

# 1600 Series UniTrol Non-Handed Door Closer

## Arm Models UNI-1601, UNI-1603BC, and UNI-1604BC

### Installation Instructions

Non-hold Open and Hold Open (H) models, adjustable size 1-6 (UNI-1601(H) & model) and size 3 & 4 (UNI-1603BC(H) and UNI-1604BC(H) models). Hold open models are not UL-listed.

**⚠ WARNING**

This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm.

For more information go to: [www.P65warnings.ca.gov](http://www.P65warnings.ca.gov).

READ AND FOLLOW ALL INSTRUCTIONS.  
SAVE THESE INSTRUCTIONS.

#### Standard Frame

(Reveals 1-7/8" to 4-5/8" - Uses 6190 Bracket)

Right Hand Door - RH  
Left Hand Reverse - LHR

Left Hand Door - LH  
Right Hand Reverse - RHR

#### Deep Reveal

(Reveals Over 4-5/8" - Uses 6191 Reinforcing Kit)

Right Hand Door - RH  
Left Hand Reverse - LHR

Left Hand Door - LH  
Right Hand Reverse - RHR

#### Flush Transom

(Uses 2022 Bracket)

Right Hand Door - RH  
Left Hand Reverse - LHR

Left Hand Door - LH  
Right Hand Reverse - RHR

### Included Components

**Closer**

**Screw Pack**  
(Refer to page 2 for a list of contents)

**Pinion Cap**

**6190 Bracket**

**Soffit Plate**

**Main Arm**

**Main Arm Screw**

**Hold Open Option**

Arm Identification (Stamped on Arm)			
Door Width	Main Arm	Non Hold Open	Hold Open
28" - 32" (0.70 - 0.80m)	9-1/2" (241mm)	<b>6100-11</b>	<b>6100-1</b>
33" - 41" (0.85 - 1.00m)	11" (279mm)	<b>6100-13</b>	<b>6100-3</b>
42" - 48" (1.05 - 1.20m)	12-1/2" (318mm)	<b>6100-14</b>	<b>6100-4</b>

#### To Determine Your Hand of Door:

Right Hand Reverse

Left Hand Reverse

**LEFT HAND DOOR**

**RIGHT HAND DOOR**

#### To Identify Your Model:

Spring Power Adjustment (1601 ONLY)

Size Code

1-6 = **1601**  
3 = **1603BC**  
4 = **1604BC**

Date Code

#### Tools Needed:

Tape Measure, Punch, Pencil, Philips Screwdriver, Adjustable Wrench

Safety Glasses, Drill, #7 and 1/4-20 for Metal, 3/16" for Wood, 9/32" and 3/8" for Either Nut & Bolt Option





**ATTENTION:**

An incorrectly installed or improperly adjusted door closer can cause property damage or personal injury. These installation instructions should be followed to avoid the possibility of misapplication or misadjustment.

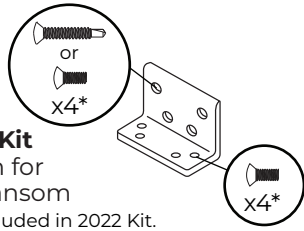
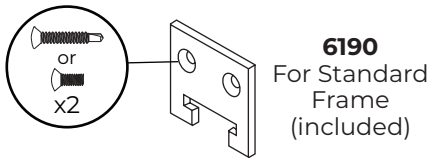
- For special applications, a separate door and frame preparation template is packed with these instructions. Use this instruction sheet for installation sequence and closer adjustments only.
- Doors should be hung on ball bearing or anti-friction hinges.

- Door and frame must be properly reinforced.
- Always consult door/frame manufacturer for fastener compatibility.
- Adjust closing time speed between 4 and 7 seconds from 90° to 0°. Use of door by handicapped, elderly or small children may require greater closing time.
- These door closers should NOT be installed on exposed side (weather side) of exterior doors.
- Dimensions are given in inches (millimeters).

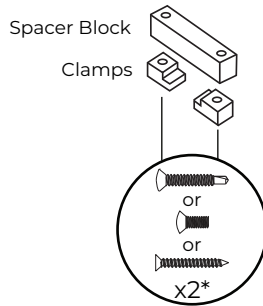
## Supplied Hardware

Mounting Hardware	Door or Frame	Drill
 <b>Closer, Soffit Plate, 6190 Bracket:</b> 1/4-14 x 1-1/2 Oval Flat Head Self Drilling Screw	Wood/Metal	3/16" (4.8mm) for wood
 <b>Soffit Plate, 6190 Bracket:</b> 1/4-20 x 3/4 Oval Flat Head Mach. Screw	Metal	Drill #7 (.201 dia. or 5.1mm) Tap 1/4-20
 <b>Closer:</b> Sleeve Nut and Bolt (SNB) with 1/4-20 x 3/4 Oval Flat Head Mach. Screw (recommended)	Hollow Metal	9/32" (7.0mm) thru 3/8" (9.5mm) door face opposite to closer
	Aluminum or Wood	3/8" (9.5mm) thru
 <b>Closer:</b> Thru Bolt and Grommet Nut (TBGN) (optional)	All	9/32" (7.0mm) thru 3/8" (9.5mm) dia. x 3/8" (9.5mm) deep, door face opposite to closer

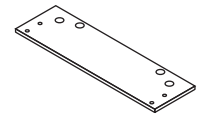
### Brackets



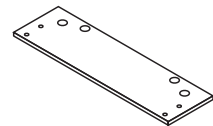
### Reinforcing Kit



### Drop Plates

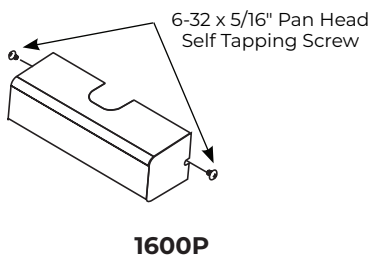


**1688 Drop Plate**  
For narrow top rail

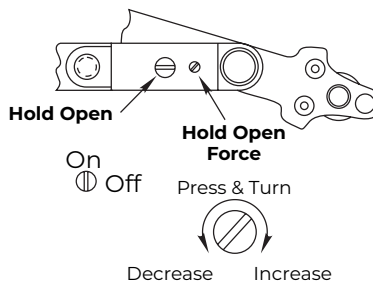


**1688C Drop Plate**  
For use with optional cover

### Cover

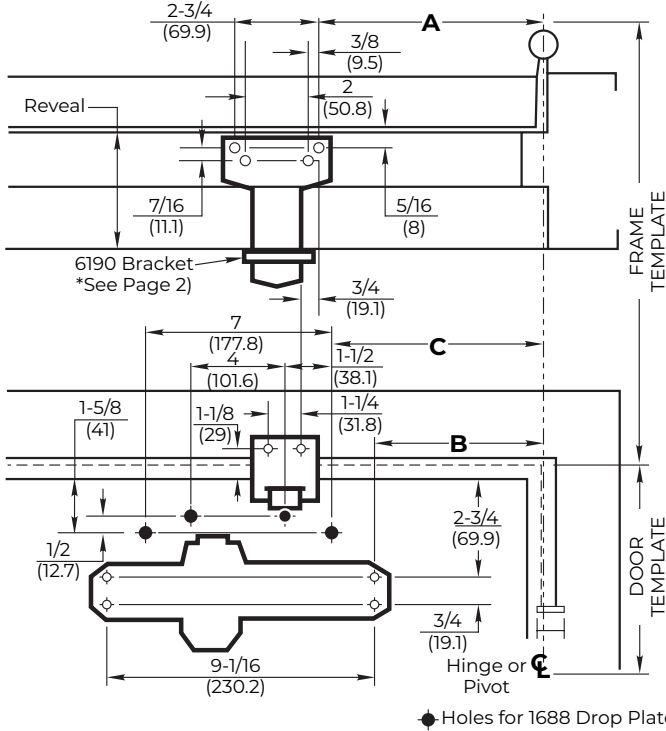


### Door Holder



## 1600 UniTrol Arm - Templates (Right Hand Shown)

### 1-7/8" - 4-5/8" Standard Frame Reveal (With Door Template)

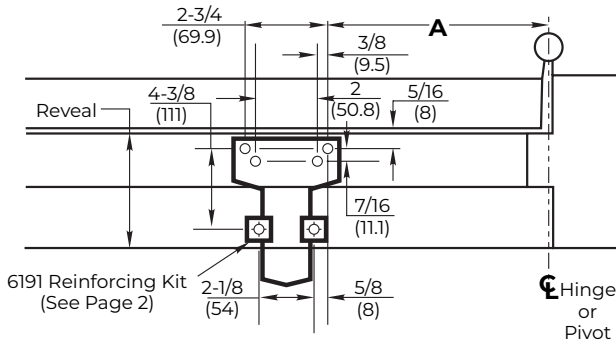


#### NOTES:

- IMPORTANT: Door template is typical for all installations. Frame template must be selected according to frame reveal.
- If top rail is as narrow as 2-5/8" (67mm) and prevents closer from being mounted directly to door surface, use 1688 Drop Plate. Prepare door and frame accordingly.

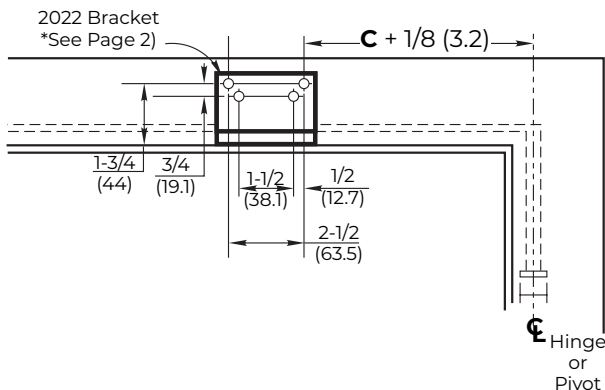
28" - 32" Wide Doors				
Opening		A	B	C
Hold Open	Stop			
85°	90°	10-1/2 (267)	8-5/8 (219)	9-5/8 (244)
90°	95°	9-3/4 (248)	8 (203)	9 (229)
95°	100°	9-1/4 (235)	7-1/2 (191)	8-1/2 (216)
100°	105°	8-7/8 (225)	7-1/8 (181)	8-1/8 (206)
105°	110°	8-1/2 (216)	6-3/4 (171)	7-3/4 (197)
110°	115°	8-1/8 (206)	6-3/8 (162)	7-3/8 (187)

### Over 4-5/8" Deep Frame Reveal Template



33" - 41" Wide Doors				
Opening		A	B	C
Hold Open	Stop			
85°	90°	12-5/8 (321)	11 (279)	12 (305)
90°	95°	12 (305)	10-3/8 (264)	11-3/8 (289)
95°	100°	11-3/8 (289)	9-3/4 (248)	10-3/4 (273)
100°	105°	10-7/8 (276)	9-1/4 (235)	10-1/4 (260)
105°	110°	10-3/8 (264)	8-3/4 (222)	9-3/4 (248)
110°	115°	10 (254)	8-3/8 (213)	9-3/8 (238)

### Flush Transom Template



42" - 48" Wide Doors				
Opening		A	B	C
Hold Open	Stop			
85°	90°	15 (381)	13-1/4 (337)	14-1/4 (362)
90°	95°	14-1/4 (362)	12-1/2 (318)	13-1/2 (343)
95°	100°	13-5/8 (346)	11-7/8 (302)	12-7/8 (327)
100°	105°	13 (330)	11-1/4 (286)	12-1/4 (311)
105°	110°	12-1/2 (318)	10-3/4 (273)	11-3/4 (298)
110°	115°	12 (305)	10-1/4 (260)	11-1/4 (286)

**1600 UniTrol Arm Installation (Right Hand Shown)**

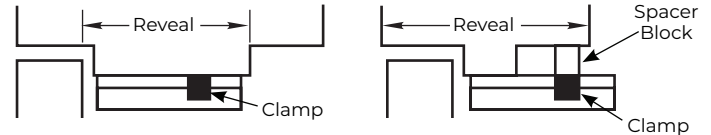
**1. Prepare door and frame.**

1. Be sure that arm is correct for door width. See "Components" on page 1.
2. Be sure that correct frame and door template combination is used to prepare for installation. See "Templates" on page 3.
3. Using dimensions for hold-open or door stop angle desired, mark and drill
  - Four (4) holes on door for closer (or drop plate)
  - Six (6) holes on frame for soffit plate and 6190 bracket (See Figure 1) or
  - Six (6) holes on frame for soffit plate and 6191 reinforcing kit (See Figure 2) or
  - Four (4) holes on frame for 2022 angle bracket (See Figure 3)
4. UNI1601 ONLY: Set approximate closing power using "Spring Power Adjustment" chart on page 5.

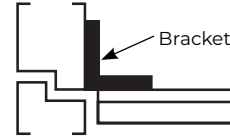
**Figure 1. 1-7/8" - 4-5/8" Standard Frame With 6190 Bracket**



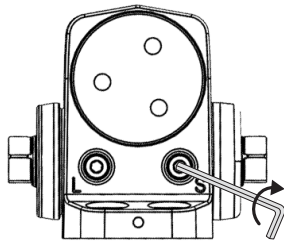
**Figure 2. Over 4-5/8" Deep Reveal With 6191 Reinforcing Kit**



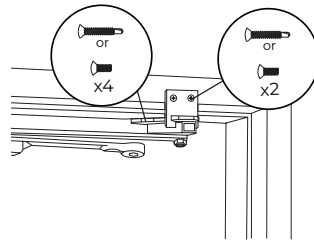
**Figure 3. Flush Transom With 2022 Bracket**



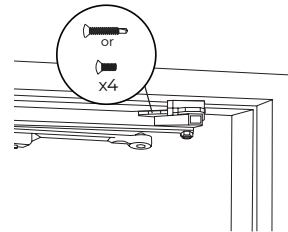
**2. Close latch and sweep valves.**



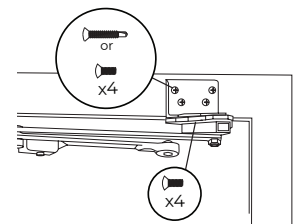
**3. Install arm to frame.**



**Standard Frame**  
6190 Bracket

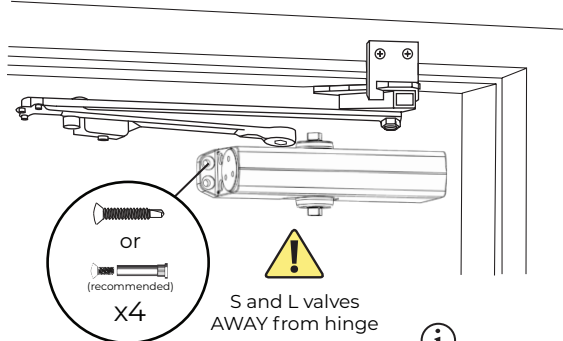


**Deep Reveal**  
6191 Kit  
(Refer to 6191 Kit on page 2)



**Flush Transom**  
2022 Bracket  
(Refer to 2022 Kit on page 2)

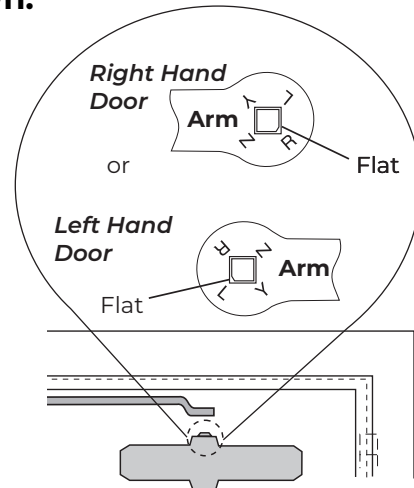
**4. Mount drop plate (if used) and closer.**



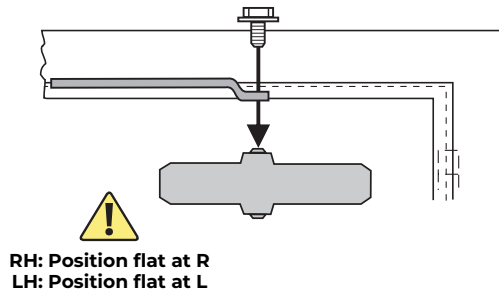
S and L valves  
AWAY from hinge

To ease optional cover installation, insert cover screws onto closer (leaving a slight gap) before mounting closer.

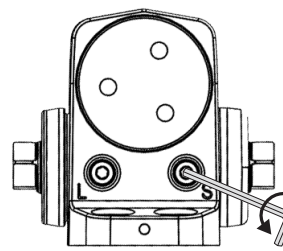
**5. Rotate closer pinion to align flat as shown.**



## 6. Attach arm to closer.



## 7. Open latch and sweep valves.



**Do not completely open valves. Valves will leak.**

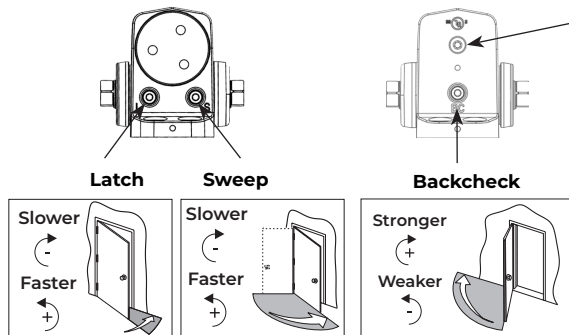
The **1600 UniTrol Arm Closer** has now been installed.

- Continue with closer adjustments and decorative cap or cover installation.

## Closer Adjustments

**!** Use provided hex wrench to turn valves. NEVER force valves out of closer. NEVER completely close backcheck valve. Door must be open to adjust spring closing power. Refer to the chart.

Use of a power drill will void the Warranty.



		Power Adjustment Chart					
Door	Parallel Arm	*	Maximum Door Size				
			34" (0.85M)	36" (0.90M)	40" (1.00M)	44" (1.10M)	48" (1.20M)
INT	1601	Full 360° Turns of Power Adjustment Shaft	3	5	8	11	14
EXT			5	8	11	16	19

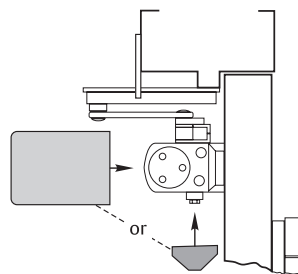
\*30 Full (360°) turns maximum available   = turns as shipped

## Pinion Cap or Cover

Screw pinion cap onto pinion shaft by hand or with a Phillips screwdriver.

OR

Slide cover over closer and secure mounting screws after installation is complete.



**!** Do not over tighten cap or cover screws

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