

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.

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)	6100-11	6100-1
33" - 41" (0.85 - 1.00m)	11" (279mm)	6100-13	6100-3
42" - 48" (1.05 - 1.20m)	12-1/2" (318mm)	6100-14	6100-4

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.

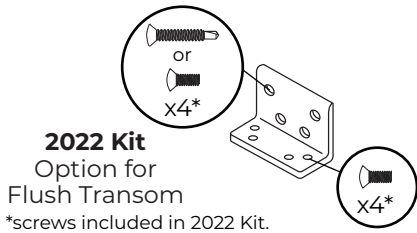
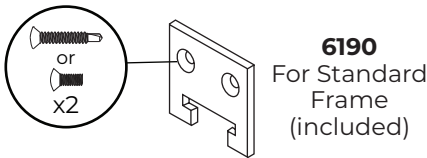
- For special applications, a separate door and frame preparation template is packed with these instructions. Use this instruction sheet for installation sequence and closer adjustments only.
- Doors should be hung on ball bearing or anti-friction hinges.

- 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).

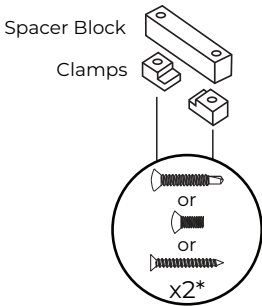
Supplied Hardware

Mounting Hardware	Door or Frame	Drill
 Closer, Soffit Plate, 6190 Bracket: 1/4-14 x 1-1/2 Oval Flat Head Self Drilling Screw	Wood/Metal	3/16" (4.8mm) for wood
 Soffit Plate, 6190 Bracket: 1/4-20 x 3/4 Oval Flat Head Mach. Screw	Metal	Drill #7 (.201 dia. or 5.1mm) Tap 1/4-20
 Closer: 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
 Closer: 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

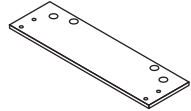


Reinforcing Kit

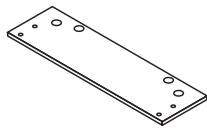


6191 Kit
Option for Deep Reveal
(Refer to Figure 2 on page 4)
*screws included in 6191 Kit.

Drop Plates

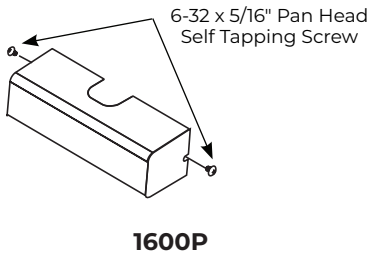


1688 Drop Plate
For narrow top rail

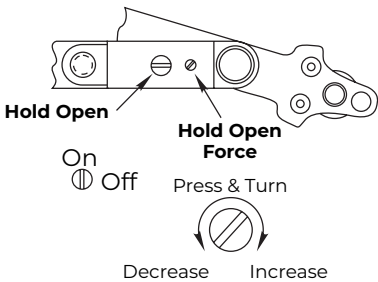


1688C Drop Plate
For use with optional cover

Cover

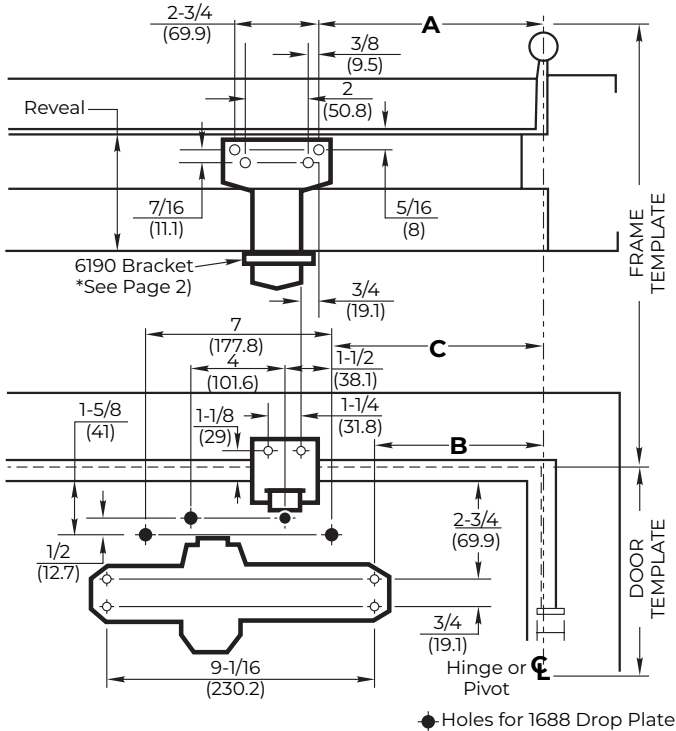


Door Holder



1600 UniTrol Arm - Templates (Right Hand Shown)

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

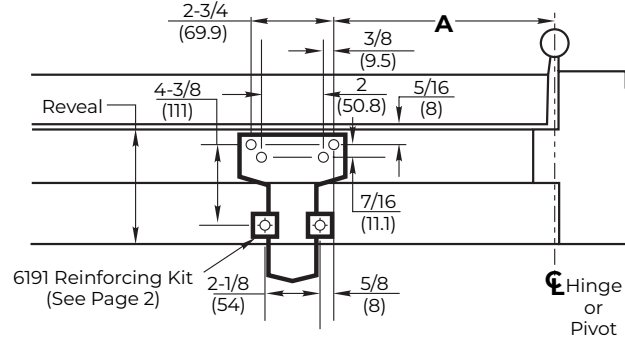


NOTES:

- 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.

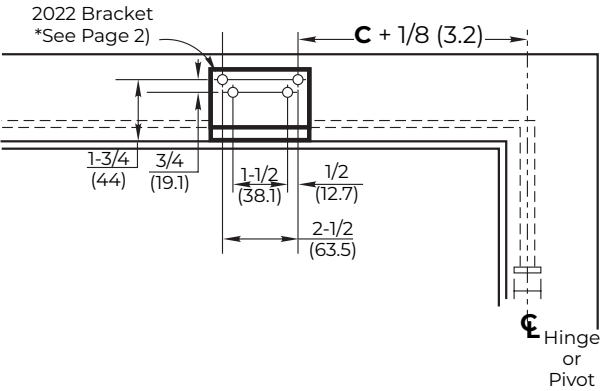
28" - 32" Wide Doors				
Opening		A	B	C
Hold Open	Stop			
85°	90°	10-1/2 (267)	8-5/8 (219)	9-5/8 (244)
90°	95°	9-3/4 (248)	8 (203)	9 (229)
95°	100°	9-1/4 (235)	7-1/2 (191)	8-1/2 (216)
100°	105°	8-7/8 (225)	7-1/8 (181)	8-1/8 (206)
105°	110°	8-1/2 (216)	6-3/4 (171)	7-3/4 (197)
110°	115°	8-1/8 (206)	6-3/8 (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. UN1601 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

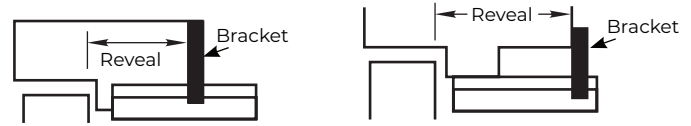


Figure 2. Over 4-5/8" Deep Reveal With 6191 Reinforcing Kit

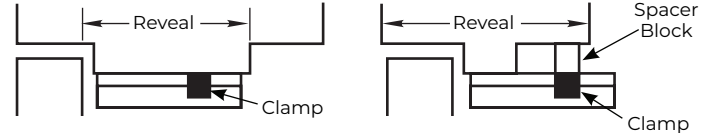
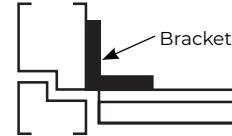
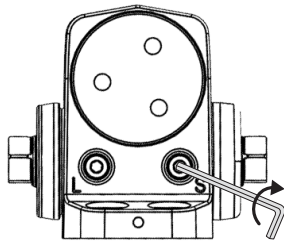


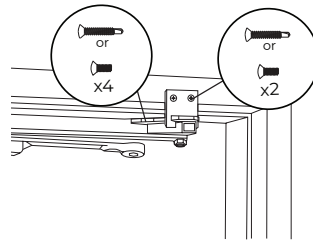
Figure 3. Flush Transom With 2022 Bracket



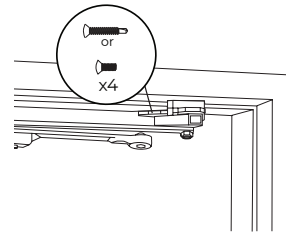
2. Close latch and sweep valves.



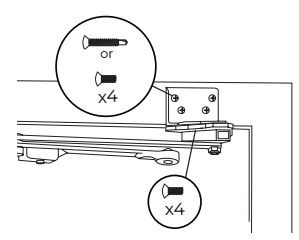
3. Install arm to frame.



Standard Frame
6190 Bracket

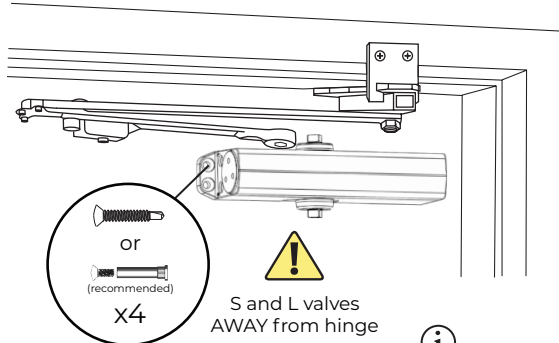


Deep Reveal
6191 Kit
(Refer to 6191 Kit on page 2)



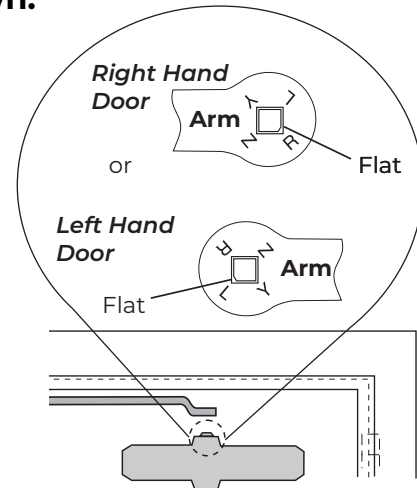
Flush Transom
2022 Bracket
(Refer to 2022 Kit on page 2)

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

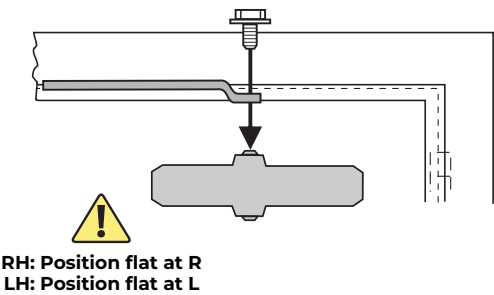


To ease optional cover installation, insert cover screws onto closer (leaving a slight gap) before mounting closer.

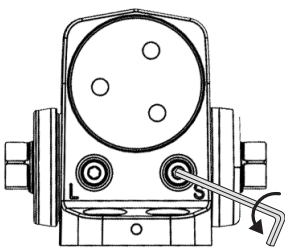
5. Rotate closer pinion to align flat as shown.



6. Attach arm to closer.



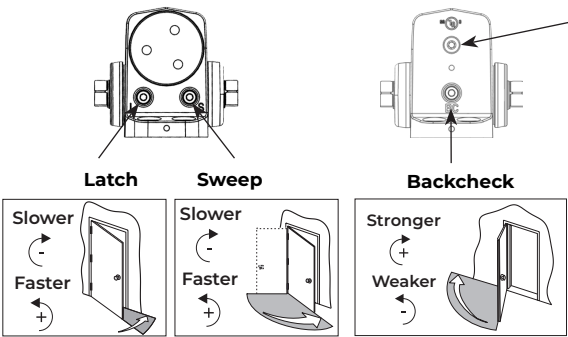
7. Open latch and sweep valves.



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.

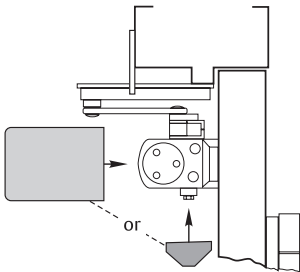


Power Adjustment Chart							
Door	Parallel Arm	*	Maximum Door Size				
			34" (0.85M)	36" (0.90M)	40" (1.00M)	44" (1.10M)	48" (1.20M)
INT	1601	Full 360° Turns of Power Adjustment Shaft	3	5	8	11	14
EXT			5	8	11	16	19

*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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