Yale®

Installation Instructions

80-9350-2514-010 (07-09)

UniTrol® Door Controls

UNI-50BC Series Sized Closers

UNI-51(BF) Series Multi-Sized Closers

Habitat for Humanity®

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

Non Hold Open (UL Listed)

Hold Open (H) (Not UL Listed)

Models:

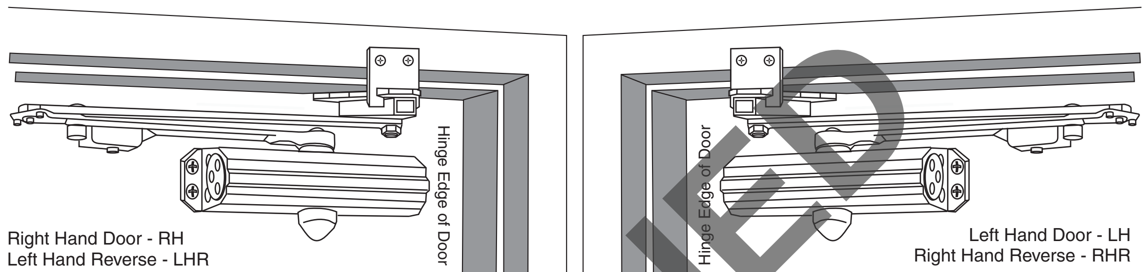
Sized (Sizes 2, 3, 4, 5, 6)	Multi-Sized (Sizes 3 thru 6)
UNI-52BC(H)	**UNI-51BF(H)**
UNI-53BC(H)	
UNI-54BC(H)	(Sizes 1 thru 4)
UNI-55BC(H)	**UNI-51(H)**
UNI-56BC(H)	

"DL" suffix (Delayed Action) is an optional feature. A separate instruction will be packed with these instructions, showing valve locations and adjustment procedures.

Standard Frame Installation

1-7/8 to 4-5/8 Frame Reveals (Uses 6190 Bracket). Bracket illustration page 4.

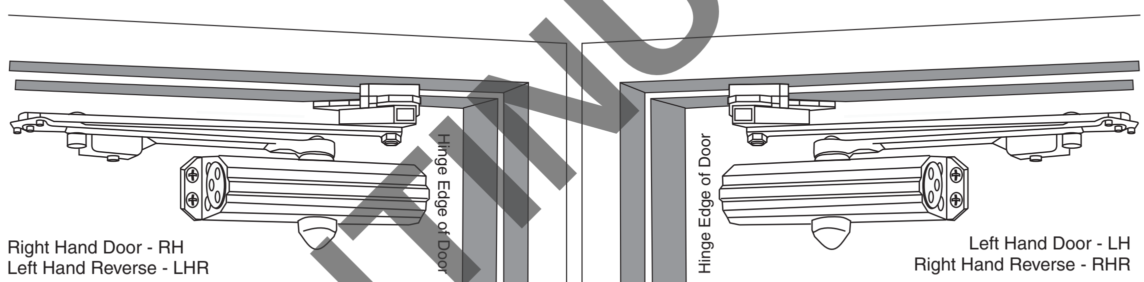
See Page 2



Deep Frame Installation

Frame Reveals Over 4-5/8 (Uses 6191 Clamp Kit). Bracket illustration page 4.

See Page 3



Flush Transom Installation

Flush Partitions (Uses 589L Bracket). Bracket illustration page 4.

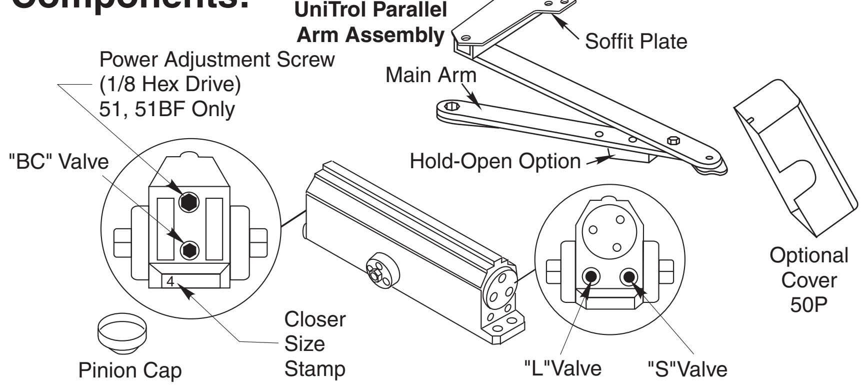
See Page 4

NOTE: 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

- It is recommended that the door on which the door closer will be installed be hung on ball bearing hinges. Door must swing freely
- Door and Frame must be properly reinforced, or use of special fasteners employed, to prevent the mounting screws from pulling out.
- All dimensions are given in inches with corresponding metric dimensions (mm) in parenthesis.

Components:



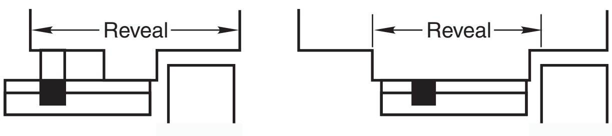
Arm Identification		*Arm Stamping*	
Door Width	Main Arm	Non Hold Open	Hold Open
28" - 32" (0.70 - 0.80m)	9-1/2" (241mm)	***6100-11***	***6100-1***
33" - 41" (0.85 - 1.00m)	11" (279mm)	***6100-13***	***6100-3***
42" - 48" (1.05 - 1.20m)	12-1/2" (318mm)	***6100-14***	***6100-4***

Template Information

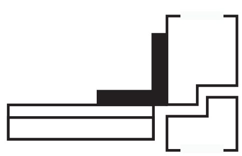
- Door template is typical for all installations.
- Frame template must be selected according to frame reveal:

Frame Template at right
Frame Reveals 1-7/8 (48) to 4-5/8 (117). (Uses 6190 Bracket) Bracket Illustration – Page 4.

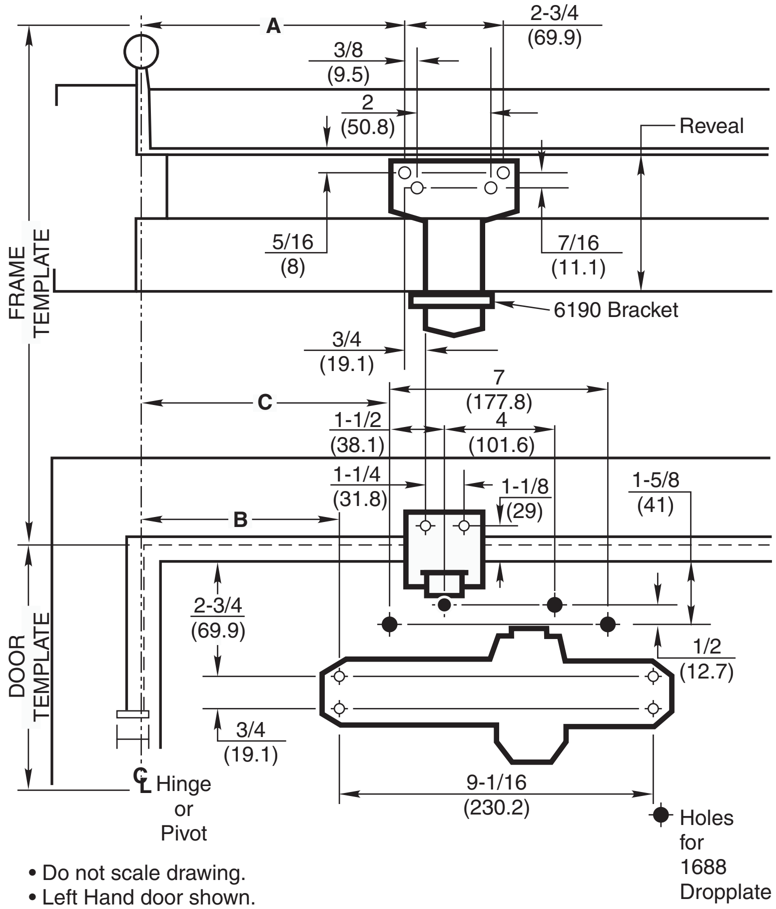
Frame Template: Page 2
Frame Reveals Over 4-5/8 (117). (Uses 6191 Clamp Kit) Bracket Illustration – Page 4.



Frame Template: Page 3
Frame Reveals 0 to 1/8 (0 to 3). Flush Partitions (Uses 589L Bracket).



Door Template Typical for All Installations
Frame Template for 1-7/8 to 4-5/8 Reveals



- Do not scale drawing.
- Left Hand door shown.
- Dimensions are in inches (mm).

Dimensions for Doors 28" to 32" Wide

Opening		Dimension A		Dimension B		Dimension C	
Hold Open	Stop	Inches	mm.	Inches	mm.	Inches	mm.
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

Dimensions for Doors 33" to 41" Wide

Opening		Dimension A		Dimension B		Dimension C	
Hold Open	Stop	Inches	mm.	Inches	mm.	Inches	mm.
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

Dimensions for Doors 42" to 48" Wide

Opening		Dimension A		Dimension B		Dimension C	
Hold Open	Stop	Inches	mm.	Inches	mm.	Inches	mm.
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

Preparation for Fasteners

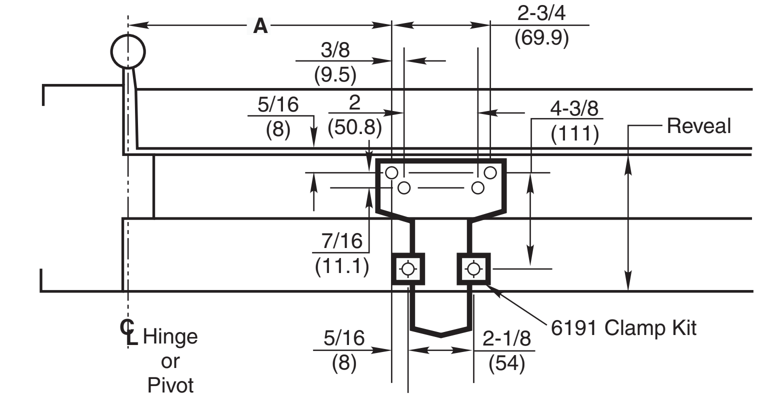
Fasteners	Door or Frame	Drill-Sizes
Self-Drilling Screw	Aluminum or Metal	No drill required
	Wood	3/16" (4.30 mm) Pilot hole required
1/4" - 20 machine screw	Metal	Drill: #7 (0.201" dia.) Tap: 1/4" - 20
Sleeve nuts and bolts	Hollow Metal	9/32" (7 mm) through; 3/8" (9.5 mm) door face opposite to closer
	Aluminum or Wood	3/8" (9.5 mm) through

Power Adjustment Chart

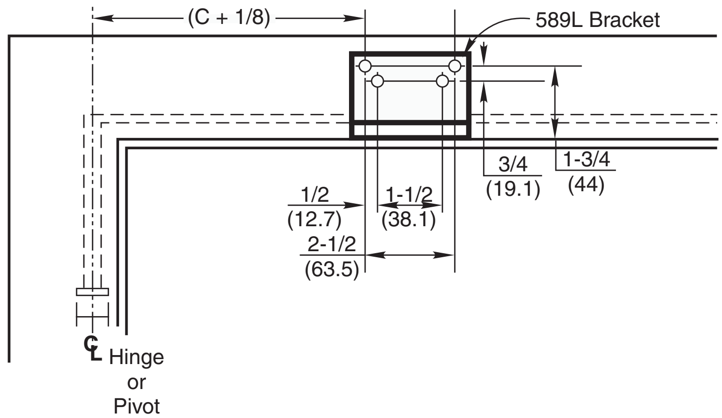
DOOR	PARALLEL ARM INSTALLATION	*	MAXIMUM DOOR SIZE				
			34" (0.85 m)	36" (0.9 m)	40" (1 m)	44" (1.1 m)	48" (1.2 m)
INT	51BF	FULL 360° TURNS OF POWER ADJUSTMENT SHAFT	2	2	3	4	5
EXT			8	9	NOT RECOMMENDED USE 51		
INT	51		3	5	7	10	13
EXT			5	7	10	14	16

*18 -360° TURNS MAXIMUM AVAILABLE

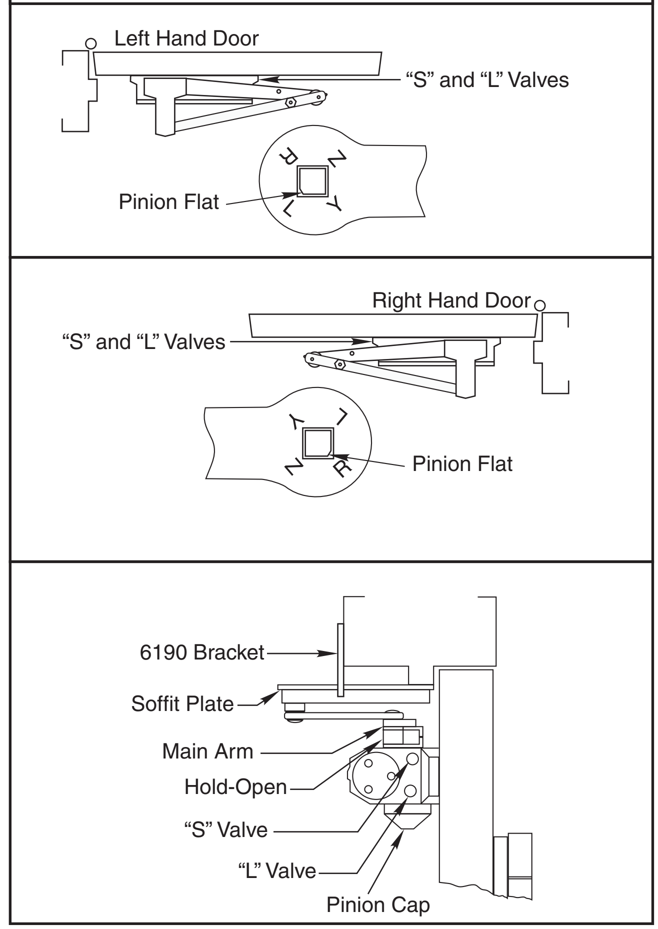
Frame Template for Reveals Over 4-5/8
Door Template on Page 2



Frame Template for Flush Partitions
Door Template on Page 2



Typical Installation



Installation Sequence

- **Read Front Page.**

  Installations and component identification are on this page. Arm assembly must be correct for width of door, see chart.

- **Select Correct Door and Frame Template Combination.**

  Follow "Template Information" on Page 2 or Pages 2 and 3.

- **Mark Location of Mounting Holes.**

  Use dimensions for hold-open or door stop angle desired. Mark position of 4 holes on door for closer (or drop plate) and 6 holes on frame for soffit plate (or 4 for 589L angle bracket).

- **Prepare Holes for Fasteners.**

  See "Preparation for Fasteners" chart on Page 2.

- **UNI51 or UNI51BF Models Only. Set approximate closing power using "Power Adjustment Chart" at bottom of Page 2.**

- **Mount Closer to Door.**

  Drop Plate first, if used. Place end with "S" and "L" valves toward the lock edge of the door. If using optional cover see "Cover" instructions at bottom of Page 4.

- **Mount Arm to Frame.**

  Fasten soffit plate (or 589L angle bracket if flush partition) to frame. Mount 6190 bracket or 6191 clamps to reinforce soffit plate.

- **Install Arm on Pinion Shaft.**

  Close valves "S" and "L". Rotate pinion over 45° to align main arm letter "R" (right hand) or "L" (left hand) with pinion flat. Fasten with arm screw. See "Typical Installation" figure above right. Re-open valves "S" and "L".

- **Screw pinion cap onto the pinion shaft by hand or with a Phillips screw driver - DO NOT OVER TIGHTEN. Skip this step if optional cover is used.**

- **Adjust Closer.**

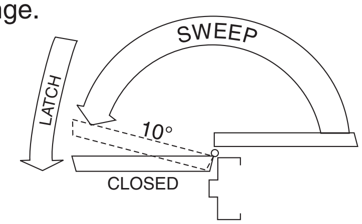
  See "Unit Adjustment" on Page 4.

Unit Adjustment

Closing Speed Control — Figure 1

- Valve “S” controls Sweep Range.
- Valve “L” controls Latch Range.

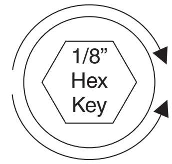
Attention: Adjust Closing Speed Time to between 4 to 7 seconds from 90°. Use of the door by handicapped, elderly or small children may require greater closing time. ADA code requires that door take at least 3 seconds to close from 70° of door opening to within 3” (75mm) of the closed position.



Closing Cycle

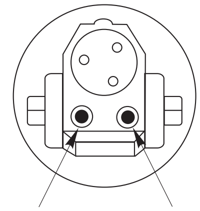
NOTE: By law the Americans with Disabilities Act (ADA) may require that door closer installation comply with accessability guidelines.

Slow



Fast

CAUTION:
DO NOT BACK VALVES OUT OF CLOSER OR A LEAK WILL RESULT

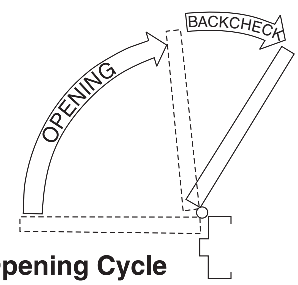


"L"Valve "S"Valve

Opening Door Control — Figure 2

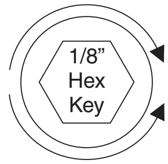
- Backcheck (”BC”) valve controls the hydraulic resistance to door opening in backcheck range. NEVER close this valve completely – it is not to provide a positive stop.

CAUTION:
DO NOT BACK VALVES OUT OF CLOSER OR A LEAK WILL RESULT



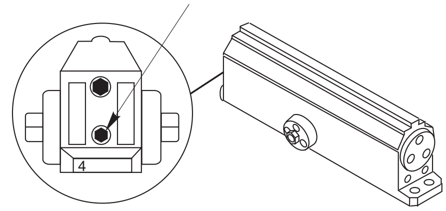
Opening Cycle

Increase

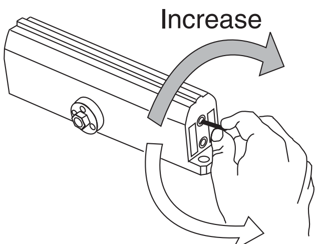


Decrease

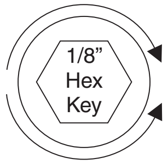
"BC" Valve



Closing Power Control — Figure 3



Increase



Decrease

Adjust as required. Product is shipped at mid range power setting.

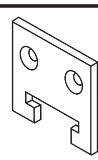
Power Adjustment Chart

DOOR	PARALLEL ARM INSTALLATION	*	MAXIMUM DOOR SIZE 34” (0.85 m)	36” (0.9 m)	40” (1 m)	44” (1.1 m)	48” (1.2 m)
INT	51BF	FULL 360° TURNS OF POWER ADJUSTMENT SHAFT	2	2	3	4	5
EXT	51BF		8	9	NOT RECOMMENDED USE 51		
INT	51		3	5	7	10	13
EXT	51		5	7	10	14	16

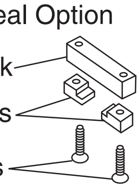
*18 -360° TURNS MAXIMUM AVAILABLE

Bracket Illustrations

Standard 6190 Bracket

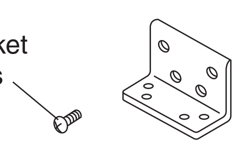


Deep Reveal Option



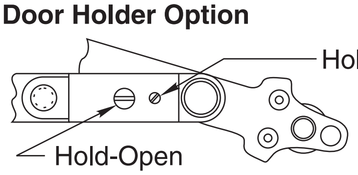
No. 6191 Reinforcing Kit

Flush Partition Option



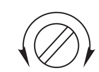
No. 589L Bracket

Door Holder Option — Figure 4



Turn 90° To “Off”

Press & Turn



To Decrease Force   To Increase Force

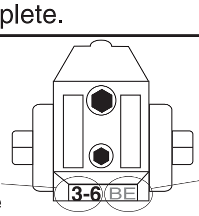
Hold-Open option is found at the arm elbow. To select hold-open “on” or hold-open “off” and to adjust the hold-open force ... use screwdriver as illustrated.

Cover (Optional Cover 50P)

Thread in screws before mounting closer. Leave enough gap between the head of the screw and the closer to slide the cover on. Slide the cover over the closer and secure the mounting screws after installation is complete.

To identify your model:

2=52BC
3=53BC
4=54BC
5=55BC
6=56BC
3-6=51
1-4=51BF



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