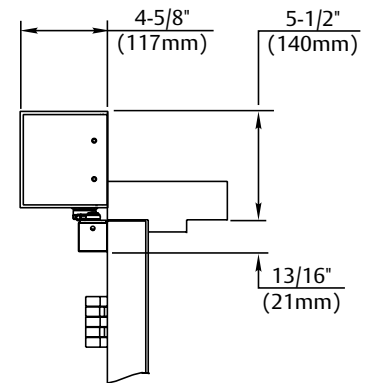
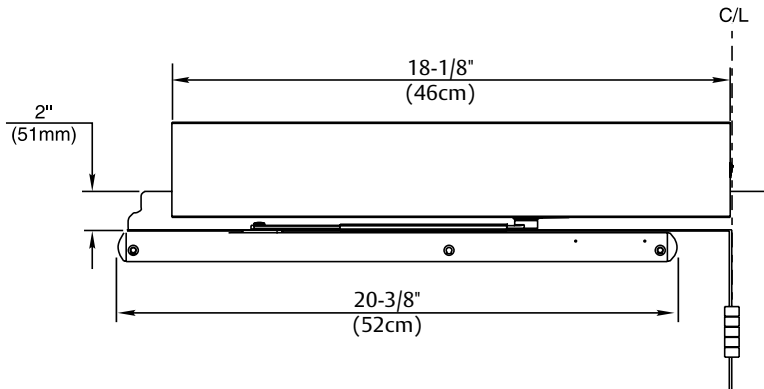
**STANDARD APPLICATION**



**5610**  
**HINGE (PULL) SIDE OF DOOR**  
• 95° swing (trim permitting)

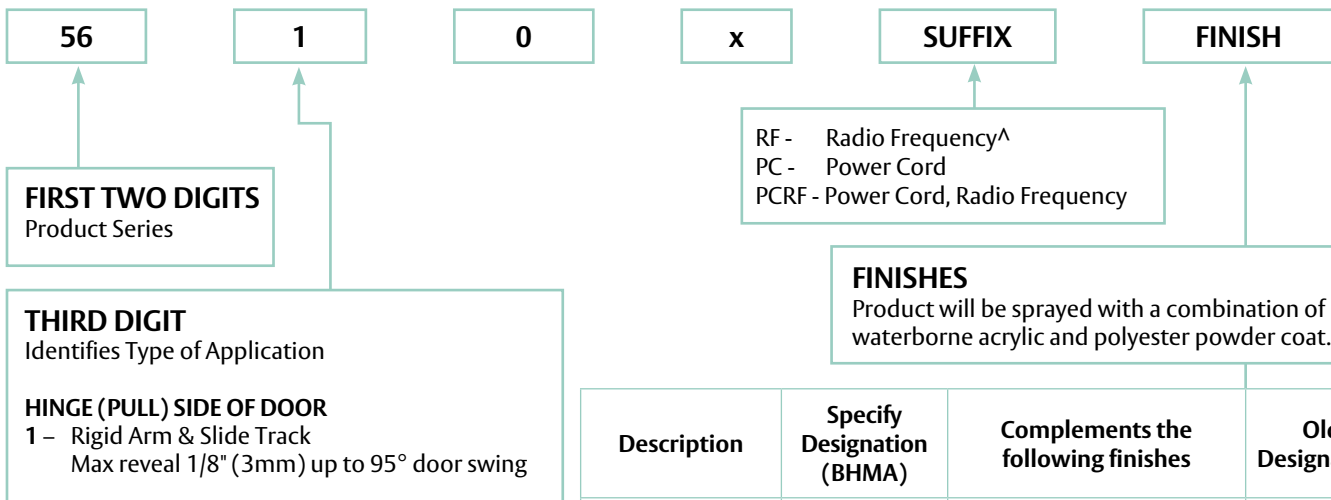
Door width:  
Minimum = 32"  
Maximum = 36"

An auxiliary stop is recommended.



**Note:** Contact factory if doors exceed 150 lbs.

**HOW TO ORDER**



^ Actuators not supplied with RF.  
**Note:** For Packages and Accessories see page 5.

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 5610 x 600 x 689).



## 5600 Series

## PACKAGES

Model #*	Package Description
5610K1	5610 operator, power supply and (1) 697 switch

\* Specify finish

Note: No substitutions allowed. Other accessories may be ordered separately.

## ACCESSORIES

## Activating Door Switches



501



502

- 4-1/2" W. x 4-1/2" H.
- 15 amp @ 125 VAC
- Flush mounted – hard wired
- Fits single or 2 gang electrical box
- **501** – Stainless steel with black letters
- **502** – Blue powder coat with white letters



505, 531



507, 532

- 6" W. x 6" H.
- 9 volt battery
- 15 amp @ 125VAC
- Flush or surface mounted
- Stainless steel with blue letters
- **531, 532, 533 and 535** - radio frequency (433MHz). Used with RF option and 539
- **507, 505, 506 and 534** - hard wired\*

\* Switches may also be installed with single or double gang electrical box using fasteners included.



506, 533



534, 535



503

- 1-1/2" x 4-3/4" face plate
- SPDT UL listed switch-mom.
- 15 amp @ 125 VAC
- Fits 1-3/4" frame
- Stainless steel with blue letters

## Vestibule Switches



504

- 5" W. x 4-3/4" H.
- 2 – SPDT UL listed switches-mom.
- 15 amp @ 125 VAC
- Fits 2-gang electrical box
- Stainless steel with blue letters

## Touch Less Wall Switch



697

- Single gang and double gang
- Doppler radar
- Sensor requires movement for activation
- Variable relay-hold time from 1 to 10 seconds
- Range of 2" to 24" – field adjustable
- 2-3/4" (Single); 4-1/2" (Double) W. x 4-1/2" H.

All hard wired switches are Momentary Contact SPDT, UL Listed.  
Optional DPDT switches are available; suffix "D" to model number.

ACCESSORIES

Radio Frequency Receiver



539

- 433 MHz

Transmitters



536

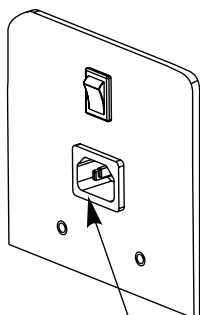
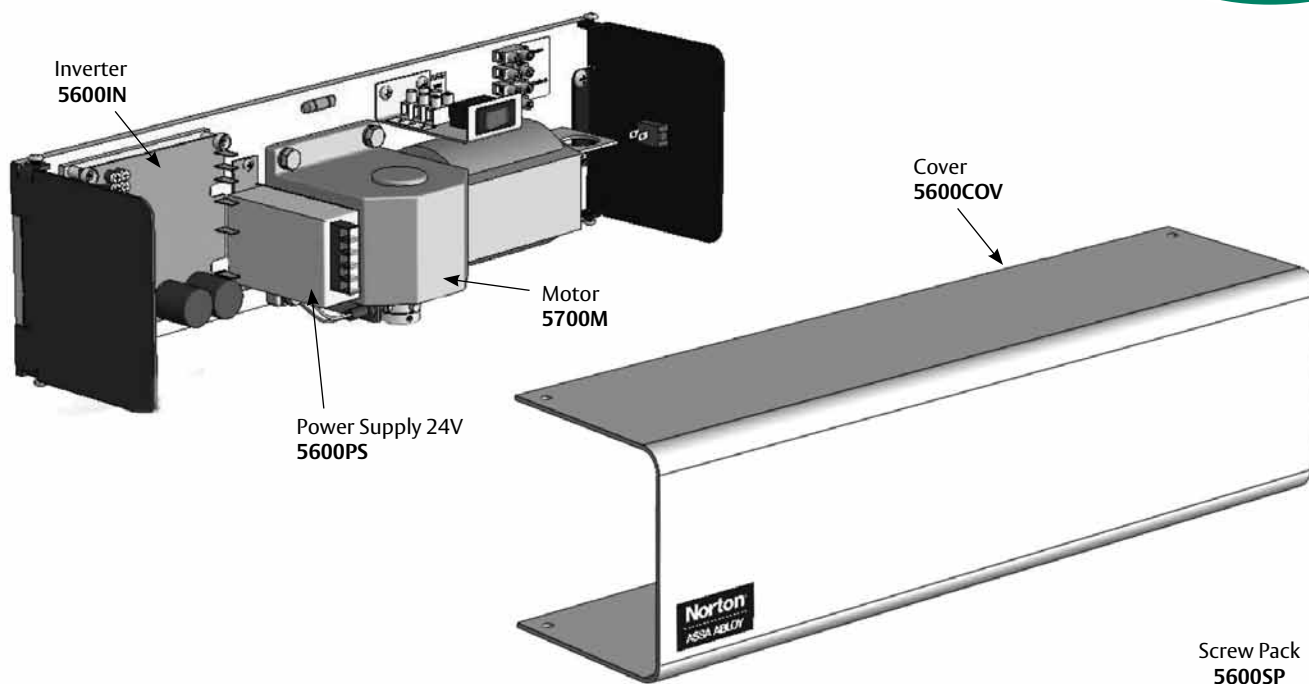
- 2-3/8" w x 4-3/16" h x 15/16" d
- Single channel



538

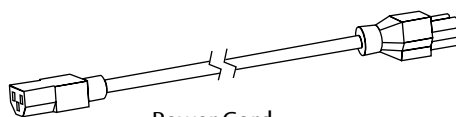
- 2-3/8" w x 4-3/16" h x 15-16" d
- Two channel

## PARTS LIST



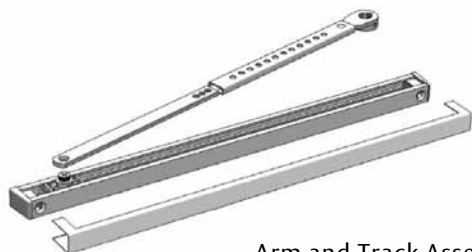
Power Cord Input - Factory prepped and installed receptacle

**Note:** Consult local authority having jurisdiction to confirm use of power cord is acceptable. Operator must be furnished with the power cord from the factory. Power cords cannot be added to operators in the field. Maximum distance from operator to receptacle is 15".



Power Cord  
(length = 18")  
5700PC

## ARM & TRACK ASSEMBLY



Arm and Track Assembly  
5610-1



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ASSA ABLOY

# 7100SZ Series SafeZone®

Multi-Point Closer/Holder  
with Motion Sensor



ASSA ABLOY, the global leader  
in door opening solutions

## INTRODUCTION

Designed with safety in mind, SafeZone® takes door closers to a higher level. *SafeZone* uses a multi-point, electromechanical closer and a programmable motion sensor. When the door is opened manually, *SafeZone* senses movement in the door opening and stops the door from closing. A physically disabled person in a wheelchair; an elderly person moving slowly; a child who stops to pick up a toy are all protected. When movement is no longer detected, the adjustable setting times out and the door closes.



*SafeZone* detects movement in both directions, allowing one person or a stream of people to travel through an opening, making it ideal for theaters, hospitals, doctor's offices and elementary schools.

### Features

- Multi-point, electromechanical closer/holder
- Sensor detects movement in both directions
- Selectable hold open time and sensitivity
- Push or pull side mounting
- Handed units
- Spring sizes 3, 4 or 5 (models 7110SZ and 7150SZ); spring sizes 2, 3, 4 or 5 (models 7120SZ and 7130SZ)
- Fail safe operation

### Benefits

- Energy savings realized by power engaging only when motion is detected
- Extends door life and minimizes wear and tear on hardware by limiting unnecessary cycles

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Parts .....	7

## PATENTS

Patent Pending

## CERTIFICATIONS

- The following models comply with ANSI/BHMA A117.1 ADA guidelines: **BHMA**  
Push Side: 7122SZ, 7132SZ  
Pull Side: 7113SZ, 7153SZ
- Certified to meet ANSI/BHMA A156.15 Release Devices
- Electromechanical Closer/holders are listed by Underwriters Laboratories for labeled fire doors
- Manufactured in an ISO 9001 facility

## SPECIFICATIONS

**Manufacturer:** Door closers for both interior and exterior openings are to be the product of a single source manufacturer.

**Certifications:** Closers to be certified ANSI/BHMA A156.15, and comply with UL-10C Positive Pressure Fire Testing.

Electromechanical closer units to be a multi-point, closer/holder type with selective hold open positioning achieved by electronic solenoid locking of closer arm slide into the track assembly. Closer/holder units to have a maximum opening of 180° (hold open to 175°) and are fail safe to close the door in the event of electrical power interruption.

**SafeZone Detection:** Closer/holders units to have an integral sensor device monitoring a "zone of safety" at the door opening. *SafeZone* detection prevents the door from closing in the event of movement within the adjustable sensing field. Movement is detectable in both directions with selectable closer hold open time and sensor sensitivity.

Mechanical closer to be hydraulic type with full rack and pinion construction enclosed in a cast aluminum alloy shell. Internal hydraulic fluid is to be non-gumming and non-freezing. Include two non-critical valves to independently regulate sweep and latching speeds and an adjustable backcheck cushioning valve. All valves are adjustable by hex key. Provide spring power adjustment permitting a 50% increase in closing power over the minimum closing force for any closer size.

**Mounting:** Closer units can be surface mounted to the frame face for application on the pull (hinge side) side of door, or soffit mounted on the push side of the door frame with projection of no more than 2-5/8" (67mm) from the frame face. Frame face must be a minimum 2" and ceiling clearance a minimum of 4". Door must be hung on either butt hinges or 3/4" offset pivot hinges, minimum 1-3/4" to 2-1/4" thickness.

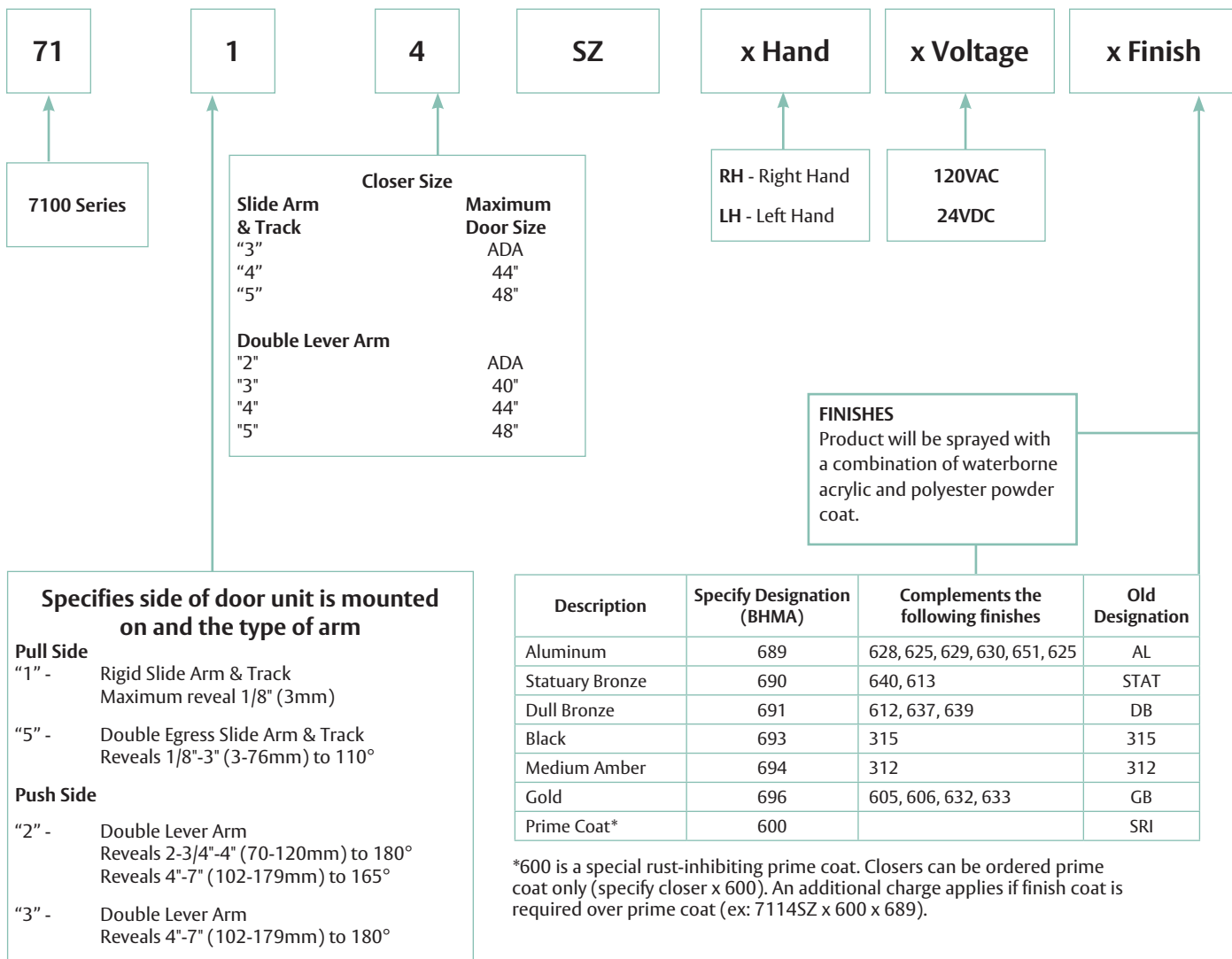
**Installation:** Provide optional handheld remote device for programming *SafeZone* sensor settings. Auxiliary door stops are recommended at closer/holder openings and required at doors opening beyond 110°. Interior installation only.

**Power:** Closer units operate on (120VAC, 60Hz) or (24VDC) with an amperage draw not exceeding (.086 Amps for 24VAC/DC) (.051 Amps for 120VAC). Supplier to coordinate electrical requirements with electrical and alarm system engineers. Field wiring (and conduit) by others.

Electromechanical *SafeZone* Closer/Holder to be Norton® 7100SZ Series.



**HOW TO ORDER**





## 7100SZ Series SafeZone®

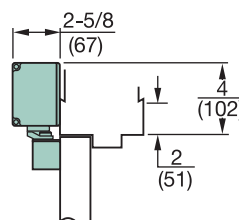
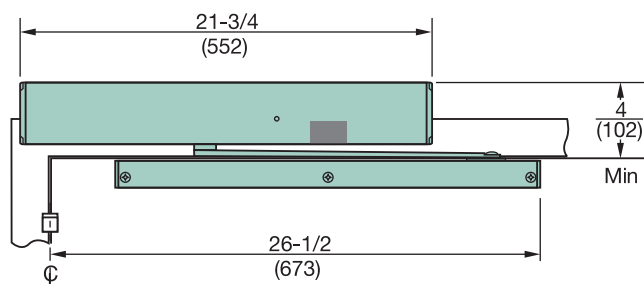
## PULL SIDE

- Surface mounted to the pull (hinge) side frame face
- Slide track mounts directly to door
- Minimum 4" ceiling clearance required
- 1/8" (3mm) – maximum frame reveal
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open (110° maximum for 7150SZ series).
- Buffer block assembly in the track will accommodate doors opening to 125°
- Auxiliary door stop is required for doors opening beyond 125°
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring



7110SZ Shown

## TECHNICAL DETAILS



## DOOR SIZE

Maximum Door Size (cm)	Model Number	Model Number - Deep Reveal
40" (102)	7113SZ	7153SZ
44" (112)	7114SZ	7154SZ
48" (122)	7115SZ	7155SZ

Note: Contact factory if door weight exceeds 250 lbs.

**Minimum door width = 28" (71cm)**

**Deep Reveals**

- Special slide arm is available for reveals in excess of 1/8" (3mm) up to 3" (76mm) 7150SZ Series
- 110° maximum door swing

## ELECTRICAL DATA

Series Number	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw
			Solenoid Coil
7110SZ 7150SZ	24VAC/DC 120VAC	1	.070 @ 24VAC/DC
			.035 @ 120VAC

\*Max/Min Operating Voltage Parameters +10% / -15%

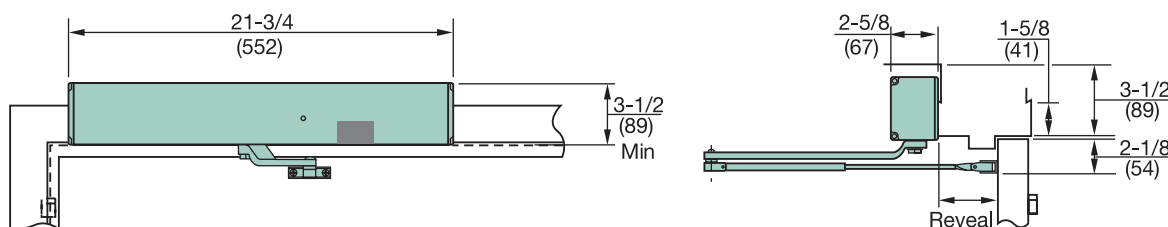
**PUSH SIDE**

- Surface mounted to the push (stop) frame face
- Double lever arm mounts directly to the door
- Minimum 3-1/2" (89mm) ceiling clearance required
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring



7120SZ Shown

**TECHNICAL  
DETAILS**



**DOOR  
SIZE**

Maximum Door Size (cm)	Model Number	Maximum Degree of Opening	Reveal Range (Inches/mm)
ADA	7122SZ	180°	2-3/4" - 4" (70-102)
		165°	4"-7" (102-178)
	7132SZ	180°	
40"	7123SZ	180°	2-3/4" - 4" (70-102)
		165°	4"-7" (102-178)
	7133SZ	180°	
44"	7124SZ	180°	2-3/4" - 4" (70-102)
		165°	4"-7" (102-178)
	7134SZ	180°	
48"	7125SZ	180°	2-3/4" - 4" (70-102)
		165°	4"-7" (102-178)
	7135SZ	180°	

Note: Contact factory if door weight exceeds 250 lbs.

**ELECTRICAL  
DATA**

Series Number	Operating Voltage (Input)	Number Power Input Lines* (Pairs)	Amperage Draw
			Solenoid Coil
7120SZ 7130SZ	24VAC/DC	1	.070 @ 24VAC/DC
	120VAC		.035 @ 120VAC

\*Max/Min Operating Voltage Parameters +10% / -15%

CLOSER  
BODIES

Description	Hand	Part Number
7100 Closer Body	Left	720XLAPI24L
	Right	720XLAPI24R

ARM & TRACK  
ASSEMBLIES

Description	For Series	Part Number
Slide Track	7110SZ, 7150SZ	7200-1T
Slide Arm	7110SZ	7210-1A
Double Egress Arm - Right Hand	7150SZ	7250-1R
Double Egress Arm - Left Hand		7250-1L
Double Lever Arm	7120SZ	7701-1A
Double Lever Arm	7130SZ	7701-1B

TRACK & ARM  
PARTS

Description	Part Number
End Caps (2 required)	7700STEC
Slider Assembly (part of slide track assy.)	7700SLD
Slider Arm Stud Clip (part of slider assy.)	7700ASC
Cushion Block (part of slide track assy.)	7200CB
Arm Stud	7700AS
Arm Stud Retaining Ring	7700ASR

## COVERS

Description	Part Number
Left Hand, Pull Side	7100CLPULL
Right Hand, Pull Side	7100CRPULL
Left Hand, Push Side	7100CLPUSH
Right Hand, Push Side	7100CRPUSH

MISCELLANEOUS  
PARTS

Description	Voltage	Part Number
Hook-Up Board	24V	MPOPCB24
	120V	MPOPCB120
Fuse (Hook-Up Board)	—	PTO125V
Sensor Kit (with harness)	—	7100SK
Remote	—	7100REM



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# 5700 Series

## Low Energy Power Operator



ASSA ABLOY, the global leader  
in door opening solutions



INTRODUCTION

Low energy door operators were once considered a necessity only for those with physical challenges. Today, due to the population's busy lifestyles, the convenience of "hands-free" door opening is more popular than ever. The 5700 patented design is based on ease and simplicity. This operator installs in minutes rather than hours and consists of three basic components: inverter, motor and Norton's 1601 closer body.

What separates the 5700 from other operators is its ability to function as a standard door closer. When the door is opened manually, there is little resistance and the drive train and motor are not engaged. The 1601 closer, not the motor, controls the closing cycle. Since the door closer does not back-drive the motor during the closing cycle, there is no loss of closer efficiency. In the event of a power outage, the door can be manually opened and will close via the door closer's spring force.

The 5700 is listed with UL and ANSI/BHMA A156.19 and meets the requirements of ADA and ANSI/BHMA 156.4. This operator can be activated via wall switch or radio frequency device and is ideal for doctor's offices, retirement facilities, schools or churches. Based on its dual functionality, ease of use and quiet operation, the 5700 offers the customer a unique choice.



PATENTS

- United States: 5,881,497, 7,316,096 and 7,484,333
- Canada: 2,568,877

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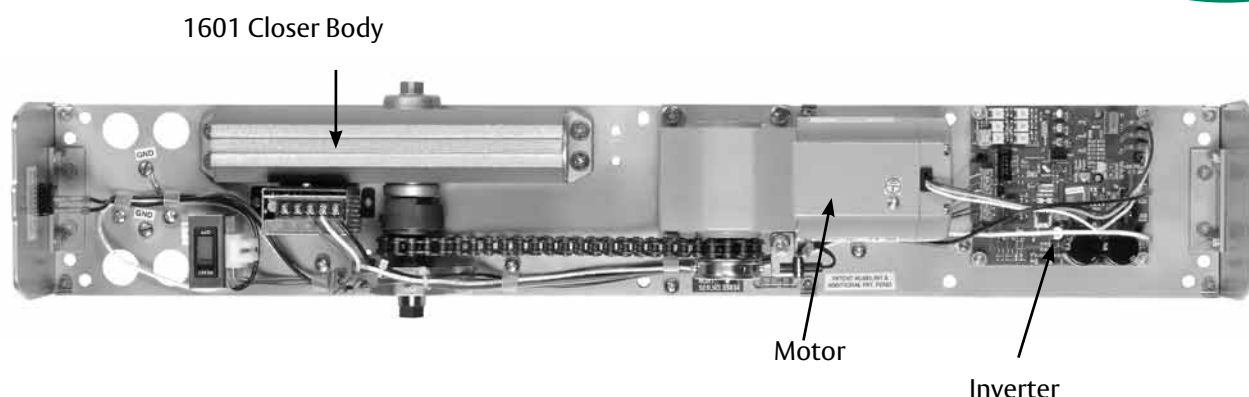
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## OVERVIEW



## FEATURES AND FUNCTIONS

- Ease of installation and setup
- Simple instructions
- Application versatility and ease of adjustment
  - ☐ Push or pull side mounting units available
- Operates as mechanical surface closer during close cycles, when door is opened manually or if power is turned off
  - ☐ Quiet operation
  - ☐ Spring force provides the feel of a normal manual door closer
  - ☐ Door can be opened manually if desired
- Norton® 1601/1601BF series *door closer*
  - ☐ Adjustable Spring Power
- ☐ Backcheck Valve
- ☐ Sweep Valve & Latch Valve
- Non-Handed
- Unit Activation Options
  - ☐ Wall switches
  - ☐ Motion sensor
  - ☐ Radio frequency device
- End-User On/Off Switch
- Hold Open options
  - ☐ 0-30 seconds (5 seconds minimum required for ADA and ANSI/BHMA A156.19)
- Obstruction Detection
  - ☐ Motor stops if door is obstructed during an opening
  - ☐ Door closes under manual spring force (not to exceed 15lbf)
- "Push and Close"
  - ☐ Allows the operator to skip the hold open time when it is not necessary or required
  - ☐ Adjustable door sensitivity
- Overload Safety Shut-Off
  - ☐ After two minutes of receiving a door activation signal, the inverter will time out and close the door
  - ☐ Prevents motor/inverter damage
- Motor Start Delay for Locking Hardware
  - ☐ 0-5 second delay to allow locking hardware to release first
- Onboard power supply for accessories: 24VDC (1.1A)

## ELECTRICAL DATA

- Power Input; 120 VAC, 60Hz
- Relay Output: SPDT
  - ☐ Normally Open/Normally Closed (jumper)
  - ☐ For electric strike function

## CERTIFICATIONS

- C-UL US listed for use on fire and smoke barrier doors
- 2-year warranty (refer to current Norton® price book for terms & conditions)
- Meets requirements for Americans with Disabilities Act (ADA)
- ANSI/BHMA A156.19 certified
- Meets ANSI/BHMA A156.4 requirements



**STANDARD APPLICATIONS**

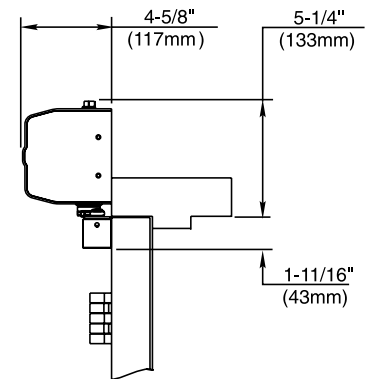
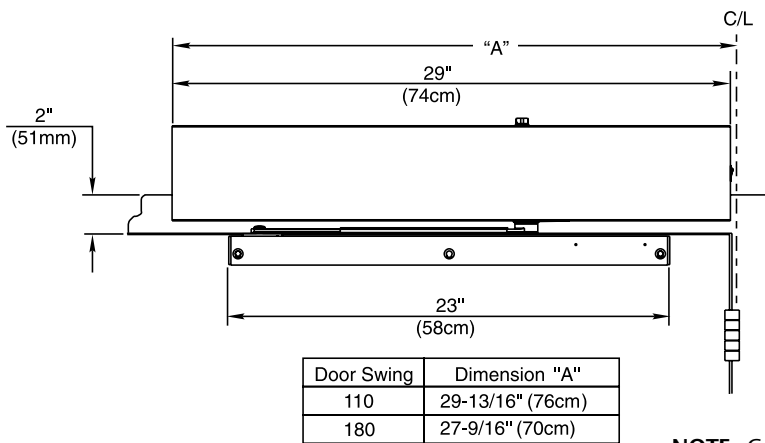


**5710  
HINGE (PULL) SIDE OF DOOR**

- Adjustable Stop
- 180° swing (trim permitting)

Minimum Door width  
Single Door - 29" (74cm)  
Double Door - 30" (76cm)

An auxiliary stop is suggested where severe conditions exist.



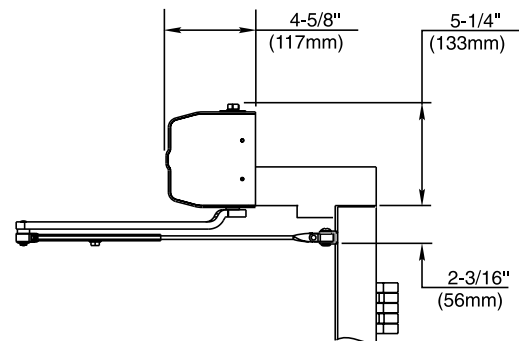
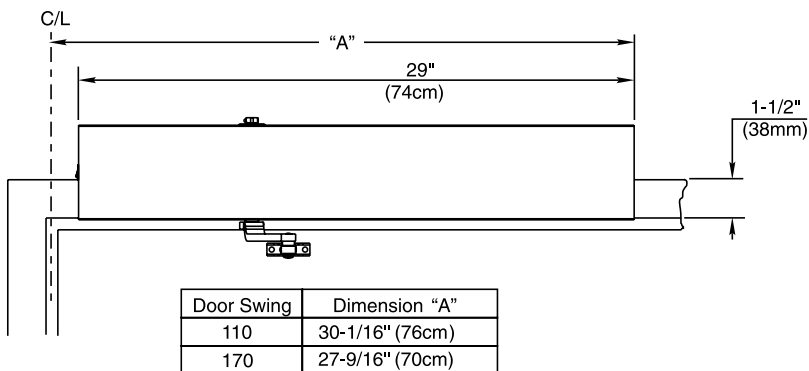
**NOTE:** Contact factory if door weight exceeds 250 lbs.



**5730  
STOP (PUSH) SIDE OF DOOR**

**STANDARD DUTY DOUBLE LEVER ARM**

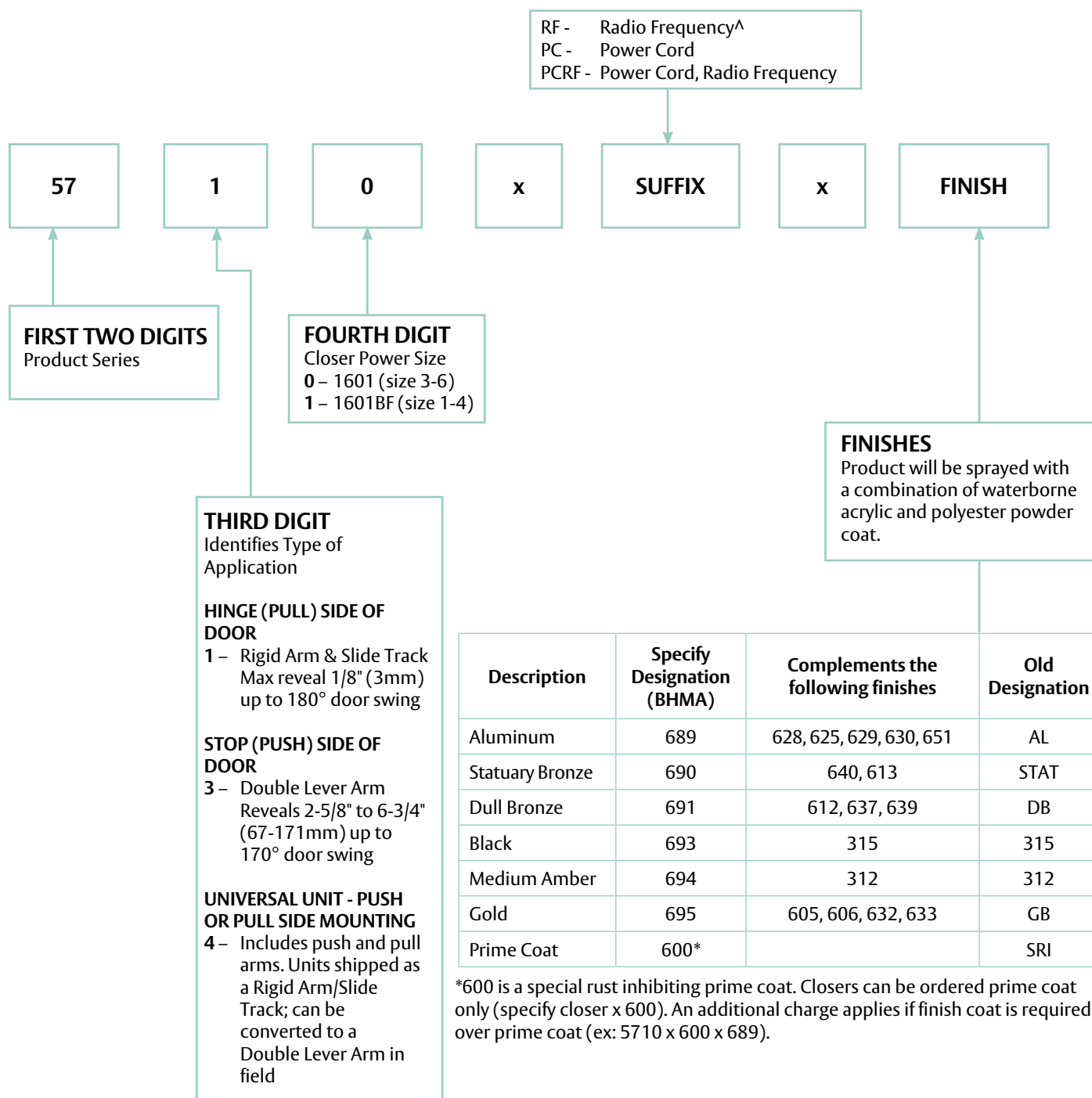
- Frame reveals 2-5/8" to 6-3/4" (67-171mm)
- An auxiliary door stop is required for these applications.
- 170° swing (trim permitting)



**NOTE:** Contact factory if door weight exceeds 250 lbs.



## HOW TO ORDER



<sup>^</sup> Actuators not supplied w/ RF

**Note:** Door switches and sensors are not included with the 5700 Series Door Operators. These items must be ordered separately.

**SIGNAGE**

**Supplied Standard**



#428 (2 per operator)



#429 (1 per switch)



#433 (1 per switch)

**ACCESSORIES**



**Motion Sensor #663\***

- 4-3/4" x 3-3/16" x 2" projection
- Unidirectional
- Black cover
- SPDT relay
- Adjustable angle pattern
- 24 VDC input
- Must not be placed where motion of door can be sensed



**Key FOB  
572**

- Used with RF option, 571KIT and 586KIT

**Activating Door Switches**



660(D)



661(D)

- 4" x 4" face plate
- 4-1/2" x 4-1/2" SS back plate
- 15 amp @ 125 VAC
- Flush mounted – hard wired
- Fits single or 2 gang electrical box
- **660** – Stainless steel with black letters
- **661** – Blue powder coat with white letters



574, 685(D)



575(D), 576

- 6-5/8" square (box); 8-1/8" square (trim)
- 6" round (push plate) - **691, 692, 693 & 694**
- 9 volt battery
- Temperature: -4° F to 122° F
- 15 amp @ 125VAC
- Flush or surface mounted<sup>^</sup>
- Stainless steel with blue letters
- **574, 576, 692 and 694** - radio frequency (433MHz). Used with RF option, 571KIT and 687KIT.
- **575, 685, 691 and 693** - hard wired\*



691(D), 692



693(D), 694

- \* Switches may also be installed with single or double gang electrical box using fasteners included.
- <sup>^</sup> Surface mounted switches project 2" from wall.



662



672(D)

- 1-11/16" x 4-1/2" face plate
- 1-11/16" x 4-1/2" back plate
- SPDT UL listed switch-mom.
- 15 amp @ 125 VAC
- Fits 1-3/4" frame
- **662** – Stainless steel with red button
- **672** – Stainless steel with black letters

All hard wired switches are Momentary Contact SPDT, UL Listed. Optional DPDT switches are available; suffix "D" to model number.

\* Use of motion sensors must be approved by the local authority having jurisdiction.

## Vestibule Switches



**675(D)**



**676(D)**

- 2 – 1-1/16" x 4-1/2" face plates
- 4-1/2" x 4-1/2" SS black plate
- 2 – SPDT UL listed switches-mom.
- 15 amp @ 125 VAC
- Fits 2-gang electrical box
- **675** – Blue powder coat with white letters
- **676** – Stainless steel with black letters



**581**

- 2-3/8"w x 4-3/16"h x 15/16"d
- Single channel



**582**

- 2-3/8"w x 4-3/16"h x 15-16"d
- Two channel

## Touch Less Wall Switch



**697**

- Single gang and double gang
- Doppler radar
- Sensor requires movement for activation
- Variable relay-hold time from 1 to 10 seconds
- Range of 2" to 24" – field adjustable
- 2-3/4" (Single); 4-1/2" (Double) W x 4-1/2" H

All hard wired switches are Momentary Contact SPDT, UL Listed. Optional DPDT switches are available; suffix "D" to model number.



**Radio Frequency Kit  
571KIT**

(product manufactured prior to November 2010)

- Radio Frequency Receiver (433 MHz)
- 24 VDC power supply
- Activation switches not included.
- Order 572, 581, 582, 574 or 576 separately.

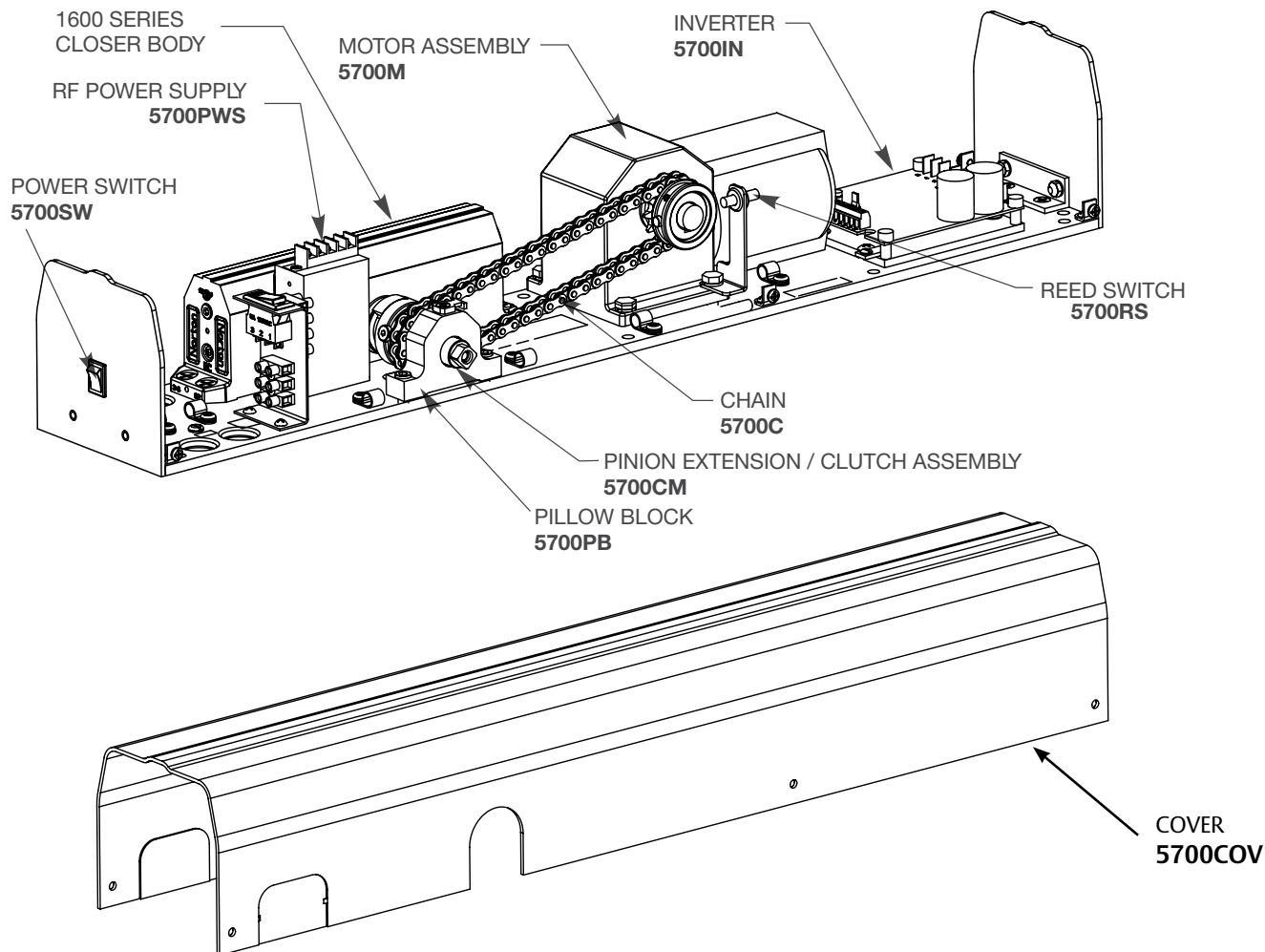


**Radio Frequency Kit  
586KIT**

(product manufactured after November 2010)

- Radio Frequency Receiver (433 MHz)
- 24 VDC power supply
- Activation switches not included.
- Order 572, 581, 582, 574 or 576 separately.

**PARTS LIST**



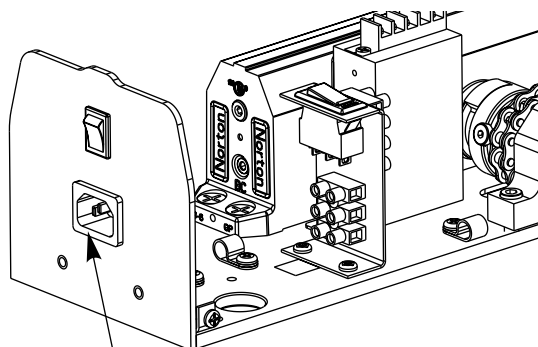
**ARM & TRACK ASSEMBLIES**



#5710-1 - Arm and Track Assembly  
#7701ST-1A - Arm Assembly  
#7200-1T - Track Assembly

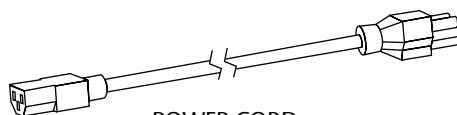


#7701-1A - Arm Assembly  
#7701-1W - Main Arm & Rod  
#7701-11A - Adjusting Tube & Shoe



POWER CORD INPUT -  
factory prepped and  
installed receptacle

**Note:** Consult local authority having jurisdiction to confirm use of power cord is acceptable. Operator must be furnished with the power cord from the factory. Power cords cannot be added to operators in the field. Maximum distance from operator to receptacle is 15".

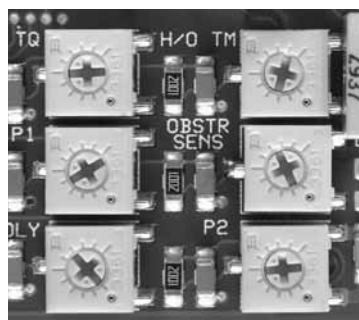
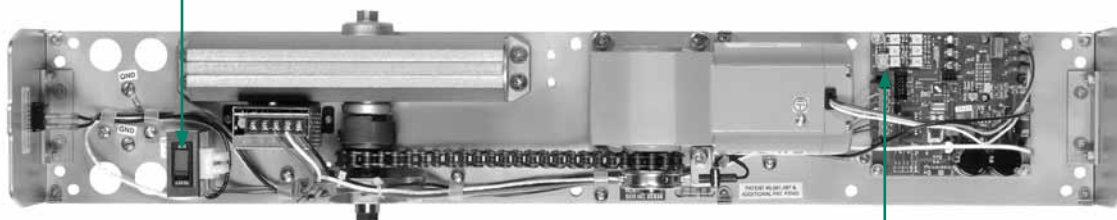


POWER CORD  
(length = 18")  
5700PC

TECHNICAL  
DETAILS



- Circuit breaker
- Activation switch terminal
- Relay terminal



POT	DESCRIPTION
H/O TQ	Motor Torque at Hold Open Position
REV SPD	Motor Reversing Speed
M/DLY	Motor Delay on Opening
H/O TM	Hold Open Time (5 - 30 Seconds)
OBSTR SENS	Obstruction Detection on Open
PUSH SENSE	Push Recognition Sensitivity

**General Specifications**

Door Controls \_\_\_\_ (interior) (exterior) swinging door(s) shall be of rack and pinion design contained within a precision cast aluminum housing. Door closing force shall be adjustable to ensure adequate closing control. Door closing speed shall be controlled by independent hydraulic adjustment valves in the sweep and latch range of the closing cycle. Door Operator shall provide conventional door closer opening forces unless the power operator motor is activated. Door Operator shall provide conventional door closing forces at all times except in the event of power outage during powered door open cycle. Door Operator opening force and speed shall be adjustable by independent electronic adjustment to ensure adequate opening control per accessibility codes. Door Operator shall have an adjustable hydraulic backcheck valve to cushion the door speed if door is opened violently. Door Operator shall have a manual adjustment to locate both full open and full closed door positions. Maximum door open shall be adjustable and capable to a maximum 180° conditions permitting. [(Door Operator shall be AUTOMATICALLY ACTIVATED, i.e., motion sensor.) (Door Operator shall be SELECTIVELY ACTIVATED by external initiating device, i.e., wall switch, etc.) (Door Operator shall be both AUTOMATICALLY ACTIVATED and SELECTIVELY ACTIVATED.)] Door operator shall have adjustable hold open time capability in range from 5 to 30 seconds. Door operator shall have input line rating of 120VAC, .6A or 240VAC, .3A. Units shall have relay contact for interfacing products having a contact rating of 30VDC at 1A or 125VAC at .5A. Unit shall have an external On/Off Switch to defeat powered opening when desired. Unit shall have an internal circuit breaker switch to interrupt input power for servicing. Unit shall be U.L. Listed for automatic closing door. Unit shall be in compliance with the requirements of the Americans With Disabilities Act (ADA), ANSI standards A117.1 and A156.19. Unit shall meet C-UL US.

**Additional Detailed Specifications:**

When activated, the unit shall, by means of an integral motor and chain drive, power open the door at both a speed and force that are adjustable to meet accessibility codes. The door shall be powered from a door closed position to a full door open position and remain in momentary hold open for \_\_\_\_ seconds (adjustable 0 to 30 seconds) [(Unit shall power open door to full open position up to 180° (5710); 170° (5730), conditions permitting.) (Unit shall be capable of allowing the door to be opened manually from 0 to 180°, conditions permitting.)] Once unit reaches full hold open position, if reinitiated, unit's momentary hold open time shall restart from the initially set hold open time. If unit is initiated during the closing cycle, unit shall revert to opening cycle beginning at that door position. Obstruction detection on open shall neutralize and reverse motor action reverting motor to closed position thus allowing door to close under closer spring force only. This obstruction detection feature shall be integral to unit. During closing cycle, the unit shall close door under spring power not to exceed a closing force of 15 lbf.



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**For a complete listing of products and applications please visit our web site.**

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**[www.assaabloy.ca](http://www.assaabloy.ca)**

**Or contact us at:**

**Norton Door Controls**

3000 Highway 74 East

Monroe, NC 28112

Tel: 877-974-2255

Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

160 Four Valley Drive

Vaughan, Ontario, L4K 4T9 Canada

Tel: 800-461-3007

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ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

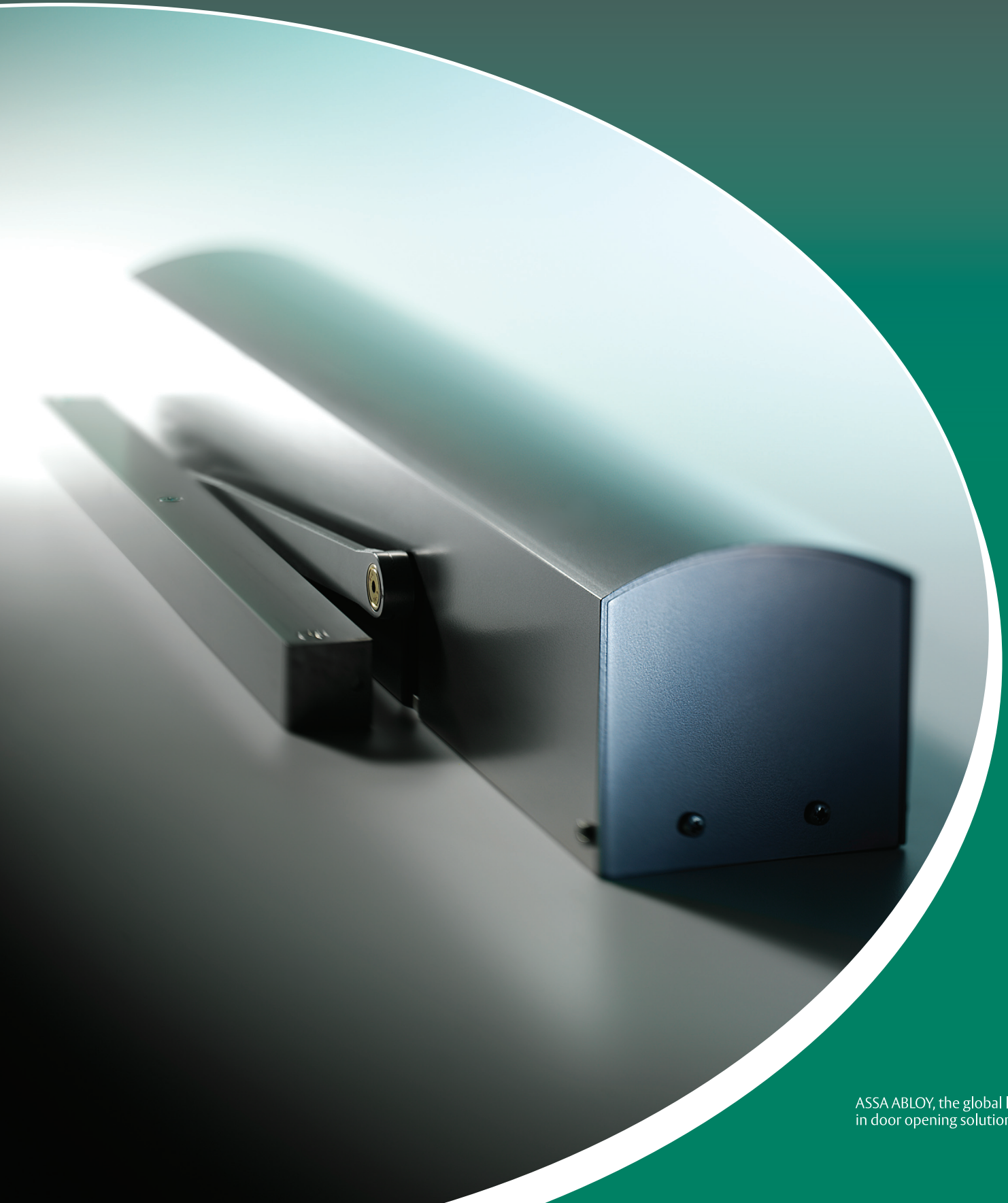




ASSA ABLOY

# 5900 Series

## Low Energy Power Operator



ASSA ABLOY, the global leader  
in door opening solutions

## INTRODUCTION

The Norton 5900 Series is a full-featured, extremely quiet, low energy door operator designed for moderate to high traffic doors. This cost-effective operator is available for either push- or pull-side mounting and is ideal for any application designed to meet the Americans with Disabilities Act (A.D.A).

The 5900 is simple to install and set up. "One touch" programming combined with the operators built-in ability to calibrate door mass, offers our customers a smart, dependable solution. Power Assist, Obstruction Detection, Motor Start Delay and Stop on Stall are just a few features that set this electromechanical operator apart from the competition.

Ideal for senior housing/assisted living facilities, hospitals, office buildings, colleges or universities, places of worship, convention centers, etc.



## FEATURES

- Ease of installation and setup
  - Simple instructions
  - "One touch" programming
- Application versatility and ease of adjustment
  - Non-handed units
  - Push- or pull-side mounting
  - Interfaces with electric hardware
  - Integrates with access control system
- Operation startup options
  - Wall switches
  - Motion sensor
  - Radio frequency device
  - Push and Go
- Presence Detector input
- Sync cable for double doors; synchronizes closing of two operators

## TABLE OF CONTENTS

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Standard Applications.....	4
How to Order.....	4
Operational Signs.....	5
Accessories.....	5-7
Parts List .....	7

## FUNCTIONS


- Power Assist
  - When unit is activated, it allows the door to be opened manually with a force less than 5 lbs.
- Push and Go (selectable)
  - As the door is manually opened, the operator “senses” movement and opens door to the full-open position.
- Obstruction Detection
  - Open
    - Door closes if it hits an obstruction while opening
  - Close (Stop on Stall)
    - Door will stop once it hits an obstruction and rest against the obstruction until obstruction is removed
- Motor Startup Delay
  - Delays operator opening
- Infinite Hold Open
  - Door will hold open at set position until power is turned off
- Power Latch (selectable)
  - Increases latch power
- Selector mode switch (3 position)
  - Off - Disables signal inputs
  - On - Activates signal inputs
  - Hold Open - Activates the unit to the hold open position

## ELECTRICAL DATA

- Power input 120 VAC, 60 Hz (+10%, -15%)
- Current draw .75A
- 12VDC @ .5A output, 24VDC @ .25A output, 24VDC @ .4A output

**Note: Dry relay contacts require optional relay logic module.**

## CERTIFICATIONS

- UL325 certified
- UL10c certified
- 2-year warranty (refer to current price list, terms and conditions)
- Americans with Disabilities Act (ADA)
- ANSI/BHMA A156.19 certified 

## SPECIFICATIONS

Door Control (interior) (exterior) closing force shall be adjustable to ensure adequate closing control. Door Operator shall simulate conventional door closer opening and closing forces unless the power operator motor is activated. Door Operator shall have electronic backcheck to cushion the door speed if door is opened violently. [(Door Operator shall be AUTOMATICALLY ACTIVATED by either a slight push or pull in the direction of opening swing - Push and Go.) (Door Operator shall be SELECTIVELY ACTIVATED by external initiating device, i.e. wall switch, etc.) (Door Operator shall be both AUTOMATICALLY ACTIVATED and SELECTIVELY ACTIVATED.)] Unit shall have delay switches for motor activation, electric lock interfacing, and hold open time. Units shall interface with latch retraction exit devices or similar products and have 12VDC @ .5A, 24VDC @ .25A, 24VDC @ .4A output for connection of electric strike, lock, radio frequency receiver, etc. Unit shall have a three-position Selector Mode Switch that will permit the unit to be switched “ON” to monitor for function inputs, switch to “H/O” for infinite hold open function or switched “OFF” which will disable function inputs allowing unit to be used as a manual door closer. Unit shall be U.L. Listed for automatic closing door. The Unit shall be adjustable to provide compliance with the requirements of the Americans with Disabilities Act (ADA). Unit shall be certified by BHMA to meet A156.19 requirements. Unit shall meet UL325, UL10C standards.

**APPLICATIONS**



Left hand shown

**5910  
HINGE (PULL) SIDE OF DOOR  
5910 RIGID ARM AND SLIDE  
TRACK**

- Buffered stop assembly in slide track
- 85° to 110° templated door openings in 5° increments
- 1/8" (3mm) maximum frame reveal

An auxiliary stop is suggested where severe conditions exist.



Left hand shown

**5930  
STOP (PUSH) SIDE OF DOOR  
STANDARD-DUTY DOUBLE  
LEVER ARM**

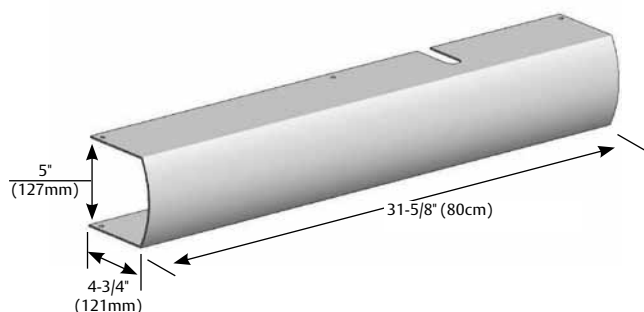
- Frame reveals 2-3/4" to 5-3/4" (70 to 146mm)
- An auxiliary door stop is required for these applications

**Dimensional Information:**

- Minimum ceiling clearance: 5-5/8" (143mm)
- Minimum door width: 32" (81cm); maximum 48" (122cm)
- Minimum frame face: 2" (5mm)
- Minimum top rail: 1-5/8" (41mm)

**Notes:**

- For additional information, the 5900 Series Instruction Manual is available online.
- Contact factory if door weight exceeds 200 lbs.



**HOW TO  
ORDER**

**Note: All transmitters (door switches or key fob) must be ordered separately.**

**59**

**FIRST TWO DIGITS**  
Product Series

**3**

**THIRD DIGIT**  
Identifies Type of Application

**HINGE (PULL) SIDE OF DOOR\***

- 1 – Rigid Arm & Slide Track  
110° maximum door swing  
maximum reveal 1/8" (3mm)
- 5 – Double Egress Arm  
110° maximum door swing with 1/8" (3mm) reveal; 95° maximum door swing with 3" (76mm) reveal.

**STOP (PUSH) SIDE OF DOOR**

- 3 – Standard-Duty Double Lever Arm  
110° maximum door swing  
Reveals 2-3/4" to 5-3/4" (70 to 146mm)

**0**

**X**

**FINISH**

**FINISHES**  
Product will be sprayed with a combination of waterborne acrylic and polyester powder coat.

Description	Specify Norton Designation (BHMA)	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651	AL
Statuary Bronze	690	640, 613	STAT

**Note:** For Radio Frequency; order 598Kit separately

\*Consult Technical Support Department when door is hung on offset pivots

## OPERATIONAL SIGNS

### #679 Operational Signs

(kit contains 8 signs) Packed with 5900



#425 (1 per)



#426 (1 per)



#427 (2 per)



#432 (1 per switch)



#433 (1 per switch)

**Sign Dimensions:**  
Square: 6" x 6"  
Round: 6-1/2" x 6-1/2"



#430 (1 per)



#431 (1 per)



#428 (2 per)

### #681 Signage Kit

(Packed with 574, 661, 662, 675 switches)



#424 (1 per switch)



#429 (1 per switch)

## ACCESSORIES

### Motion Sensor #663\*



- 4-3/4" x 3-3/16" x 2" projection
- Unidirectional
- Black cover
- SPDT relay
- Adjustable angle pattern
- 24 VDC input
- Must not be placed where motion of door can be sensed

### Executive Package (includes receiver and transmitter) #5900EXPKG



### Switch Post #577 & #578



- 4" x 6" x 40" x 3/16" wall thickness
- 9 volt battery
- RF temperature range: -4° F to 122° F
- 689 (aluminum) or 690 (dark bronze) finishes; specify when ordering
- Standard formed plastic cap
- Surface mounted (above ground)
- **577** - radio frequency transmitter
- **578** - hard wired switch
- To order switch only - specify model #580

### Relay Logic Module #5900RLM^



\* Use of motion sensor must be approved by local authority having jurisdiction.

^Provides auxilliary contacts for latch retraction (exit devices). Consult Norton Technical Product Support.



ACCESSORIES

## Activating Door Switches



660(D)



661(D)

- 4" x 4" face plate
- 4-1/2" x 4-1/2" SS back plate
- 15 amp @ 125 VAC
- Flush mounted – hard wired
- Fits single or 2 gang electrical box
- **660** – Stainless steel with black letters
- **661** – Blue powder coat with white letters



662



672(D)

- 1-11/16" x 4-1/2" face plate
- 1-11/16" x 4-1/2" back plate
- SPDT UL listed switch-mom.
- 15 amp @ 125 VAC
- Fits 1-3/4" frame
- **662** – Stainless steel with red button
- **672** – Stainless steel with black letters



574, 685(D)



575(D), 576

- 6-5/8" square (box); 8-1/8" square (trim)
- 6" round (push plate) - **691, 692, 693 & 694**
- 9 volt battery
- Temperature: -4° F to 122° F
- 15 amp @ 125VAC
- Flush or surface mounted<sup>^</sup>
- Stainless steel with blue letters
- **574, 576, 692 and 694** - radio frequency (433MHz). Used with RF option and 598KIT
- **575, 685, 691 and 693** - hard wired\*



691(D), 692



693(D), 694

- \* Switches may also be installed with single or double gang electrical box using fasteners included.
- <sup>^</sup> Surface mounted switches project 2" from wall.

## Vestibule Switches



675(D)



676(D)

- 2 – 1-1/16" x 4-1/2" face plates
- 4-1/2" x 4-1/2" SS black plate
- 2 – SPDT UL listed switches-mom.
- 15 amp @ 125 VAC
- Fits 2-gang electrical box
- **675** – Blue powder coat with white letters
- **676** – Stainless steel with black letters

## Touch Less Wall Switch



697



- Single gang and double gang
- Doppler radar
- Sensor requires movement for activation
- Variable relay-hold time from 1 to 10 seconds
- Range of 2" to 24" – field adjustable
- 2-3/4" (Single); 4-1/2" (Double) W x 4-1/2" H

## Presence Detector



585

- Diffused active infrared technology
- 11.8" l x 1.9" h x 1.9" w
- Black anodized aluminum
- 9"x0" maximum mounting height
- Supply voltage: 24VAC/DC

All hard wired switches are Momentary Contact SPDT, UL Listed. Optional DPDT switches are available; suffix "D" to model number.

## ACCESSORIES



### 598KIT\* – Radio Frequency Option

A Radio Frequency receiver (field installed) used to control the 5900 from a remote location. Wireless. Requires the 572, 574, 576, 577, 581 or 582 (sold separately).

\* Maximum codes: 12

### Transmitters

- 9 volt battery
- Temperature: -4° F to 122° F
- Used with RF option and 598KIT



#### 572 - Key Fob

- 1-1/2" w x 2-3/16" h x 9/16" d
- Two channel



#### 581

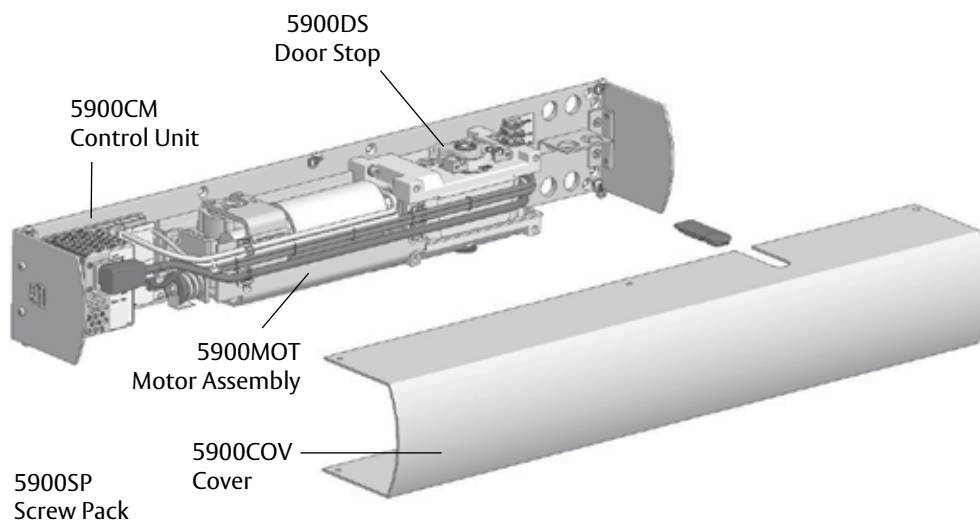
- 2-3/8" w x 4-3/16" h x 15/16" d
- Single channel



#### 582

- 2-3/8" w x 4-3/16" h x 15-16" d
- Two channel

## PARTS LIST



5900ADP  
Arm Adapter Kit  
(parts are not sold separately)

## Arm and Track Assemblies



5900CAB  
Sync Cable

Left hand shown



#6610-1 – Arm and Track Assembly  
#7210-1A – Arm Assembly  
#7200-1T – Track Assembly



#6630-1 – Arm Assembly  
#6630-1W – Main Arm & Rod  
#6620-12 – Adjusting Tube & Shoe



#6650-1L – Arm and Track Assembly (LH)  
#6650-1R – Arm and Track Assembly (RH)  
#7250-1L – Arm Assembly (LH)  
#7250-1R – Arm Assembly (RH)  
#6610-1T – Track Assembly



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Or contact us at:

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3000 Highway 74 East  
Monroe, NC 28112  
Tel: 1-877-974-2255  
Fax: 1-800-338-0965

**ASSA ABLOY Door Security Solutions Canada**  
160 Four Valley Drive  
Vaughan, Ontario, L4K 4T9 Canada  
Tel: 1-800-461-3007  
Fax: 1-905-738-2478

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**Norton®**

ASSA ABLOY

# 6900 Series

## Low Energy Power Operator



ASSA ABLOY, the global leader  
in door opening solutions

## INTRODUCTION

Norton's 6900 Series is a "low energy" power door operator designed to automatically open and close doors with a lower energy opening force. Unlike high energy operators that require guide rails, safety mats and sensors, low energy operators only require signage.

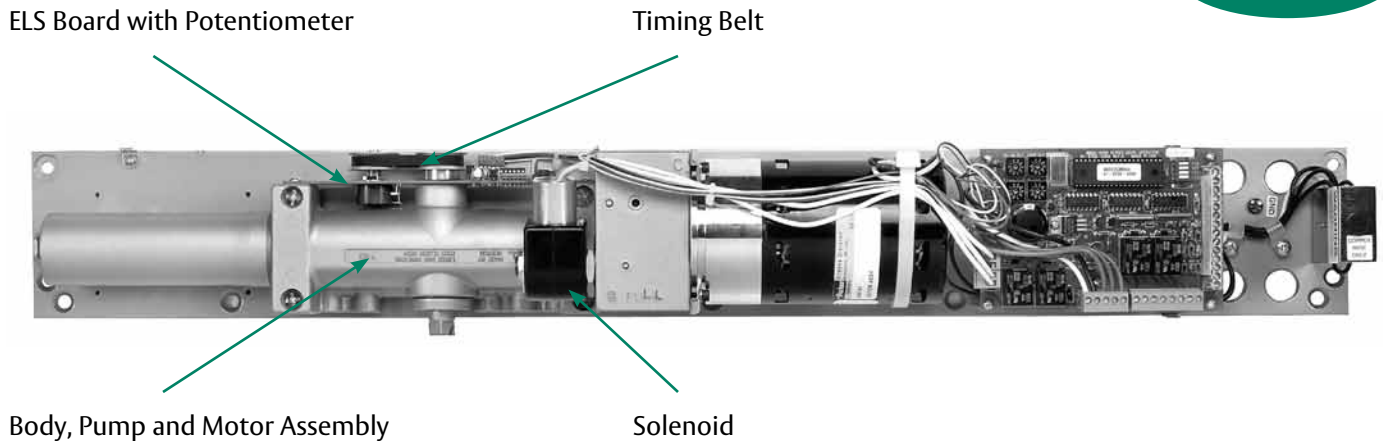
The 6900 is easy to adjust, available for push- or pull-side mounting and offers obstruction detection during both opening and closing cycles. This operator is ideal for executive offices, retirement homes, educational and assisted living facilities, office/warehouse corridor doors, etc.



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## OVERVIEW



## FUNCTIONS

The 6900 fully complies with ADA requirements and is ANSI/BHMA A156.19 certified. The unit functions using an A/C motor and hydraulic pump to activate a heavy-duty hydraulic door closer controlled by an Electronic Control Module (ECM) board. The 6900 is an excellent choice in a low energy power door operator with its:



- Ease of installation and setup
  - Simple instructions
  - Uses push-button settings for door open and door close positions
- Application versatility and ease of adjustment
  - Handed units
  - Push- or pull-side mounting
  - Interfaces with electric hardware and integrates with access control systems
- Operates as mechanical surface closer during close cycles or if power is turned off
  - Critical for fire-rated doors
  - Spring force provides the feel of a normal manual door closer
  - Door can be opened manually if desired
- Operation startup options
  - Wall switches
  - Motion sensor
  - Radio frequency device
  - Push and Go
- Hold Open options
  - 0-30 seconds (5 seconds minimum required for ADA and ANSI A156.19)
  - Choice of indefinite hold open features
- Obstruction Detection
  - Door closes if it hits an obstruction while opening
  - Door re-opens once if it hits an obstruction while closing
- Power Operator
  - When unit is activated door travels to open position
- Power Assist
  - When unit is activated, pump and motor allow door to be manually opened with a force less than 5 lbs.

**GUIDE**

Operator Type	Safety Equipment Required to be BHMA Compliant	Common Applications
Low Energy	Signage (included with unit)	<b>(Low to Moderate Traffic)</b> Executive Offices, ADA Dorm Rooms, ADA Hotels, Retirement Homes, Educational or Assisted Living Facilities, Office/Warehouse Corridor Doors, ADA Auxiliary Entrances, ADA Accessible Restrooms, Fire Doors
High Energy	Guide Rails, Safety Mats, Sensors & Signage	<b>(High Traffic)</b> Hospital Emergency Entrances & Operating Rooms, Airport Entrances, Large Office Building or Department Store Entrances


**FEATURES**

- Norton 7500 series door closer
  - Adjustable spring power
  - Backcheck valve
  - Backcheck position valve
  - Sweep valve
  - Latch valve
  - Speed control valve
  - Pressure adjustment valve
- Left or right hand
- Drop plate for low ceiling applications
- Push-side or pull-side applications
- Power Assist selector switch
- Push and Go selector switch
- Open/close obstruction detection
- Motor startup delay adjustment
- Vestibule function delay adjustment (For sequencing two or more units)
- Door hold open delay adjustment
- Single Pole Double Throw (SPDT) relay output
- SPDT relay output time adjustment
- SPDT alarm output
- Blow open function for smoke ventilation
- Indefinite hold open function
- Presence detector input
- 24 VDC @ .5A output
- Selector mode switch (3 position)
  - OFF – Disables signal inputs except blow open. Unit still powered.
  - ON – Activates signal inputs for normal use
  - HOLD OPEN – Activates the unit to the hold open position indefinitely
- Dummy unit - includes the 7500 closer body, arm assembly, cover and backplate.

**ELECTRICAL DATA**

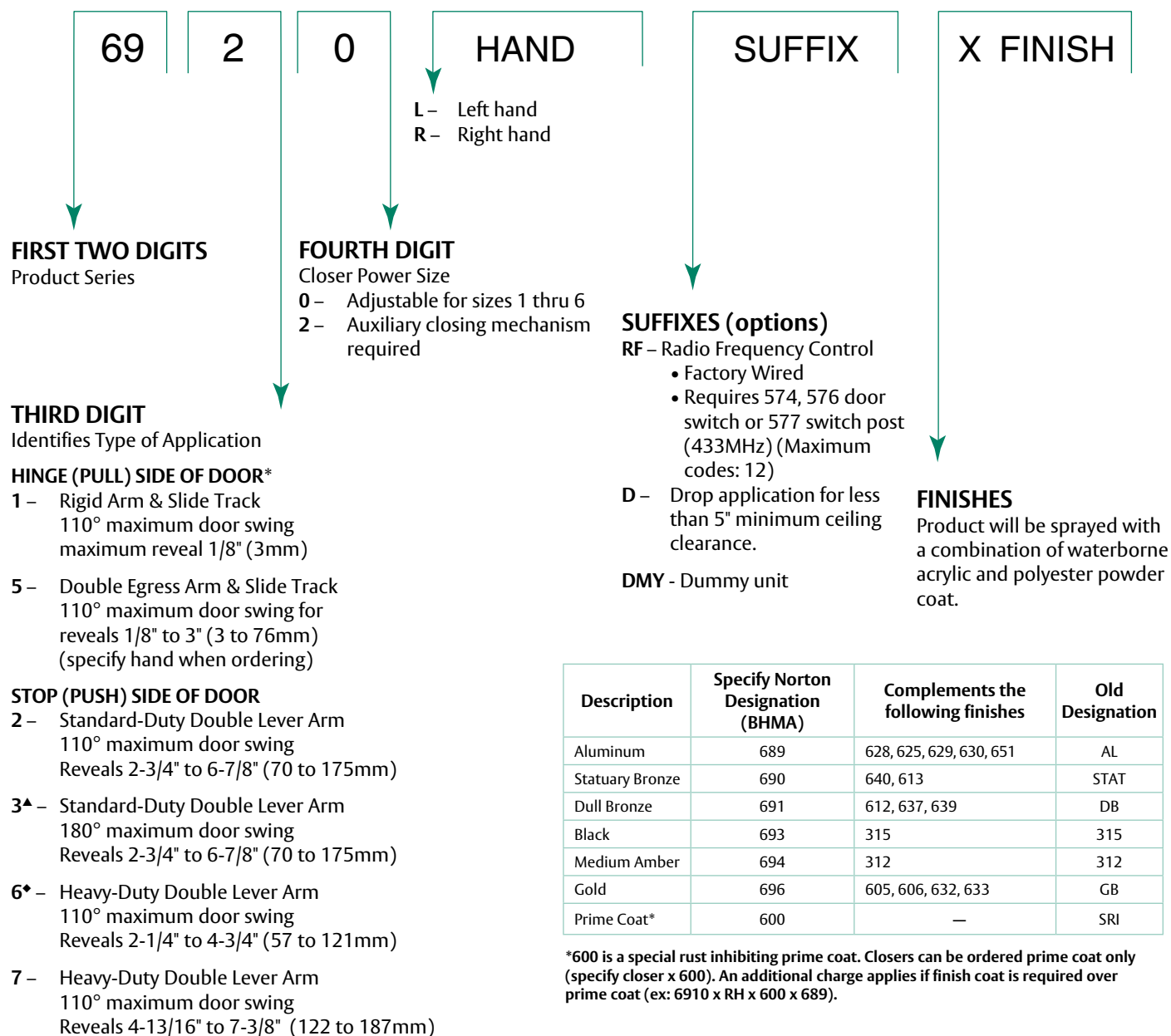
- Power input 120 VAC, 60 Hz (+10%, -15%)
- Current draw 1.5A
- Auxiliary output 24 VDC @ .5A
- SPDT relay output for controlling electric strikes or electric locks not to exceed 1 amp @ 30 VDC

**CERTIFICATIONS**

- Meets requirements for UL10C for positive pressure
- 2-year warranty (refer to current price list, terms and conditions)
- Americans with Disabilities Act (ADA)
- ANSI/BHMA A156.19 certified 
- UL Listing: Listed for use on fire and smoke barrier door assemblies when the 120VAC (60Hz) power input is supplied through the normally closed alarm contacts of a compatible U.L. listed alarm system or alarm panel.
- C-UL US listed for use on fire and smoke barrier doors
- California State Fire Marshal: 3550-944:109



**Note: All transmitters (door switches or key fob) must be ordered separately.**



▲Models will be power operated to 110° but can be manually opened to 180°

♦Reveals less than 2-1/4" (57mm) may be achieved by field cutting the adjusting rod

\*Consult Technical Support Department when door is hung on offset pivots

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 6910 x RH x 600 x 689).

For application assistance, Norton offers complete services from specifying product to engineering a door system which includes riser and wiring diagrams. Consult Norton Technical Product Support for additional information.

**STANDARD APPLICATIONS**



Left hand shown

**6910/6950**

**HINGE (PULL) SIDE OF DOOR**

- Spring buffered stop assembly in slide track

**6910 RIGID ARM AND SLIDE TRACK**

- 85° to 110° templated door openings in 5° increments
- 1/8" (3mm) maximum frame reveal

**6950 DOUBLE EGRESS ARM AND SLIDE TRACK**

- From 1/8" to 3" (3 to 76mm) frame reveal
- Specify hand when ordering

An auxiliary stop is suggested where severe conditions exist.



Left hand shown

**6920/6930**

**STOP (PUSH) SIDE OF DOOR**

**STANDARD-DUTY DOUBLE LEVER ARM**

- Frame reveals 2-3/4" to 6-7/8" (70 to 175mm)
- An auxiliary door stop is required for these applications

Series	Door Opening
6920	Up to 110°
6930	From 110° to 180°



Left hand shown

**6960/6970**

**STOP (PUSH) SIDE OF DOOR**

**HEAVY-DUTY DOUBLE LEVER ARM**

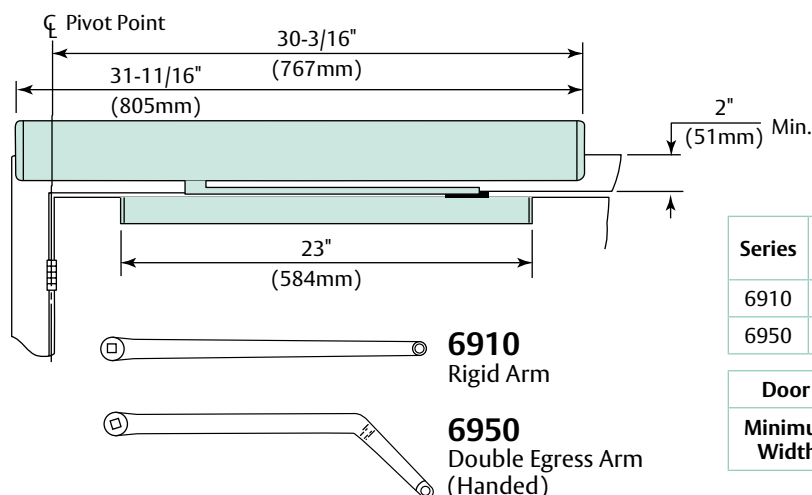
- Maximum frame reveals (see chart)
- 85° to 110° templated door openings in 5° increments
- Spring buffered stop in arm shoe assembly

Series	Reveal Range	
6960	2-1/4" to 4-3/4"*	(57 to 121mm)*
6970	4-13/16" to 7-3/8"	(122 to 187mm)

\* Reveals less than 2-1/4" (57mm) may be achieved by field cutting the adjusting rod

**NOTE:** Contact factory if door weight exceeds 250 lbs.

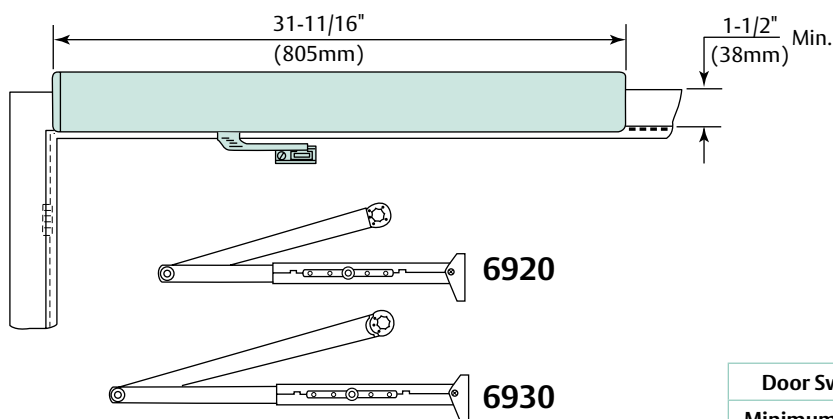
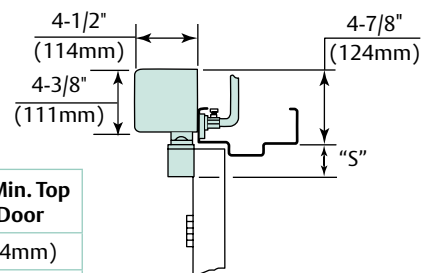
## STANDARD APPLICATIONS



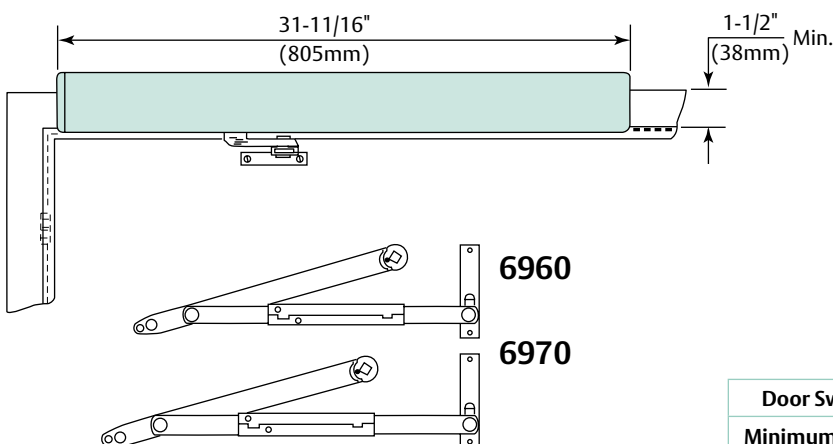
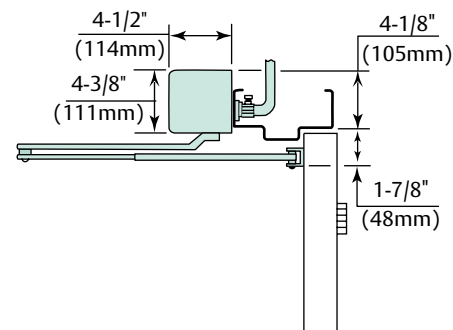
Series	Dim "S" Min. Top Rail of Door
6910	1-3/4" (44mm)
6950	2-3/8" (60mm)

Door Swing	85°	90°	95°	100°	105°	110°
Minimum Door Width (mm)	32" (813)	31" (787)	30" (762)	30" (762)	29" (737)	29" (737)

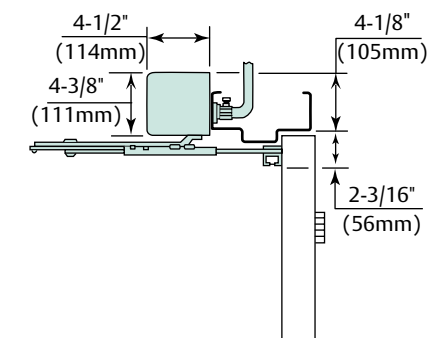
Minimum door width for all double egress applications is 29" (737mm).



Door Swing	90°	180°
Minimum Door Width (mm)	32" (813)	29" (737)



Door Swing	85°	90°	95°	100°	105°	110°
Minimum Door Width (mm)	34" (864)	33" (838)	33" (838)	32" (813)	32" (813)	31" (787)



**DROP APPLICATIONS**

**NOTE:** Drop application for less than 5" minimum ceiling clearance.



Left hand shown

**6920-D**

**STOP (PUSH) SIDE OF DOOR – UP TO 110° DOOR OPENING  
STANDARD DUTY DOUBLE LEVER ARM**

- Frame reveals 2-3/4" to 6-7/8" (70 to 175mm)
- 110° maximum door opening. See 6930-D for openings to 180°
- Auxiliary door stop is required for this application
- Minimum door width is 33" (84cm)



Left hand shown

**6930-D**

**STOP (PUSH) SIDE OF DOOR – OVER 110° TO 180° DOOR OPENING  
STANDARD DUTY DOUBLE LEVER ARM**

- Frame reveals 2-3/4" to 6-7/8" (70 to 175mm)
- Over 110° to 180°
- Auxiliary door stop is required for this application
- Minimum door width is 31" (79cm)



Left hand shown

**6960-D/6970-D**

**STOP (PUSH) SIDE OF DOOR  
HEAVY-DUTY DOUBLE LEVER ARM**

- Maximum frame reveals (see chart)
- 85° to 110° templated door openings in 5° increments
- Spring buffered stop assembly in arm shoe

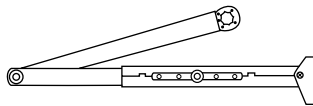
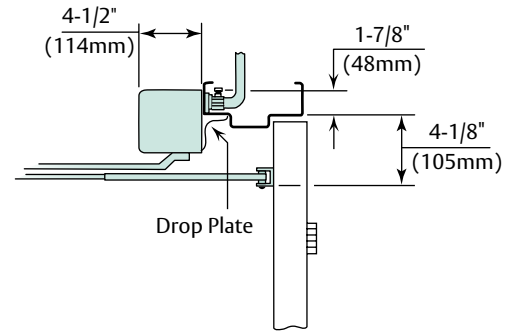
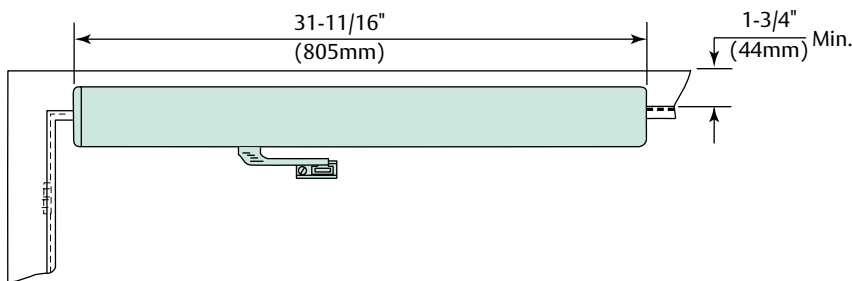
Series	Reveal Range	
6960D	2-1/4" to 4-3/4"*	(57 to 121mm)*
6970D	4-13/16" to 7-3/8"	(122 to 187mm)

\* Reveals less than 2-1/4" (57mm) may be achieved by field cutting the adjusting rod

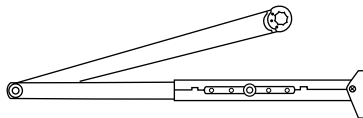
**NOTE:** Contact factory if door weight exceeds 250 lbs.



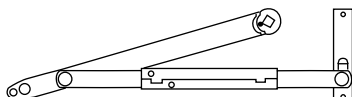
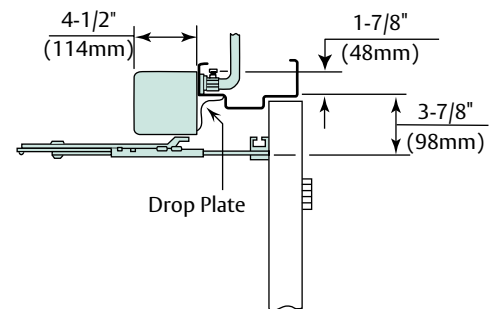
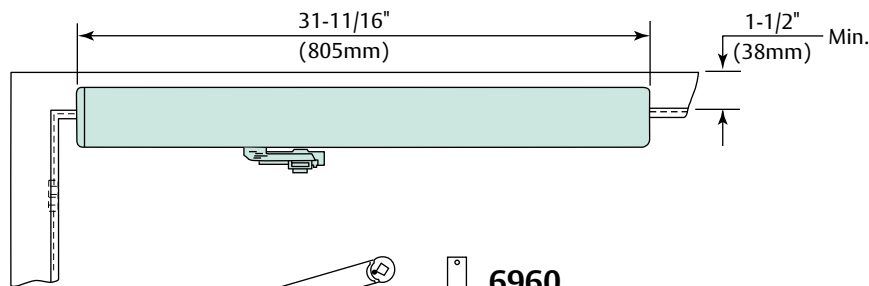
## DROP APPLICATIONS



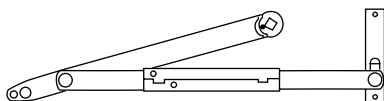
**6920**  
110° maximum door opening  
Minimum door width 33" (84cm)



**6930**  
Over 110° to 180° door opening  
Minimum door width 31" (79cm)



**6960**



**6970**

Door Swing	85°	90°	95°	100°	105°	110°
Minimum Door Width (mm)	36" (914)	35" (889)	34" (864)	34" (864)	33" (838)	33" (838)

**TYPICAL SYSTEM APPLICATIONS**

## 6900 WITH MAGNETIC LOCK

**Opening Description:** Fail Safe ADA Opening – Magnetic Lock & Door Operator

Application

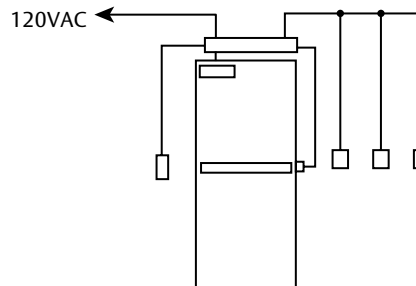
Non-Fire Rated Glass Door – Interior or Exterior Office or Main Entrance Openings

Operation

- Lock or unlock system by a key control switch at all times.
- Free ingress & egress using the door operator or manually when unlocked.
- Outside door switch will be inactive, denying ingress other than by card when locked.
- To exit, inside door switch will unlock magnetic lock and open the door or manually push bar to exit.
- Door operator acts as standard door closer when entering or exiting manually.

Material

Door Operator • Electromagnetic Lock • Electrified Pivot • Mechanical Touch Bar with Switch • 2 Door Switches • Maintained Key Switch • Card Reader



## 6900 WITH ELECTRIC STRIKES

**Opening Description:** Fail Secure ADA Opening – Double Electric Strike & Door Operators on Pair of Doors

Application

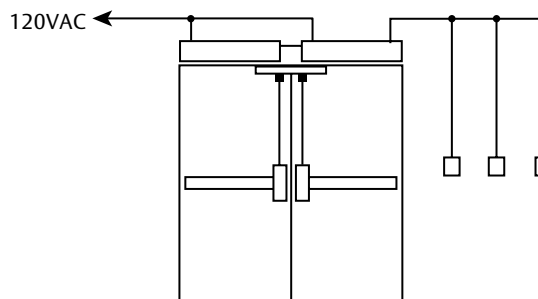
Interior, Non-Fire Rated Wood or Metal Doors – Corridor or Emergency Room Openings

Operation

- Doors are to be closed and latched at all times.
- Key switch activates and deactivates door switches to signal door operators.
- Active door switch will energize the electric strike and automatically open doors.
- Access manually from the push side only when door switches are inactive.
- Door operators will act as standard door closers when door switches are inactive.

Material

2 Door Operators • Double Electric Strike • 2 Surface Vertical Rod Exit Devices • 2 Door Switches • Maintained Key Switch



## 6900 WITH VESTIBULE

**Opening Description:** Vestibule – Two Single Doors & Operators

Application

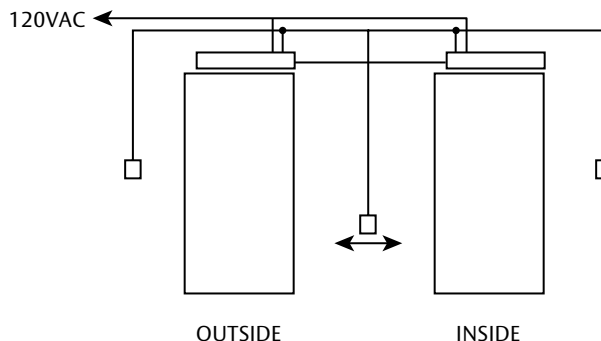
Interior or Exterior Non-Rated Glass, Wood or Metal Doors – Hospitals, College Dorms, Hotels and other Public Buildings

Operation

- Doors are closed but not latched at all times when not activated.
- 2 door switches outside of vestibule operate closest door first, then second door.
- 2 door switches inside vestibule operate closest door only.

Material

2 Door Operators • 4 Door Switches



## 6900 WITH VESTIBULE (TWO PAIR)

**Opening Description:** Vestibule – Two Pairs of Doors & Operators

Application

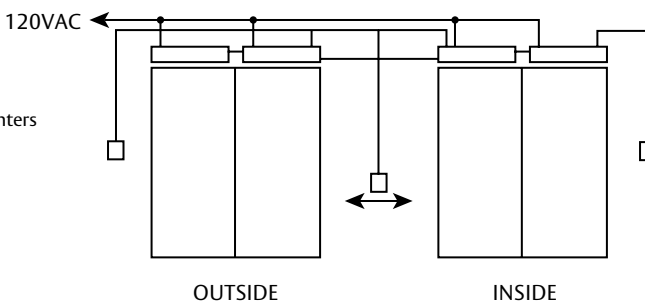
Exterior Non-Rated Glass Doors – Hospitals, College Dorms, Large Hotels, Convention Centers and other Public Buildings

Operation

- Doors are closed but not latched at all times when not activated.
- 2 door switches outside of vestibule operate closest door first then other door.
- 2 door switches inside vestibule operate closest door only.

Material

4 Door Operators • 3 Door Switches



## 6900 WITH ACCESS CONTROL FOR ENTRY

### Opening Description: Fail Secure ADA Opening – Electric Strike & Door Operator

#### Application

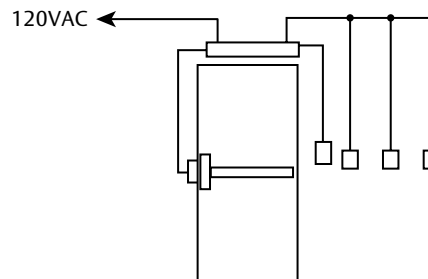
Rated or Non-Fire Rated Metal Door – Interior or Exterior Office, Main Entrance or Stairwell Openings

#### Operation

- Activate or deactivate system by a key control switch.
- When outside, door switch is inactive, ingress will be by card only.
- Inside door switch will unlock and open the door automatically.
- Push exit device bar to exit at all times.
- Door operator acts as standard door closer when entering or exiting manually.
- Recommend: Folger Adam® Electric Strikes.

#### Material

Door Operator • 2 Door Switches • Maintained Key Switch • Card Reader • Electric Strike



## 6900 WITH SMOKE VENTILATION

### Opening Description: Fail Secure “Blow Open” Opening – Latch Retraction & Door Operators on Pair of Doors

#### Application

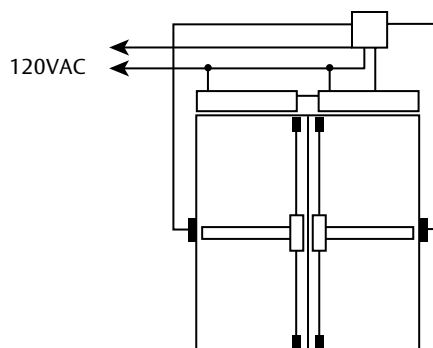
Exterior Metal Doors – Emergency Ventilation Type Openings

#### Operation

- Doors are to be closed and latched at all times.
- Fire Alarm system sends signal to activate door operators and latch retraction devices.
- Doors open when activated and stay open until loss of power or until fire alarm is reset.
- Door operators act as standard door closers during normal use.
- Recommend: Folger Adam® Electric Strikes.

#### Material

2 Door Operators • 2 SVR Latch Retraction Exit Devices • 1 Controller • 2 Electric Hinges



## 6900 WITH LATCH RETRACTION

### Opening Description: Vestibule – Two Single Doors & Operators

#### Application

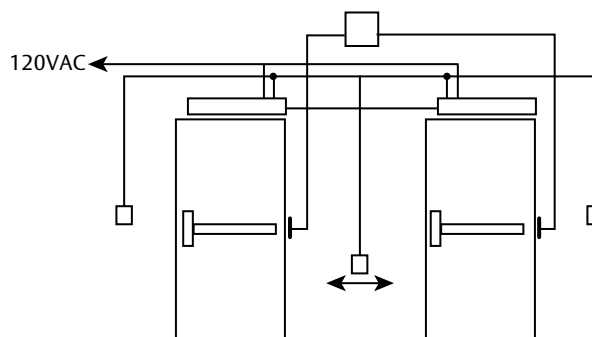
Interior or Exterior Rated & Non-Rated Glass, Wood or Metal Doors – Hospitals, College Dorms, Hotels and other Public Buildings

#### Operation

- Doors are closed and latched at all times.
- When activated, latch bolts are retracted and door(s) will automatically open.
- 2 door switches outside of vestibule operates closest door first then second door.
- 1 door switch inside vestibule operate closest door only.
- Recommend: Yale® or Corbin Russwin Exit Devices.
- Non-rated devices can be dogged for push/pull operation.

#### Material

2 Door Operators • 4 Door Switches • 1 - 781N Controller • 2 Electric Hinges • 2 Rim Latch • Retraction Exit Devices



## 6900 WITH MAGNETIC LOCKS (INTERLOCK)

### Opening Description: Vestibule Interlock – Two Pairs of Doors & Operators

#### Application

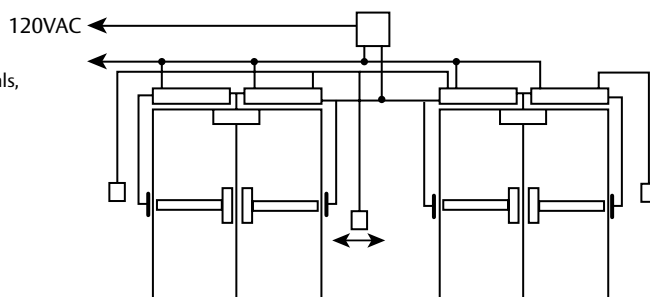
Interior or Exterior Rated & Non-Rated Glass, Wood or Metal Doors – ICU Rooms at Hospitals, Research Labs, Clean Rooms & other Environmentally Controlled Applications

#### Operation

- Doors are closed and secure by electromagnetic locks.
- Only one pair of doors may be open at a time before the opposite doors can open.
- When activated, magnetic locks unlock and door(s) will automatically open.
- Door switch outside of vestibule operates closest pair of doors.
- Either door switch in vestibule operates closest pair of doors when all doors are closed.
- Recommend: Folger Adam® or Securitron® Magnetic Locks.

#### Material

4 Door Operators • 3 Door Switches • 2 Double Electromagnetic Locks with Door Position Switch • 4 Electric Hinges • 4 Non-latching Touch Bars with Switch • 1 Power Supply



## General Specifications

Door Controls (interior)(exterior) swinging door(s) shall be of rack and pinion design contained within a precision cast aluminum housing. Door closing force shall be adjustable to ensure adequate closing control. Door closing speed shall be controlled by independent hydraulic adjustment valves in the sweep and latch range of the closing cycle. Door Operator shall provide conventional door closer opening and closing forces unless the power operator motor is activated. Door Operator opening force and speed shall be adjustable by independent hydraulic valving to ensure adequate opening control per accessibility codes. Door Operator shall have an adjustable hydraulic back-check valve to cushion the door speed if opened violently. Door Operator shall utilize two on-board push buttons to establish door closed and door open positions. [(Door Operator shall be AUTOMATICALLY ACTIVATED by either a slight push or pull in the direction of opening swing – Push and Go.) (Door Operator shall be SELECTIVELY ACTIVATED by external initiating device, i.e. wall switch, etc.) (Door Operator shall be both AUTOMATICALLY ACTIVATED and SELECTIVELY ACTIVATED.)] Unit shall have delay switches for motor activation, electric lock interfacing, and hold open time. Units shall have SPDT relay for interfacing latch retraction exit devices or similar products and have 24VDC @ .5A output for connection of electric strike, lock, radio frequency receiver, etc. Units shall have Vestibule sequencing input for operation of two or more units. Unit shall have smoke ventilation inputs to power open doors when activated by fire or smoke alarm. Unit shall have a three-position Selector Mode Switch that will permit the unit to be switched “ON” to monitor for function inputs, switched to “H/O” for indefinite hold open function or switched “OFF” which will disable function inputs allowing unit to be used as a manual door closer. Unit shall be U.L. Listed for automatic closing door. The Unit shall be adjustable to provide compliance with the requirements of the Americans With Disabilities Act (ADA). Unit shall be certified by BHMA to meet ANSI A117.1 and A156.19 requirements. Unit shall meet UL, cUL, UL10C and UL10B standards.

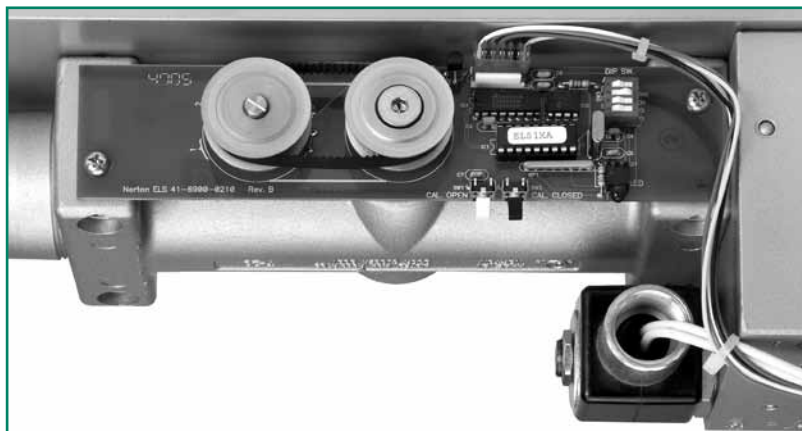
## Additional Specifications for Functions

### For Power Operator Function:

When activated, the unit shall, by means of an integral motor and pump, power open the door at both a speed and force that are adjustable to accessibility codes. The door shall be powered from a door closed position to a full door open position and remain in momentary hold open for 5 seconds minimum (adjustable 0 to 30 seconds in 5 second increments). [(Unit shall power open door to full open position up to 110°.) (Unit shall be capable of opening door manually from 110° – 180°.)] Once unit reaches full hold open position, if reinitiated, unit's momentary hold open time shall restart from the maximum set time. If unit is initiated during the closing cycle, unit shall revert to opening cycle beginning at that door position. Unit shall have a toggled hold open input that upon first initiation will power door to a maintained hold open position; a second initiation will allow door to close. Unit shall have obstruction detection on closing, which will reverse the closing door to the full open position then re-attempt to close door after momentary hold open time has elapsed. Obstruction detection on opening shall shut motor off, allowing door to close under spring force. These obstruction detection features shall be integral to unit. During closing cycle, the unit shall close door under full spring power not to exceed a closing force of 15 lbf.

### For Power Assist Function:

When activated, the unit shall, by means of an integral motor and pump, assist in opening the door by reducing the amount of force required to open door. The required opening force shall be adjustable to comply with A.D.A. Standards. The unit shall maintain its motorized assist cycle for \_\_ seconds (adjustable from 0 to 30 seconds in 5 second increments). During the motor assist cycle, the unit shall hold the door open at any position at which door is stopped up to full open position. If unit is initiated during the motor assist cycle, the units assist cycle time shall be reset to the maximum set time. Once motor assist has terminated, the unit shall close door under full spring power not to exceed a closing force of 15 lbf.

**TECHNICAL  
DETAILS**

**ELS – ELECTRONIC LIMIT SWITCH:**

Used for open/closed door setting, push and go selection, obstruction timing and Power Operator/Power Assist Function.

- WHT Button – Used for Door Open setting
- BLK Button – Used for Door Closed setting

**Dip Switch Settings**

- 1 – Obstruction Detection Delay
- 2 – Obstruction Detection Delay
- 3 – Activation Mode (Push and Go)
- 4 – Power Assist/Power Operator Mode



See close-up on page 14


**SW1 DIP SWITCHES**

- 1 – P/A – Door Operator Function Switch – OFF position selects Operator Mode. ON position selects the Assist Mode.
- 2 – A/D – Alarm Delay Timer – OFF = 30 second delay. ON = 60 second delay. Used with terminal JP1-1
- 3 – Not used – OFF
- 4 – Not used – OFF


**TIMER ADJUSTMENTS**

- SW2 – Motor Delay – Delays motor startup to allow unlocking of electric hardware.
- SW3 – Solenoid Delay – sets the length of time that the relay will stay energized or de-energized. Used for JP4-3, 4 and 5 relay. Allows electric hardware to stay energized long enough for automatic door opening.
- SW4 – Vestibule Delay – Sets the length of time between receipt of the IN Vestibule signal and the motor startup.
- SW5 – Hold Open Delay/Assist Delay – Sets length of time door holds open at the fully open position for operator function. Sets length of time motor and pump assembly will operate to reduce opening force of door for assist function. When time elapses the door will operate as a standard door closer.

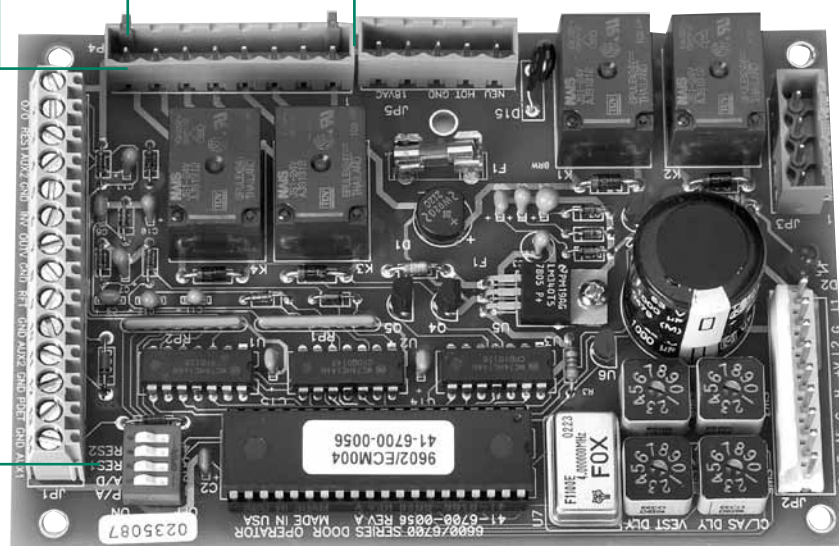
TECHNICAL  
DETAILS

**6900 CONTROL BOARD JP1 TERMINAL:  
(INPUT CONTROLS) – WALL SWITCHES,  
MOTIONS SENSORS, 2ND OPERATOR,  
ETC.**

- 1 – O/O – Override Open – Input for blow open or smoke ventilation application – Upon initiation of a closed signal from a fire/smoke alarm panel, the door will open and remain open until signal is terminated. Use with any JP1 ground.
- 2 – RES 1 – Not Used
- 3 – AUX2 – Auxiliary Two – This is one of two secondary initiating switch input contacts (JP1-10 is the other.) Use with any JP1 ground to initiate operation.
- 4 – GND – Ground
- 5 – INV – IN Vestibule – Used for vestibule function. This contact must be connected to the JP1-6 terminal from another unit to receive an initiating signal. Use this contact with any JP1 ground.
- 6 – OUTV – Out Vestibule – Used for vestibule function – This contact must be connected to terminal JP5 of another unit to send an initiating signal. Use this contact with any JP1 ground.
- 7 – GND – Ground
- 8 – RFT – Toggle (Maintained Hold Open) – This input can be used with any normally open switch. The first initiation of this contact will open door and hold it open. A second initiation of this contact will release and close the door. Use with any JP1 ground.
- 9 – GND – Ground
- 10 – AUX2 – Auxiliary Two – Same as JP1-3 above.
- 11 – GND – Ground
- 12 – PDET – Presence Detector – Permits wiring of a sensor to prevent a closed door from opening or a door that is fully open from closing. Use with any JP1 ground.
- 13 – GND – Ground
- 14 – AUX1 – Auxiliary One – Primary initiating switch contact. Initiates door power cycle. For vestibule function, the switch on the initiating side of door is connected to this terminal. Use with any JP1 ground.

**JP4 TERMINAL: (OUTPUT CONTROLS) –  
ELECTRIC STRIKES, LATCH RETRACTION  
EXIT DEVICES, MAG LOCKS, ETC.**

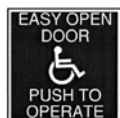
- 1 – GND – Ground
- 2 – + 24VDC
- 3 – NO1 – Relay Contact – Normally open relay dry contact that is switched when any auxiliary inputs are initiated. Switched contact can be maintained up to 12 seconds. Use with JP4-4 CO-1.
- 4 – CO1 – Relay Contact – Common relay contact for use with terminals JP4-3 and JP4-5.
- 5 – NC1 – Relay Contact – Normally closed relay contact that is switched when any auxiliary inputs are initiated. Switched contact can be maintained up to 12 seconds. Use with JP4-4 CO1.
- 6 – NO2 – Alarm Delay – Normally open dry relay contact that is switched when O/O Override Open input is initiated. Relay will stay switched for 30 or 60 seconds (selected by dip switch SW1-2 A/D).
- 7 – CO2 – Alarm Delay – Common contact for use with terminals JP4-6 and JP4-8.
- 8 – NC2 – Alarm Delay – Normally closed dry contact that is switched when O/O Override Open input is initiated. Relay will stay switched for 30 or 60 seconds (selected by dip switch SW1-2 A/D).





**OPERATIONAL  
SIGNS**
**#679 Operational Signs**

(kit contains 8 signs) Packed with 6900



#425 (1 per)



#426 (1 per)



#427 (2 per)



#430 (1 per)



#431 (1 per)



#428 (2 per)

**#682 Signage Kit**

(Packed with 576, 660, 672, 676 switches)



#432 (1 per switch)



#433 (1 per switch)

**#681 Signage Kit**

(Packed with 574, 661, 662, 675 switches)



#424 (1 per switch)



#429 (1 per switch)

**Sign Dimensions:**

Square: 6" x 6"

Round: 6-1/2" x 6-1/2"

**ACCESSORIES**
**Motion Sensor #663\***

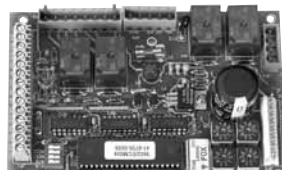

- 4-3/4" x 3-3/16" x 2" projection
- Unidirectional
- Black cover
- SPDT relay
- Adjustable angle pattern
- 24 VDC input
- Must not be placed where motion of door can be sensed

\* Use of motion sensor must be approved by local authority having jurisdiction.

**Switch Post #577 & #578**


- 4" x 6" x 40" x 3/16" wall thickness
- 9 volt battery
- RF temperature range: -4° F to 122° F
- 689 (aluminum) or 690 (dark bronze) finishes; specify when ordering
- Standard formed plastic cap
- Surface mounted (above ground)
- **577** - radio frequency transmitter
- **578** - hard wired switch
- To order switch only - specify model #580

**Note:** For additional accessories consult factory.

**Miscellaneous Parts**

**#6700PCB – Control Board**

**#6900ELS – Repair Kit**


**#668 Security Plate** – Conceals the ON/OFF/HOLD OPEN switch to deter tampering. Packed standard with the operator.

**ACCESSORIES**

**Activating Door Switches**



**660(D)**



**661(D)**

- 4" x 4" face plate
- 4-1/2" x 4-1/2" SS back plate
- 15 amp @ 125 VAC
- Flush mounted – hard wired
- Fits single or 2 gang electrical box
- **660** – Stainless steel with black letters
- **661** – Blue powder coat with white letters



**574, 685(D)**



**575(D), 576**

- 6-5/8" square (box); 8-1/8" square (trim)
- 6" round (push plate) - **691, 692, 693 & 694**
- 9 volt battery
- Temperature: -4° F to 122° F
- 15 amp @ 125VAC
- Flush or surface mounted<sup>^</sup>
- Stainless steel with blue letters
- **574, 576, 692** and **694** - radio frequency (433MHz). Used with RF1 option and 687KIT.
- **575, 685, 691** and **693** - hard wired\*



**691(D), 692**



**693(D), 694**

- \* Switches may also be installed with single or double gang electrical box using fasteners included.
- <sup>^</sup> Surface mounted switches project 2" from wall.

**Touch Less Wall Switch**



**697**



- Single gang and double gang
- Doppler radar
- Sensor requires movement for activation
- Variable relay-hold time from 1 to 10 seconds
- Range of 2" to 24" – field adjustable
- 2-3/4" (Single); 4-1/2" (Double) W x 4-1/2" H



**662**



**672(D)**

- 1-11/16" x 4-1/2" face plate
- 1-11/16" x 4-1/2" back plate
- SPDT UL listed switch-mom.
- 15 amp @ 125 VAC
- Fits 1-3/4" frame
- **662** – Stainless steel with red button
- **672** – Stainless steel with black letters

**Vestibule Switches**



**675(D)**



**676(D)**

- 2 – 1-1/16" x 4-1/2" face plates
- 4-1/2" x 4-1/2" SS black plate
- 2 – SPDT UL listed switches-mom.
- 15 amp @ 125 VAC
- Fits 2-gang electrical box
- **675** – Blue powder coat with white letters
- **676** – Stainless steel with black letters

**All hard wired switches are Momentary Contact SPDT, UL Listed. Optional DPDT switches are available; suffix "D" to model number.**



## PARTS LIST

**687KIT\* – Radio Frequency Option**

A Radio Frequency receiver (field installed) used to control the 6900 from a remote location. Wireless. Requires the 574, 576 or 577 (sold separately).

\* Maximum codes: 12

**Transmitters**

- 9 volt battery
- Temperature: -4° F to 122° F
- Used with RF option and 687KIT

**572 - Key Fob**

- 1-1/2"w x 2-3/16"h x 9/16" d
- Two channel

**581**

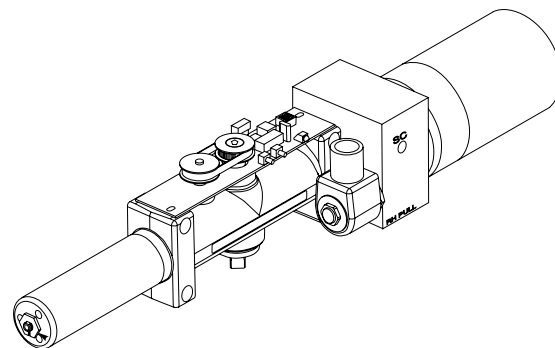
- 2-3/8"w x 4-3/16"h x 15/16" d
- Single channel

**582**

- 2-3/8"w x 4-3/16"h x 15-16" d
- Two channel

**Body Pump and Motor Assembly**

Model Number	Hand	Part Number
6910, 6950	Left	6910LAP-L
6920, 6930, 6960, 6970		6920LAP-L
6910, 6950	Right	6910LAP-R
6920, 6930, 6960, 6970		6920LAP-R

**Miscellaneous Parts**

Model Number	Description
6700M	Cover
6700DAP	Drop angle bracket
6600-F1	Fuse (PC Board) 1.5 Amps
6600-F2	Fuse (120V Input) 3 Amps

**Dummy Units**

Model Number	Part Number
6910	6910DMY
6920	6920DMY
6930	6930DMY
6950	6950DMY
6960	6960DMY
6970	6970DMY

**PARTS LIST**

**Arm and Track Assemblies**



**#6610-1** – Arm and Track Assembly  
**#7210-1A** – Arm Assembly  
**#6610-1T** – Track Assembly



**#6620-1** – Arm Assembly  
**#6620-1W** – Main Arm & Rod  
**#6620-12** – Adjusting Tube & Shoe



**#6630-1** – Arm Assembly  
**#6630-1W** – Main Arm & Rod  
**#6620-12** – Adjusting Tube & Shoe



Left hand shown

**#6650-1L** – Arm and Track Assembly (LH)  
**#6650-1R** – Arm and Track Assembly (RH)  
**#7250-1L** – Arm Assembly (LH)  
**#7250-1R** – Arm Assembly (RH)  
**#6610-1T** – Track Assembly



**#6660-1** – Arm Assembly  
**#6660-11** – Rod & Snubber Assembly



**#6670-1** – Arm Assembly  
**#6670-11** – Rod & Snubber Assembly

NOTES



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Vaughan, Ontario, L4K 4T9 Canada  
Tel: 1-800-461-3007  
Fax: 1-905-738-2478

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**Norton®**

ASSA ABLOY

# 7200 Series

## Electromechanical Closer/Holder Releasing Devices



ASSA ABLOY, the global leader  
in door opening solutions



## INTRODUCTION

The 7200 Series Electromechanical Closer/Holder combines the functions of an electromechanical door holder with the 7700 series door closer. The 7200 features a choice of two types of hold open functions:

**Selective Hold Open (Standard):** The door will hold open at any degree of opening beyond a pre-set hold open point, up to 175°, with a maximum allowable door opening of 180° (the exception is series 7250 which opens to 110°). Factory set at 80°, but is adjustable to virtually any degree of door opening desired.

**Infinite Hold Open:** The door will hold open at any degree of opening up to 175° with a maximum allowable door opening of 180° (the exception is series 7250 which opens to 110°). **Infinite Hold Open can be set in the field by turning the cam.**



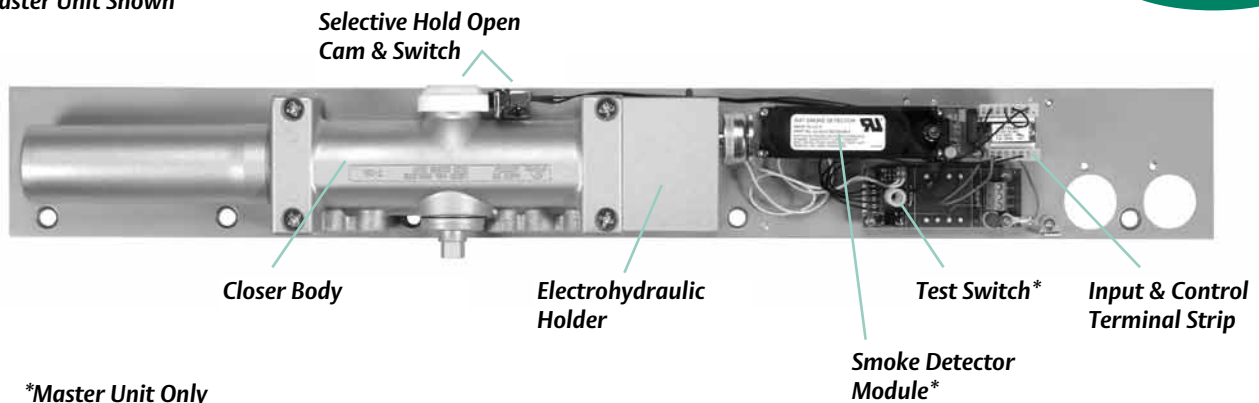
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# 7200 Electromechanical Closer/Holder

## OVERVIEW

Master Unit Shown



\*Master Unit Only

## BASIC UNITS

### Master Unit: 7200MPDO

Consists of a "Hook-Up Board" to receive the power input, an integral smoke detector module and a door closer assembly with internal electrohydraulic holder capability. A Master Unit can control a single door or one leaf of a pair of doors. A Slave Unit is required on the opposite door leaf.

### Support Unit: 7200MPO

Shorter in length than the Master and Slave Units, the Support Unit contains a "Hook-Up Board" to receive power input and a door closer assembly with internal electrohydraulic holder capability. This unit is intended to control single doors or a pair of doors where the building's alarm system monitors the power to the Support Unit.

### Slave Unit: 7200MPSO

Identical in size and appearance to a Master Unit, the Slave Unit consists of a "Hook-Up Board" to receive 24 volt DC power input from a Master Unit, and a door closer assembly with internal electrohydraulic holder capability. This unit is intended to control the inactive leaf of a pair of doors where the active leaf is controlled by a Master Unit.

### Executive™ Unit: RFS Suffix

Unit is identical in size and appearance to a Master Unit. The Executive Unit contains a "Hook-Up Board" to receive the power input, a 433MHz radio frequency receiver and a door closer assembly with internal electrohydraulic holder capability. Unit is intended to provide remote wireless release of a door that has been manually placed into the electrified hold open position. Not intended for use in life safety applications.

## SPECIFICATIONS

Closer for \_\_\_\_\_ doors shall be electromechanical (with integral smoke detector) and completely enclosed in a metal cover. Units shall be surface mounted to the frame face [on the pull (hinge side) on the push (opposite hinge side)] of the door [and shall project no more than 2-5/8" (67mm) from the surface of the frame]. (Closer shall be installed in the header of the frame, and the slide track mortised into the door's top rail). Closer unit shall be hydraulic, full rack and pinion type with a cast aluminum alloy shell. Hydraulic fluid shall be non-gumming and non-freezing. Closer unit shall have two non-critical valves to independently regulate closing and latch speed. It shall also have an adjustable backcheck with a hex-key. Closer unit shall have spring power adjustment to permit a 50% increase in closing power over the minimum closing force for any size. Electromechanical Closer shall have (Infinite) (Selective) Hold Open (Free Swing Operation) and shall be able to attain a maximum opening of 180° (with hold open to 175°). Unit to be fail safe and must close the door during any electrical power interruption to the unit. (Closer/Holder to be Executive Door Holder/Release with release actuated by battery operated hand-held controller). Unit(s) to operate on (\_\_\_\_ VAC, 60Hz) (\_\_\_\_ VDC) and will accept (surface) (concealed) wiring. Amperage draw shall not exceed (.086 Amps for 24VAC/DC) (.051 Amps for 120VAC) units. Supplier to coordinate electrical requirements with electrical and alarm system engineers. Wiring (and conduit) by others.

Electromechanical Units to be Norton® Series 7200 (Closer/Holder) (Free Swing Releasing Device), (Executive Door Holder/Release).

## FEATURES

**Aluminum Alloy Housing**

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interactive steel components and operating conditions.

**Rack & Pinion Operation**

Provides a smooth constant control of the door through its full opening and closing cycle.

**Spring Sizes**

Specify closer size 3, 4 or 5. Size 6 available with 7290 overhead concealed units.

**Sweep Speed Control Valve**

Allows adjustment of door speed from the door's full open position down to approximately 10° from the closed position.

**Latch Speed Control Valve**

Allows adjustment of door speed from approximately 10° down to the door's fully closed position.

**Adjustable Backcheck Cushioning**

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It slows/cushions the door opening, when the door is forcibly opened beyond its pre-adjusted limits.

**Adjustable Backcheck Position Valve**

Allows the door opening position, where backcheck cushioning begins, to be adjusted to a greater door angle, up to a maximum of 20° farther (approximately 95°).

**Handed**

Specify right or left hand when ordering.

**Selective Hold Open (Standard)**

The door will hold open at any degree of opening beyond a pre-set hold open point, up to 175°, with a maximum allowable door opening of 180° (exception series 7250 at 110°). Factory set at 80°, but is adjustable to virtually any degree of door opening desired.

**Infinite Hold Open**

The door will hold open at any degree of opening up to 175°, with a maximum allowable door opening of 180° (exception series 7250 at 110°). Can be set in the field by turning cam.

**Fail Safe**

In the event of a power failure, the solenoid will de-energize and the closer/holder will then operate as a normal door closer.

**Wiring Option**

All 7200 Series Electromechanical Closer/Holder will accommodate either concealed or surface wiring.

**Selective Hold Open Switch and Cam:**

The Selective Hold Open starting point is determined by a switch and adjustment cam assembly. The cam is attached to the upper pinion shaft by means of a machine screw. As the door is opened, the pinion shaft will rotate the cam and operate the switch to the "on" position to initiate hold open. When the door is closed, the pinion cam will operate the switch to the "off" position. The cam is factory set to operate at 80° of door opening. The cam can be easily field adjusted to operate at virtually any degree of door opening.

UNITS WITH  
DETECTORS**Fire/Smoke Control Circuit:**

Interprets the signal from the detector and provides switching contacts to interrupt hold open solenoid, to sound alarms, etc.

**Alarm (Relay) Contacts:**

Normally open in standby condition (operating and sensing for smoke condition). These contacts close during an alarm condition (smoke detected) and may be used to switch power from the solenoid to an optional local alarm.

**Trouble (Relay) Contacts:**

Normally closed in standby condition, these supervisory contacts monitor the continuity of power within the detector circuit. Any power interruption within the detector circuit will open these contacts. They can then be used to simultaneously indicate a Trouble Condition to the Alarm Panel on a separate trouble circuit.

**Locked-In Alarm:**

The unit which alarms must be manually reset. This can be accomplished by remote control from the alarm system panel or by the reset switch in the smoke detector module. Reset switch is accessible through the center louver in the cover. Reset by rotating LED chambers using small flat blade screwdriver.

**Indicator Lights:**

Normal Mode: A red LED flashes once every eight (8) seconds.  
Clean Mode: A red LED flashes once every second.  
Alarm Mode: A red LED illuminates continuously.

**Test Switch:**

Permits door to be released from hold open without causing a "trouble condition" at the alarm panel. Allows for periodic testing of the automatic door release function.

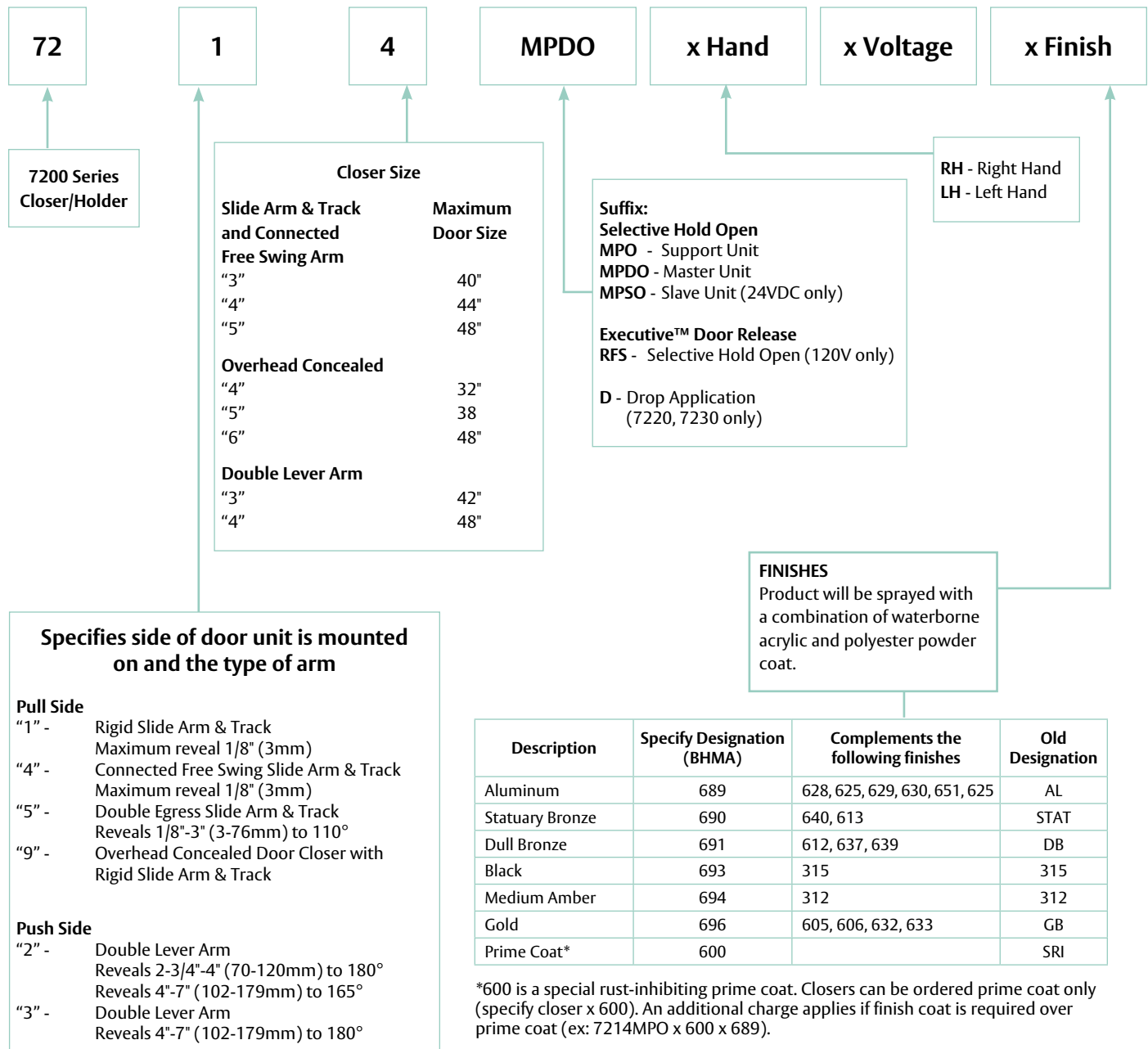


# 7200 Electromechanical Closer/Holder

COMPLIANCE  
STANDARDS

7200 Series is ANSI/BHMA A156.15 certified. **BHMA**  
CERTIFIED  
Electromechanical Closer/Holder are listed by Underwriters Laboratories for labeled fire doors. The product is manufactured in an ISO 9001 facility.

## HOW TO ORDER



MASTER  
UNITS

## 7210/7250

- Surface mounted to the pull (hinge) side frame face
- Slide track mounts directly to door
- Minimum 4" ceiling clearance required
- 1/8" (3mm) – standard frame reveal. For deeper reveals, a special slide arm is required (see chart on page 7).
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open
- Buffer block assembly in the track will accommodate doors opening to 125°
- Auxiliary door stop is required for doors opening beyond 125°
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring



7210MPDO Shown

## Single Doors:

• **Master Units with Integral Smoke Detector:**

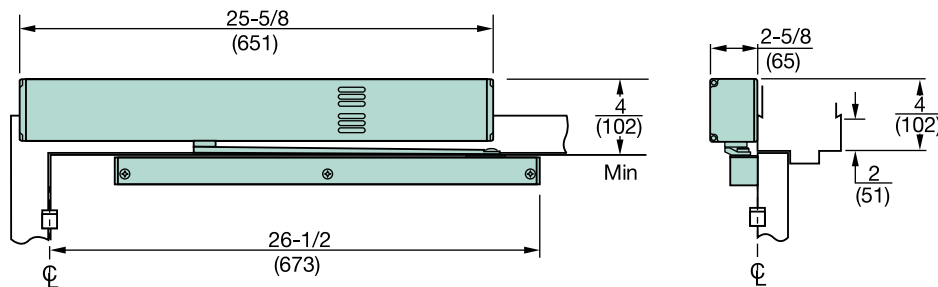
Both Series 7210MPDO or 7250MPDO are self-contained and can be installed to control a single door.

• **Executive™ Door Holder/Release:**

Both Series 7210RFS or 7250RFS are self-contained and can be installed to control a single door.

## Pair of Doors:

- **Master Unit x Slave Unit:** Smoke Detector in the Master Unit controls the Closer/Holder solenoid in both the Master Unit and the Slave Unit.

TECHNICAL  
DETAILS

# 7200 Electromechanical Closer/Holder

## DOOR SIZE

Maximum Door Size	Model Number	
	Standard Reveal (to 1/8" (3mm) reveal)	Deep Reveal (see note below)
	Selective Hold Open	
40" (102cm)	7213MPDO	7253MPDO
44" (112cm)	7214MPDO	7254MPDO
48" (122cm)	7215MPDO	7255MPDO

Minimum door size = 28" (71cm)

Note: **Deep Reveals**

- Special slide arm is available for reveals in excess of 1/8" (3mm) up to 3" (76mm) 7250MPDO series
- 110° maximum door swing

Contact factory if door weight exceeds 250 lbs.

## ELECTRICAL DATA

Master Units							
Model Number	Suffix	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw			(Can be) Used with Slave Unit
				Smoke Detector		Solenoid Coil	
				Standby	Alarm		
7210 7250	MPDO	24VDC	1	.016@ 24VDC	.035@ 24VDC	.070@ 24VDC	7210MPSO-24 7250MPSO-24
		120VAC					

\*Max/Min Operating Voltage Parameters +10% / -15%

Executive™ Door Holder Release			
Model Number	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw
			Solenoid Coil
7210RFS	120VAC	1	.070@ 24VDC
	24VDC		

\*Max/Min Operating Voltage Parameters +10% / -15%

## SLAVE UNITS

### 7210/7250

- Surface mounted to the pull (hinge) side frame face
- Slide track mounts directly to door
- Minimum 4" ceiling clearance required
- 1/8" (3mm) – standard frame reveal. For deeper reveals, a special slide arm is required (see below).
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open (110° maximum for 7250 series).
- Buffer block assembly in the track will accommodate doors opening to 125°
- Auxiliary door stop is required for doors opening beyond 125°
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring

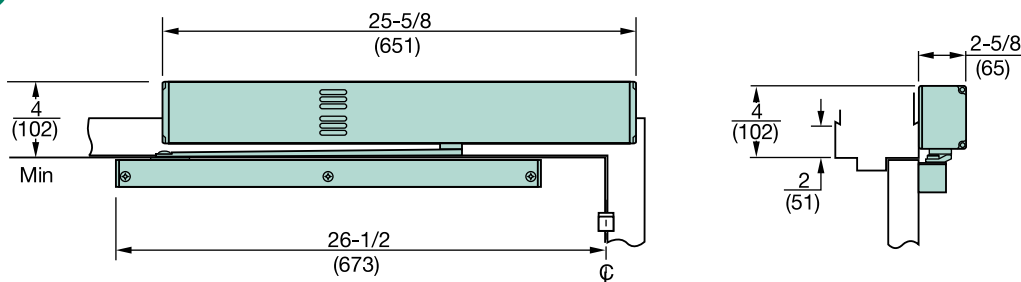


7250MPSO Shown

### Pairs of Doors:

- **Master Unit x Slave Unit:** Smoke Detector in the Master Unit controls the Closer/Holder solenoid in both the Master Unit and the Slave Unit.

## TECHNICAL DETAILS



Maximum Door Size (cm)	Model Number	
	Standard Reveal (to 1/8" (3mm) reveal)	Deep Reveal (see note)
	Selective Hold Open	
40" (102)	7213MPSO	7253MPSO
44" (112)	7214MPSO	7254MPSO
48" (122)	7215MPSO	7255MPSO

### Note: Deep Reveals

- Special slide arm is available for reveals in excess of 1/8" (3mm) up to 3" (76mm), 7250MPSO series
- 110° maximum door swing

Contact factory if door weight exceeds 250 lbs.

## ELECTRICAL DATA

Series Number	Suffix	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw	(Can be) Used with Master Unit
				Solenoid Coil	
7210	MPSO	24VDC (only)	1	.070@ 24VDC	7210MPDO-24 7250MPDO-24
7250		24VDC supplied from Master Unit			7210MPDO-120 7250MPDO-120

\*Max/Min Operating Voltage Parameters +10% / -15%

# 7200 Electromechanical Closer/Holder

## MASTER UNITS

### 7220/7230

- Surface mounted to the push (stop) frame face
- Double lever arm mounts directly to the door
- Minimum 3-1/2" (89mm) ceiling clearance required
- Where ceiling clearance is between 2" and 3-1/2" (51 and 89mm), the 7299 backplate for the Series 7220 or Series 7230 can be inverted to allow for a drop plate application. Use of 7299 is recommended to conceal the exposed mounting holes on the standard back plate. Different mounting dimensions are required for drop application.
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring



7220MPDO Shown

#### Single Doors:

##### • Master Units with Integral Smoke Detector:

Both Series 7220MPDO, 7230MPDO are self-contained and can be installed to control a single door.

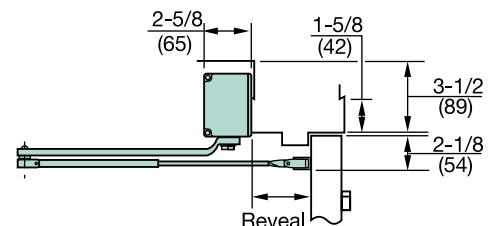
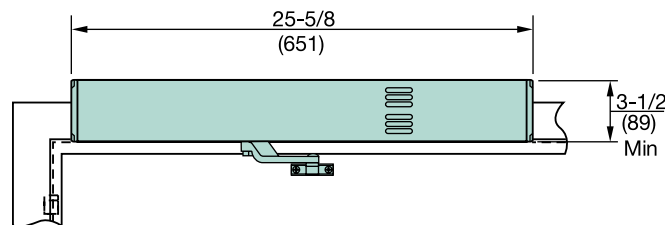
##### • Executive™ Door Holder/Release:

Both Series 7220RFS, 7230RFS are self-contained and can be installed to control a single door.

#### Pairs of Doors:

- **Master Unit x Slave Unit:** Smoke Detector in the Master Unit controls the Closer/Holder in both the Master Unit and the Slave Unit.

## TECHNICAL DETAILS



## DOOR SIZE

Maximum Door Size (cm)	Model Number		Maximum Degree of Opening	Reveal Range (Inches/mm)
	Closer/Holder	Executive™ Door/Release		
	Selective Hold Open			
42" (107)	7223MPDO	7223RFS	180°	2-3/4" - 4" (70-102)
			165°	4"-7" (102-178)
	7233MPDO	7233RFS	180°	
48" (122)	7224MPDO	7224RFS	180°	2-3/4" - 4" (70-102)
			165°	4"-7" (102-178)
	7234MPDO	7234RFS	180°	

Note: Contact factory if door weight exceeds 250 lbs.

## ELECTRICAL DATA

Master Units							
Series Number	Suffix	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw			(Can be) Used with Master Unit
				Smoke Detector		Solenoid Coil	
				Standby	Alarm		
7220 7230	MPDO	24VAC/DC	1	.016@ 24VDC	.035@ 24VDC	.070@ 24VDC	7220MPSO 7230MPSO
		120VAC					

\*Max/Min Operating Voltage Parameters +10% / -15%

Executive™ Door Holder Release			
Series Number	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw
			Solenoid Coil
7220RFS 7230RFS	120VAC	1	.070@ 24VDC
	24VDC		

\*Max/Min Operating Voltage Parameters +10% / -15%

# 7200 Electromechanical Closer/Holder

SLAVE  
UNITS

## 7220/7230

- Surface mounted to the push (stop) frame face
- Double lever arm mounts directly to the door
- Minimum 3-1/2" (89mm) ceiling clearance required
- Where ceiling clearance is between 2" and 3-1/2" (51 and 89mm), the standard backplate for the 7220 or 7230 can be inverted to allow for a drop application. Use of a 7299 decorative backplate is recommended to conceal the exposed mounting holes on the standard backplate. Different mounting dimensions are required for the drop application.
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring

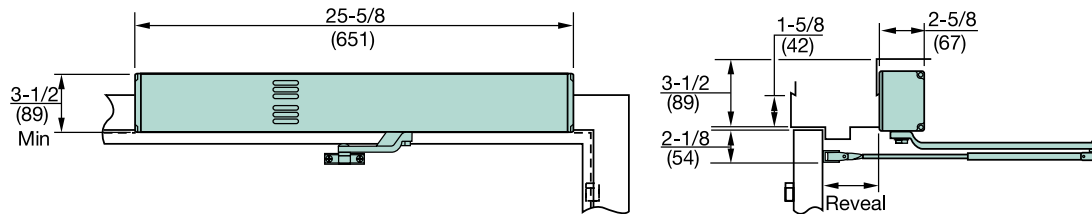
### Pairs of Doors:

- **Master Unit x Slave Unit:** Smoke Detector in the Master Unit controls the Closer/Holder in both the Master Unit and the Slave Unit.



7220MPSO Shown

TECHNICAL  
DETAILS



DOOR  
SIZE

Maximum Door Size (cm)	Model Number	Maximum Degree of Opening	Reveal Range (Inches/mm)
	Selective Hold Open		
42" (107)	7223MPSO	180°	2-3/4" - 4" (70-102)
	7233MPSO	165°	4"-7" (102-178)
48" (122)	7224MPSO	180°	2-3/4" - 4" (70-102)
	7234MPSO	165°	4"-7" (102-178)
	7234MPSO	180°	

Note: Contact factory if door weight exceeds 250 lbs.

ELECTRICAL  
DATA

Model Number	Suffix	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw	(Can be) Used with Master Unit
				Solenoid Coil	
7220	MPSO	24VDC (only)	1	.070@ 24VDC	7220MPDO-24 7230MPDO-24
7230		24VDC Supplied from Master Unit			7220MPDO-120 7230MPDO-120

\*Max/Min Operating Voltage Parameters +10% / -15%

## SUPPORT UNITS

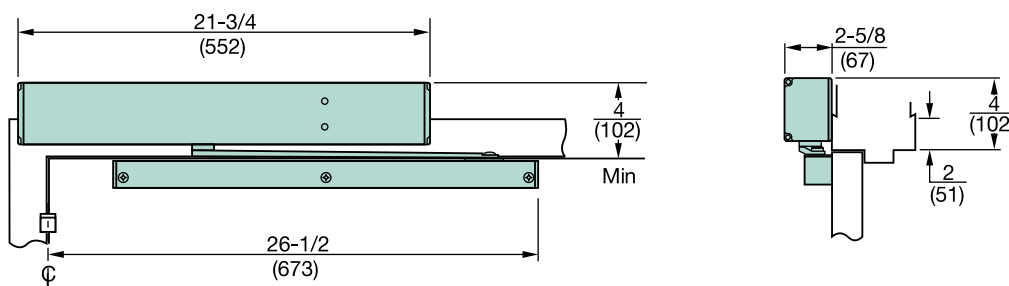
### 7210/7250

- Controlled remotely by area/ceiling detectors
- Surface mounted to the pull (hinge) side frame face
- Slide track mounts directly to door
- Minimum 4" ceiling clearance required
- 1/8" (3mm) – maximum frame reveal
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open (110° maximum for 7250 series).
- Buffer block assembly in the track will accommodate doors opening to 125°
- Auxiliary door stop is required for doors opening beyond 125°
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring



7210MPO Shown

## TECHNICAL DETAILS



## DOOR SIZE

Maximum Door Size (cm)	Model Number	Model Number - Deep Reveal
	Selective Hold Open	
40" (102)	7213MPO	7253MPO
44" (112)	7214MPO	7254MPO
48" (122)	7215MPO	7255MPO

Note: Contact factory if door weight exceeds 250 lbs.

**Minimum door size = 28" (71 cm)**

### Deep Reveals

- Special slide arm is available for reveals in excess of 1/8" (3mm) up to 3" (76mm)
- 7250MPO Series
- 110° maximum door swing

## ELECTRICAL DATA

Series Number	Suffix	Operating Voltage (Input)	No. Power Input Lines* (Pairs)	Amperage Draw	(Can be) Used with Master Unit
				Solenoid Coil	
7210	MPO	24VAC/DC	1	.070@ 24VAC/DC	Compatible Smoke Detection Equipment
7250		120VAC		.035@ 120VAC	

\*Max/Min Operating Voltage Parameters +10% / -15%



# 7200 Electromechanical Closer/Holder

**Norton**

ASSA ABLOY

SUPPORT  
UNITS

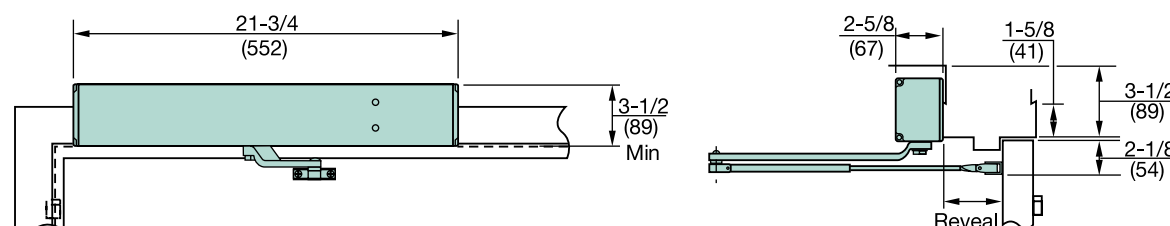
## 7220/7230

- Controlled remotely by area/ceiling detectors
- Surface mounted to the push (stop) frame face
- Double lever arm mounts directly to the door
- Minimum 3-1/2" (89mm) ceiling clearance required
- Where ceiling clearance is between 2" and 3-1/2" (51 and 89mm), the standard backplate for the Series 7220 or Series 7230 can be inverted to allow for a drop plate application. 7298 decorative backplate is recommended. Different mounting dimensions are required for drop application.
- Handed
- Standard units accommodate doors opening 180°; maximum 175° hold open
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Fail Safe – solenoid will de-energize in the event of power failure
- Accommodates either concealed or surface wiring



7220MPSO Shown

TECHNICAL  
DETAILS



DOOR  
SIZE

Maximum Door Size (cm)	Model Number	Maximum Degree of Opening	Reveal Range (Inches/mm)
	Selective Hold Open		
42" (107)	7223MPO	180°	2-3/4" - 4" (70-102)
	7233MPO	180°	4" - 7" (102-178)
48" (122)	7224MPO	180°	2-3/4" - 4" (70-102)
	7234MPO	180°	4" - 7" (102-178)

Note: Contact factory if door weight exceeds 250 lbs.

ELECTRICAL  
DATA

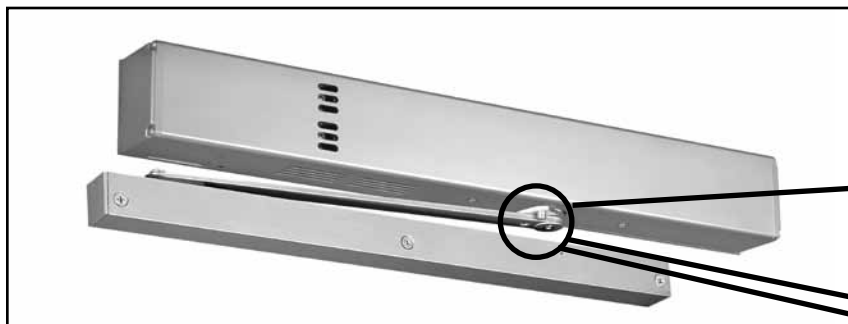
Series Number	Suffix	Operating Voltage (Input)	Number Power Input Lines* (Pairs)	Amperage Draw	(Can be) Used with Master Unit
				Solenoid Coil	
7220 7230	MPO	24VAC/DC	1	.070@ 24VAC/DC	Compatible Smoke Detection Equipment
		120VAC		.035@ 120VAC	

\*Max/Min Operating Voltage Parameters +10% / -15%

7200 - 13

7240

## Connected Free Swing Arm



Door open



As the door is opened, the rigid slide arm rotates the arm driver and the pinion shaft of the closer mechanism.

Door free swing



When the door has been opened and released, the unit's electrically controlled plunger valve will hold the pinion shaft and arm driver at that degree of door opening. The door is then free to swing unhindered.

Door close



After Fire/Smoke detection alarm or any power interruption to the control, the pinion shaft and arm driver are released to close the door.

The connected free swing arm assembly provides the convenient automatic closing fire door protection for health care facilities or other locations where it is desired to neutralize the effort required to open or close a door. With no spring force on the door during the normal operation, patients, the handicapped and/or staff find the door easy to open, close or leave ajar.

### Functions:

- Arm driver connected to the closer pinion drives the pinion when the door is opened and the slide arm rotates.
- When unit is energized the pinion and arm driver remain at the point where door was initially opened.
- Arm is connected to the pinion but is free to pivot.
- The door is free to open, close or be set at any degree of opening.
- When there is a Fire/Smoke alarm or any power interruption, the hold open control valve is released, and door closes.
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.

### UL Listed:

7200 Series with Connected Free Swing arm is UL listed as a releasing device for Fire/Smoke Barrier doors.

Maximum Door Size (cm)	Model Numbers			
	Master	Slave	Support	Executive™ Door Release
	Selective Hold Open			
40" (102)	7243MPDO	7243MPSO	7243MPO	7243RFS
44" (112)	7244MPDO	7244MPSO	7244MPO	7244RFS
48" (122)	7245MPDO	7245MPSO	7245MPO	7245RFS

### Specify voltage and hand of door when ordering

Note: Contact factory if door weight exceeds 250 lbs.

# 7200 Electromechanical Closer/Holder

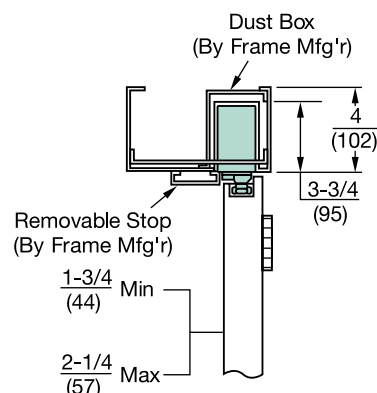
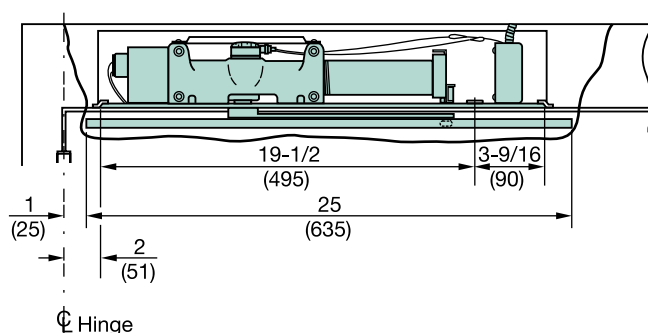
7290

## Overhead Concealed Support Unit Controlled Remotely by Area/Ceiling Detectors



- Handed
- Unit concealed in the header of the frame
- Installation requires a 4" (102mm) high frame header
- A 2" x 4" (51 x 102mm) dust/grout box and a removable frame stop (**provided by the door and frame supplier**) are required.
- Slide track is mortised in the door's top rail
- Standard units accommodate doors opening 180°; maximum 175° hold open
- Buffer block assembly in the track will accommodate doors opening to 125°
- Auxiliary door stop is required for doors opening beyond 125°
- Units shipped Selective Hold Open; Infinite Hold Open can be set in the field.
- Intended for use with compatible UL listed ceiling alarm detection equipment.
- Fail Safe – solenoid will de-energize in the event of power failure

### TECHNICAL DETAILS



### DOOR SIZE

Maximum Door Size (cm)	Selective Hold Open
32" (81)	7294MPS
38" (97)	7295MPS
48" (122)	7296MPS

Note: Contact factory if door weight exceeds 250 lbs.

### ELECTRICAL DATA

Support Unit				
Model Number	Suffix	Number power Input Lines* (pairs)	Operating Voltage (input)	Amperage Draw Solenoid Coil (ampreses)
7290	MPS	1	24VAC/DC	.070@ 24VAC/DC
			120VAC	.035@ 120VAC

\*Max/Min Operating Voltage Parameters +10% / -15%

## CLOSER BODIES

Description	Hold Open	Voltage	Hand	Part Number
7200 Closer Body	Selective	24V	Left	720XLAPS24L
			Right	720XLAPS24R

## ARM &amp; TRACK ASSEMBLIES

Description	For Series	Part Number
Slide Track Assembly	7210, 7240, 7250	7200-1T
Slide Arm	7210	7210-1A
Connected Free Swing Arm	7240	7240-1A
Double Egress Arm - Right Hand	7250	7250-1R
Double Egress Arm - Left Hand		7250-1L
Double Lever Arm	7220	7701-1A
Double Lever Arm	7230	7701-1B
Arm Assembly NHO - Right Hand	7290	7950-1R
Arm Assembly NHO - Left Hand		7950-1L
Track Assembly NHO		7950ST

## 7200 Electromechanical Closer/Holder

### TRACK & ARM PARTS

Description	Part Number
End Caps (2 required)	7700STEC
Slider Assembly (part of slide track assy.)	7700SLD
Slider Arm Stud Clip (part of slider assy.)	7700ASC
Cushion Block (part of slide track assy.)	7200CB
Arm Stud	7700AS
Arm Stud Retaining Ring	7700ASR
Screw Pack for CFS Arm*	7240SP

\* Includes arm driver, spaces, arm driver pins and main arm screw

### HOOK-UP BOARDS

Description	Voltage	Part Number
Master (MPDO), Support (MPO) or Slave (MPSO)	24V	MPOPCB24
Master (MPDO) or Support (MPO)	120V	MPOPCB120

### MISCELLANEOUS PARTS

Description	Part Number
Smoke Detector Board	MPDOSD24
Fuse	PTO125V
Short Cover (Support Unit)	MPOCOV
Long Cover (Master or Slave Units)	MPDOCOV
Selective Hold Open Switch Assembly 24V	SHOK
Switch 24V	SHO
Ionization Smoke Detector Kit, 120V	MPDKIT120
Ionization Smoke Detector Kit, 24V	MPDKIT24



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## 7200 Electromechanical Closer/Holder

NOTES



NOTES



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**For a complete listing of products and applications please visit our web site.**

**[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)**

**[www.assaabloy.ca](http://www.assaabloy.ca)**

**Or contact us at:**

**Norton Door Controls**

3000 Highway 74 East

Monroe, NC 28112

Tel: 877-974-2255

Fax: 800-338-0965

**ASSA ABLOY Door Security Solutions Canada**

160 Four Valley Drive

Vaughan, Ontario, L4K 4T9 Canada

Tel: 800-461-3007

Fax: 905-738-2478

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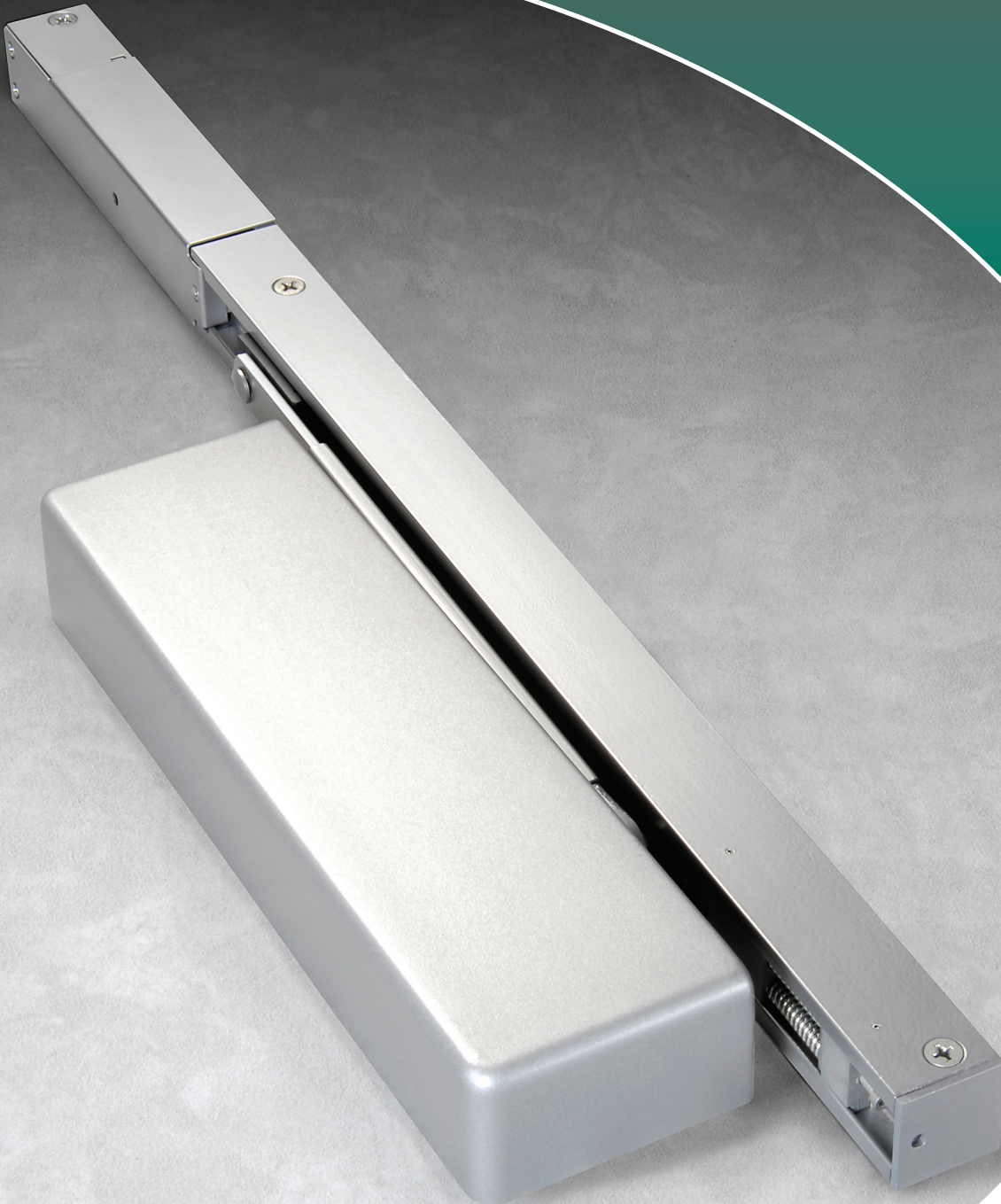
ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.



**Norton®**

ASSA ABLOY

# 7700 Series Power Track® Electromechanical Closer-Holder



ASSA ABLOY, the global leader  
in door opening solutions

**INTRODUCTION**

The Norton Power Track® Closer-Holders combine the functions of a single point electromechanical door holder with the proven reliability of a 7700 Series Door Closer. The track assembly contains an arm slide and solenoid operated hold open mechanism and is available with or without an integral smoke detector. The closer is mounted on the door. The *Power Track* and hook-up box are mounted to the frame face for pull side installations or the frame soffit for push side installations.

The *Power Track* is an aluminum extrusion which incorporates a solenoid actuated cam that locks the arm slide in the track at a selected point. The degree of door hold open is selected by adjustment of the telescoping arm. When there is power to the unit, the door will hold open at the selected hold open point. Any power interruption will release the arm slide and the door will close. The door can be released manually at any time.



**FUNCTIONS**

**Master Unit**

- Unit comprised of integral smoke detector and solenoid hold open mechanism in the slide track, a hook-up box and door closer.
- Can be used to control a single door or a pair of doors in conjunction with a 24VDC Support Unit.
- **Suffix “PTDO” to model number.**

**Support Unit**

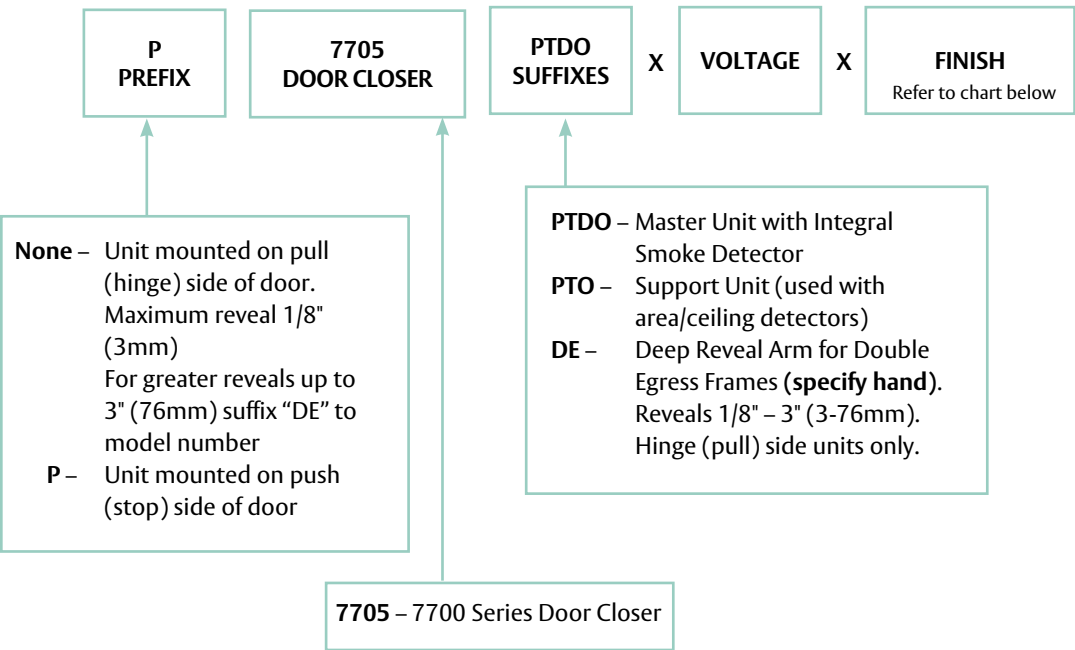
- Unit is comprised of a solenoid hold open mechanism in the slide track, hook-up box and a door closer.
- Units can be installed on a single door or a pair of doors when controlled by compatible UL listed detection equipment such as area ceiling detectors, pull stations, and remote alarm panels.

- A 24VDC Support Unit can also serve as a slave unit when used on the inactive leaf of a pair of doors. The active leaf of the pair of doors must be controlled by a Master Unit.
- **Suffix “PTO” to model number.**

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HOW TO ORDER



FINISHES

Sprayed Finishes			
Description	Specify Designation	Complements the following finishes	Old Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613, 695	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB
Prime Coat*	600		SRI

Product will be painted with a combination of waterborne acrylic and polyester powder coat.

\*600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 7705PTO x 600 x 689).

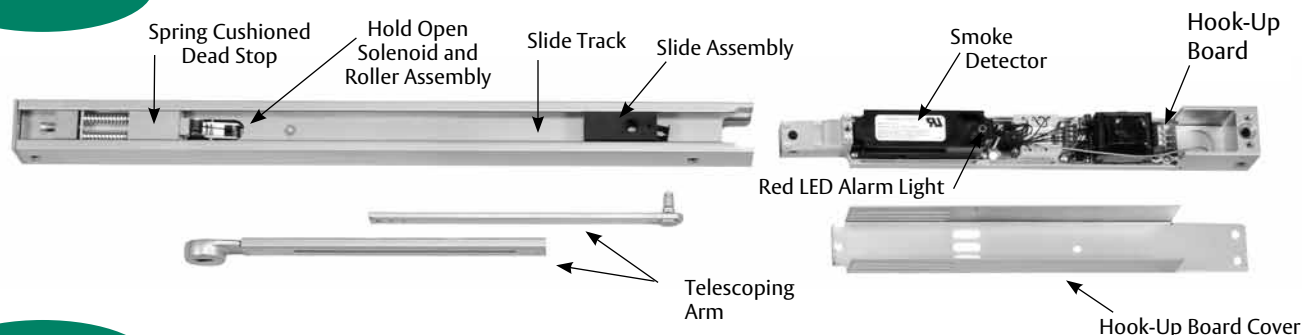
Finishes other than those listed above may be available on special order. Sample chips will be required.

COMPLIANCE STANDARDS

Power Track® is ANSI/BHMA A156.15 certified. **BHMA** Power Track is listed by Underwriters Laboratories for labeled fire doors. The product is manufactured in an ISO 9001 facility.

California State Fire Marshal Listings: 03550-0944:101, 03550-0944:102

## OVERVIEW



## STANDARD FEATURES

### Selective Single-Point Hold Open:

The Power Track® has one template position. The single-point hold open position is selected by adjusting the telescoping arm with a hex drive set screw. Hold open range is 85° thru 110° in approximately 3° increments.

### Non-Handed:

Units are non-handed except when ordered with "DE" Double Egress arms.

### Choice of Push or Pull Side Installation:

No prefix indicates pull side application. Prefix "P" for push side installation.

### Choice of Supply Voltage:

Available in 24VAC/DC or 120VAC, 60Hz. Power to these devices must be within a range of (+) 10% (-) 15% of the stated voltage.

### Fail Safe:

In the event of a power outage, the *Power Track* solenoid will be de-energized and the closer/holder will then operate as a normal door closer.

### Wiring Option:

Both pull and push side applications will accommodate either concealed or surface wiring. The hook-up box will accept 3/4" (19mm) conduit. Each *Power Track* is supplied with a thin-walled conduit nut to attach the conduit clamp. The hook-up box base is prepared for surface wiring. State and local building codes will dictate the type of wiring.

### Spring Cushioned Dead Stop:

A spring-loaded buffer block at the point of hold open prevents over travel of the arm slide and provides a cushioned dead stop. Use of an additional wall or floor stop is always recommended.

## FEATURES - SMOKE DETECTOR

### Photoelectric Sensing

Detector employs a photoelectric chamber to substantially reduce the probability of false alarms.

### Fire/Smoke Control Circuit

Interprets the alarm signal from the detector and provides switching contacts to interrupt power to the hold open solenoid and divert it to activate optional audio/visual alarms.

### Alarm (Relay) Contacts

Normally open in standby condition (energized, non-alarm state). These contacts close during an alarm condition (smoke detected) and switch power from the solenoid to an optional local alarm.

### Trouble (Relay) Contacts

Normally closed in standby condition, these supervisory contacts monitor the continuity of power within the detector circuit. Any power interruption within the detector circuit will open these contacts. They can then be used to simultaneously indicate a trouble condition to the alarm panel on a separate trouble circuit.

### Quick Disconnect Modules

Each component, solenoid coil, detector and control feature quick disconnect wiring for easy servicing and replacement.

### Locked-In Alarm

When a unit alarms, it must be manually reset. This can be accomplished by remote control from the alarm console or by the reset button in the smoke detector. Reset button is accessible through the center louver in the underside of the track. Reset by rotating LED chamber using small flat blade screwdriver.

### Indicator Lights

Normal Mode: A red LED flashes once every eight (8) seconds.  
Clean Mode: A red LED flashes once every second.  
Alarm Mode: A red LED illuminates continuously.



Type of Unit	Model	# of Power Input Lines	Choices of Voltage Input	Can be used with
Master	PTDO-24	1	24 VAC/DC	24V Support Model PTO
	PTDO-120		120 VAC, 60 Hz	
Support	PTO-24	1	24 VAC/DC	Area Smoke Detection System
	PTO-120		120 VAC, 60Hz	

Operating voltage for the control of fire/smoke doors are specified by the architect, electrical engineer and alarm system engineer and/or contractor. Consulting with these sources will verify which operating voltage should be ordered.

#### “PTDO” Master Units

- Two components require electrical power:
  - Integral smoke detector requires 24VDC input power.
  - Hold open solenoid requires 24VDC input.
- Hook-up box receives primary voltage input and distributes it to the smoke detector and hold open solenoid(s).
- Available with two voltage options:
  - **PTDO-24** suffix –
    - Accepts 24VAC or 24VDC power input.
    - A rectifier in the hook-up box will rectify alternating current to direct current for operation of both the smoke detector and hold open solenoid(s).
  - **PTDO-120** suffix –
    - Accepts 120VAC power input.
    - A 120VAC to 24VAC transformer in the hook-up box steps the input voltage down to 24VAC. It is then rectified to 24VDC for operation of both the smoke detector and the 24VDC hold open solenoid(s).

#### “PTO” Support Units

- Hold open solenoid requires electrical power.
- Solenoid controlled by smoke detection equipment (ceiling detectors) or remote alarm panels.
- Available for operation on 24VAC/DC or 120VAC, 60Hz.
- Hold open solenoid operates on direct current.
- Contains built-in rectifier that converts alternating current to direct current.

**7705  
POWER TRACK®**

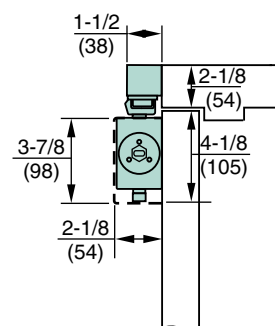
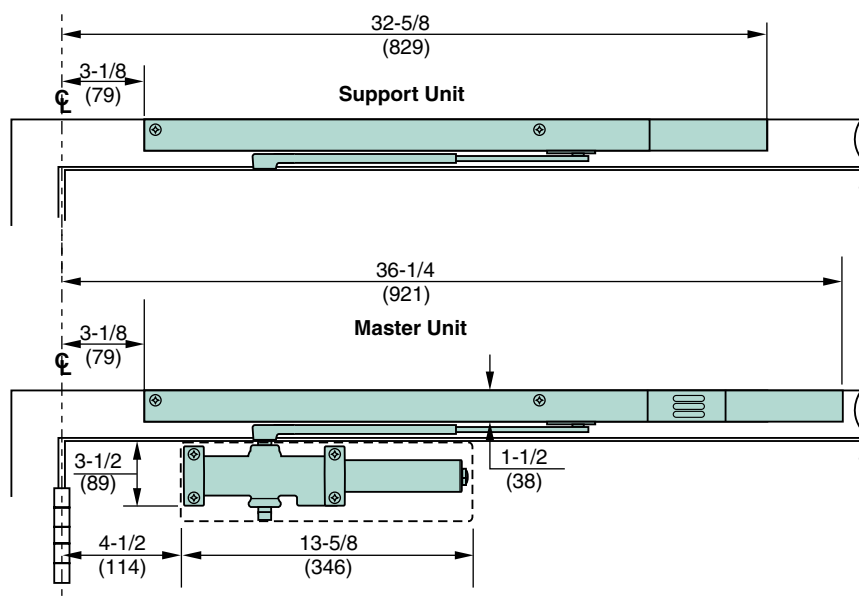
**PULL (HINGE) SIDE MOUNTING**



7705PTDO Shown

Model #	Description
<b>7705PTDO</b>	Master Unit Controlled by Integral Smoke Detector
<b>7705PTO</b>	Support Unit Controlled by Remote Detection Equipment

**TECHNICAL  
DETAILS**



Minimum Top Rail	
Without Drop Plate	With 7786 Drop Plate
3-1/2" (89mm)	1-7/8" (48mm)

2-1/8" (54mm) minimum ceiling clearance required for Power Track.

**DOOR SIZE**

	Door(s) Opening Inches (cm)		Model Number & Type
	Max.*	Min.**	
Single Door	48" (122)	36" (91)	(1) 7705PTDO Master Unit
	48" (122)	32" (81)	(1) 7705PTO Support Unit
Pairs of Doors	96" (244)	68" (173)	(1) 7705PTDO Master Unit and (1) 7705PTO Support Unit
	96" (244)	64" (163)	(2) 7705PTO Support Units (controlled by remote detection equipment)

\* Maximum door size for door closer power.

\*\* Minimum door opening for standard installation. Consult factory for door openings narrower than those shown. Consult factory if door weight exceeds 250 lbs.

**Double Egress Doors:** With reveals greater than 1/8" (3mm); a special handed arm for the pull (hinge) side Power Track is available. Accommodates reveals to 3" (76mm). Suffix "DE" to model number; specify hand.

Push (Stop) Side Mounting

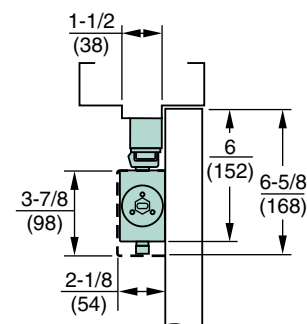
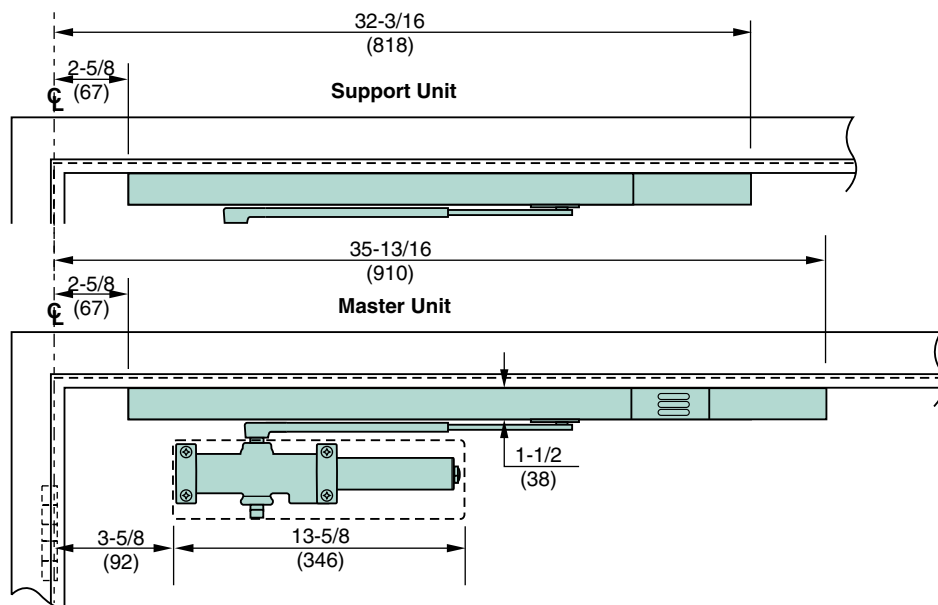
Model #	Description
P7705PTDO	Master Unit Controlled by Integral Smoke Detector
P7705PTO	Support Unit Controlled by Remote Detection Equipment

**NOTE:** Interference with other hardware such as vertical rod exit devices, magnetic locks, and door coordinators, etc., must be considered when selecting this product.



P7705PTO Shown

**TECHNICAL  
DETAILS**



Minimum Top Rail	
Without Drop Plate	With 7788 Drop Plate
6" (152mm)	2-3/4" (70mm)

1-1/2" (38mm) minimum frame soffit required for Power Track.

**DOOR SIZE**

	Door(s) Opening Inches (cm)		Model Number & Type
	Max.*	Min.**	
Single Door	48" (122)	36" (91)	(1) P7705PTDO Master Unit
	48" (122)	33" (84)	(1) P7705PTO Support Unit
Pairs of Doors	96" (244)	68" (173)	(1) P7705PTDO Master Unit and (1) P7705PTO Support Unit
	96" (244)	64" (163)	(2) P7705PTO Support Units

\* Maximum door size for door closer power.

\*\* Minimum door opening for standard installation. Consult factory for door openings narrower than those shown.

Consult factory if door weight exceeds 250 lbs.

**ELECTRICAL  
INFORMATION**

	Model Number	No. Power Input Lines* (Pairs)	Operating Voltage	Amperage Draw		
				Smoke Detector		Solenoid Coil
				Standby	Alarm	
Master	7705PTDO, P7705PTDO	1	24VAC/DC	.016 @ 24VDC	.035 @ 24VDC	.090 @ 24VDC
			120VAC, 60Hz			
Support	7705PTO, P7705PTO		24VAC/DC	N/A	N/A	.090 @ 24VDC
			120VAC, 60Hz			.018 @ 120VAC

\*Number of Input Lines (pairs) required to supply Operating Voltage.  
This does not include signal or control lines (pairs) to Alarm Panels.

**SUGGESTED  
SPECIFICATIONS**

Closers for \_\_\_\_\_ doors shall be electromechanical closer-holder. Hold open to be achieved by electric solenoid locking of closer arm slide in its track. Track, arm, slide (and) solenoid (and integral smoke detector) to be contained in a single aluminum extrusion 1-1/2" (38mm) high, 1-1/2" (38mm) deep.

Closer shall be door mounted. Track and hold open mechanism shall be surface mounted to the frame face for application on the pull side of the door and frame soffit mounted for application on the push side of the door. Single point hold open shall be selective through a range of 85° to 110°. Hold open point to be achieved by adjustment of a telescoping closer arm.

Closer shall be hydraulic with full rack and pinion enclosed in a cast aluminum alloy shell. Hydraulic fluid shall be non-gumming and non-freezing. Closer shall have two non-critical valves to independently regulate sweep speed and latch speed. It shall have an adjustable backcheck cushioning valve and an adjustable backcheck positioning valve. All valves shall be adjustable with a hex-key. (Closer shall have spring power adjustment to permit 50% increase in closing power.) Closer to be enclosed in a molded full cover.

(Master units to have an integral smoke detector with photoelectric chamber. Master units integral smoke detector shall have latching alarm and reset switch.) (Support units to be controlled by U.L. Listed Smoke Detection Equipment.) Units to be fail safe and close the door during an interruption to the electrical power. The hold open solenoid coil shall have a maximum amperage draw of (.090 Amps at 24 volts) (.018 Amps at 120 volts). Unit shall have a switch to permit testing of the releasing device function without alarming the system.

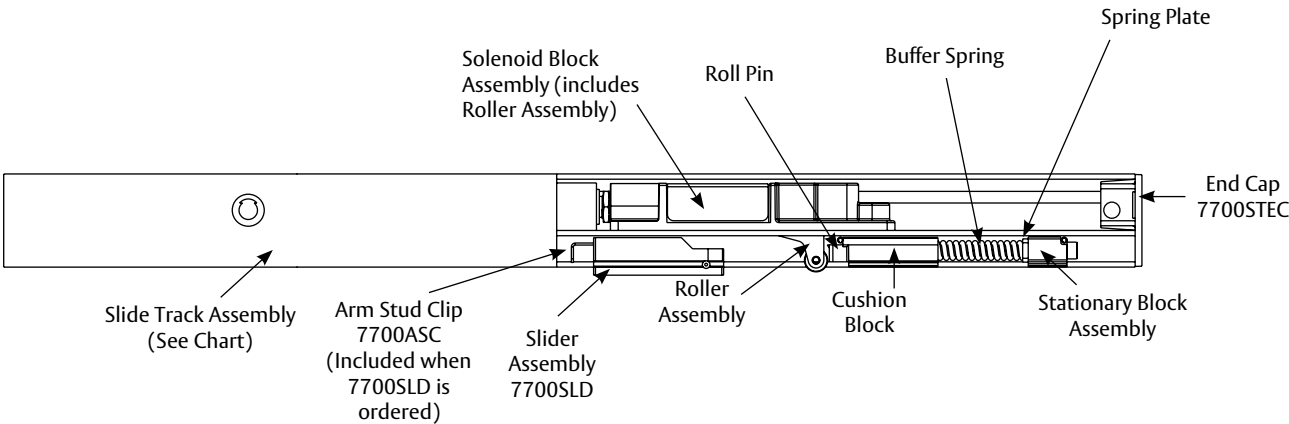
All wiring connections shall be made without the need of wire nuts or soldering. Master unit(s) shall require a (24VAC/DC) (120VAC, 60Hz) power input. Support unit(s) shall require a (24VAC/DC) (120, 60Hz) power input. Supplier to coordinate electrical requirements with electrical and alarm system engineers. Wiring (and conduit) by others. Electromechanical Closer-Holder to be Norton® Power Track® [(P)7700(PTO) (PTDO)].



TRACK  
ASSEMBLIES

Description	Voltage	Part Number^	
		Hinge Side	Stop Side
Master or Support	24V	PTO24	PPTO24

Master and Support Unit Track Assemblies include track, slider assembly and solenoid block assembly. Hook-up box not included.



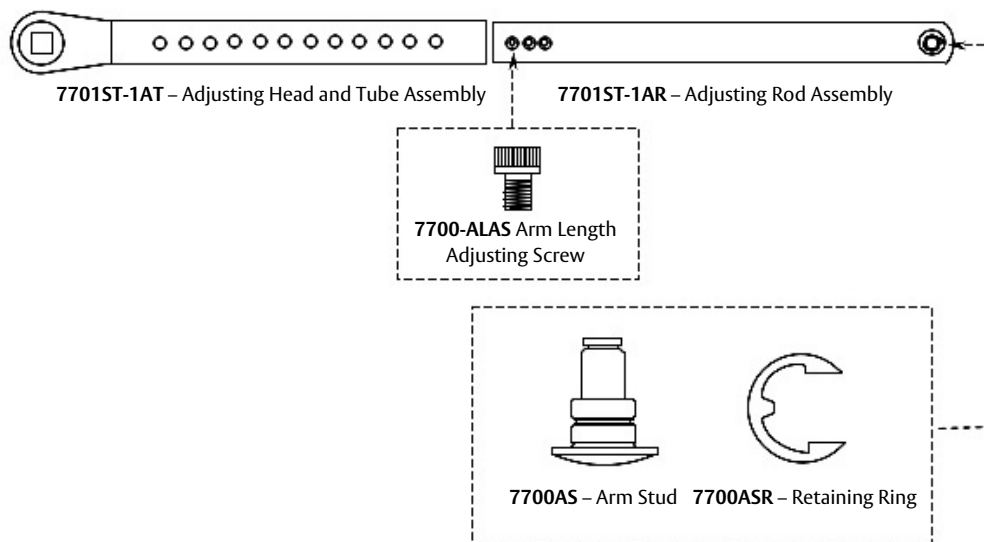
Hook-Up Box Cover Kit^	
Description	Part Number
Master	PTDOHBCOV
Support	PTOHBCOV

Hook-Up Boards^		
Description	Voltage	Part Number
Master or Support	24V	PTOPCB24
	120V	PTOPCB120

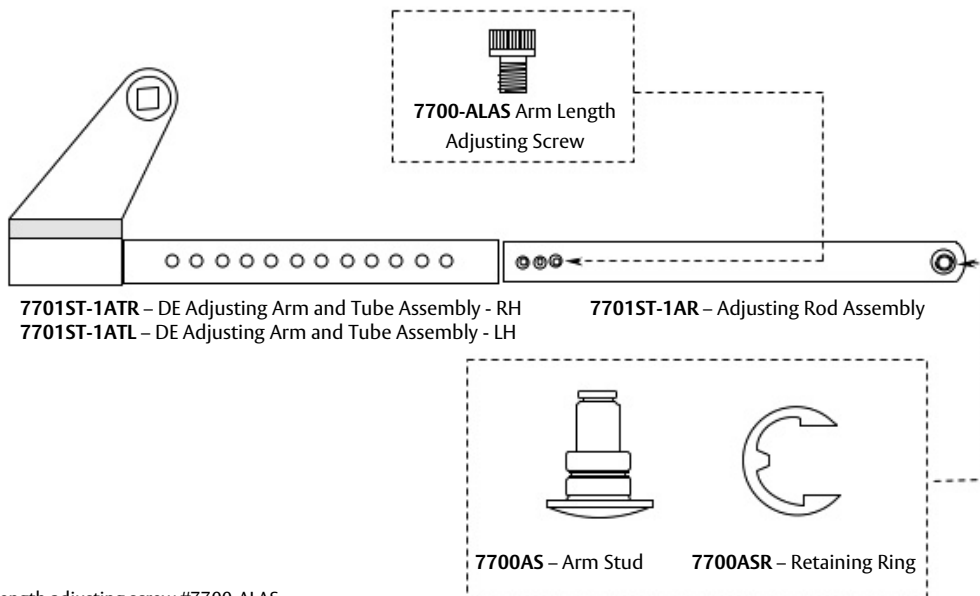
^ Not compatible with products manufactured prior to March 2009.

**PARTS**

**Standard Arm Assembly  
7701ST-1A<sup>1,2</sup>**



**Double Egress Arm Assembly  
7701PT-DE-1R<sup>1,2</sup> - (Right Hand)  
7701PT-DE-1L<sup>1,2</sup> - (Left Hand)**



1 Includes arm length adjusting screw #7700-ALAS

2 Includes arm tube & adjusting rod assembly

**NOTE: Mounting hardware included with all parts orders.**

PARTS

Miscellaneous Parts	
Description	Part Number
Fuse^	PTO125V
Smoke Detector Board*^	MPDOSD24
Solenoid Block Assembly (24V)	PT24SOL
Push Side Hook-Up Box Plug Button	P7700PB

Description	Voltage	Hook-Up Boxes^	
		Hinge Side	Stop Side
Master Unit	24V	PTDOHB24	PPTDOHB24
	120V	PTDOHB120	PPTDOHB120
Support	24V	PTOHB24	PPTOHB24
	120V	PTOHB120	PPTOHB120

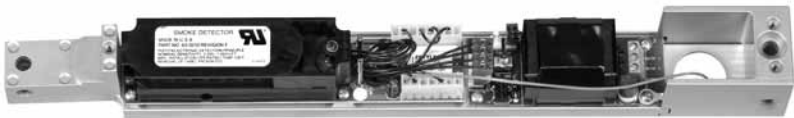
^ Not compatible with products manufactured prior to March 2009  
\* Same as Norton® 7200 Electromechanical Smoke Detector

Hook-Up Box (shown less cover\*\*)

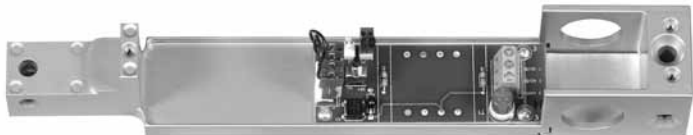
\*\* For identification purposes only - box is only supplied with cover



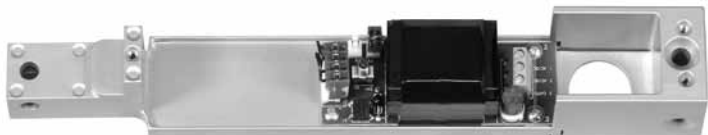
Master, 24V



Master, 120V



Support, 24V



Support, 120V



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