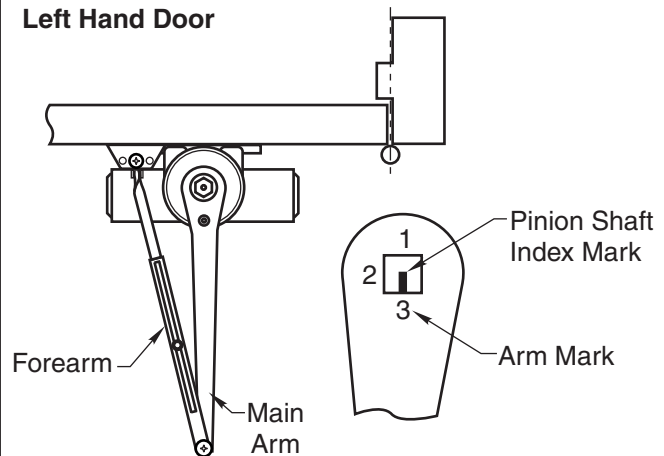
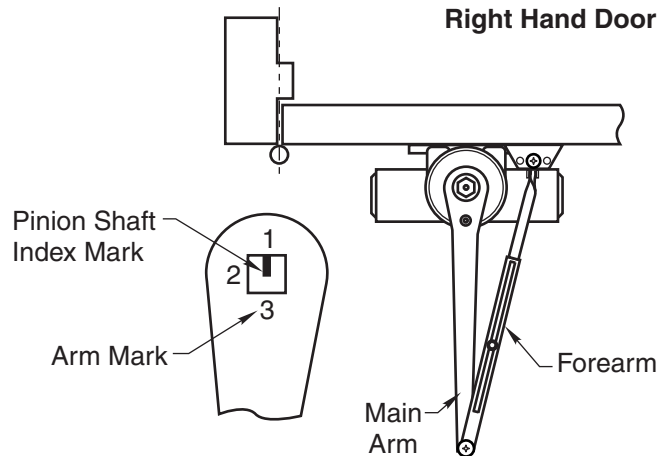


### Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



#### Notes:

- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm).
- This template covers all regular arm installations to 135°.



TRADEMARK  
HARDWARE

## Series 78-B/F-RA Door Closers Non-Hold Open Regular Arm Installation Closer Sizes 78-B/D-RA or 78-E/F-RA

**Norton**

ASSA ABLOY

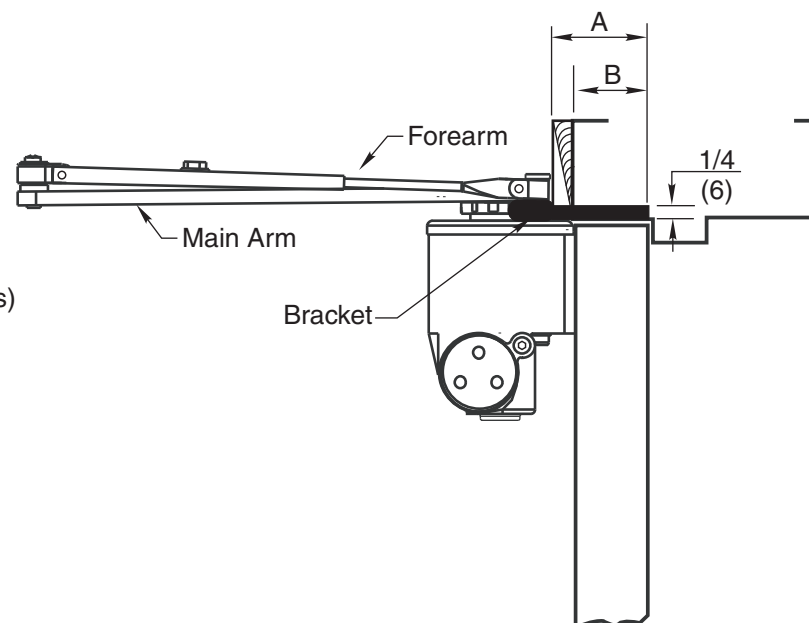
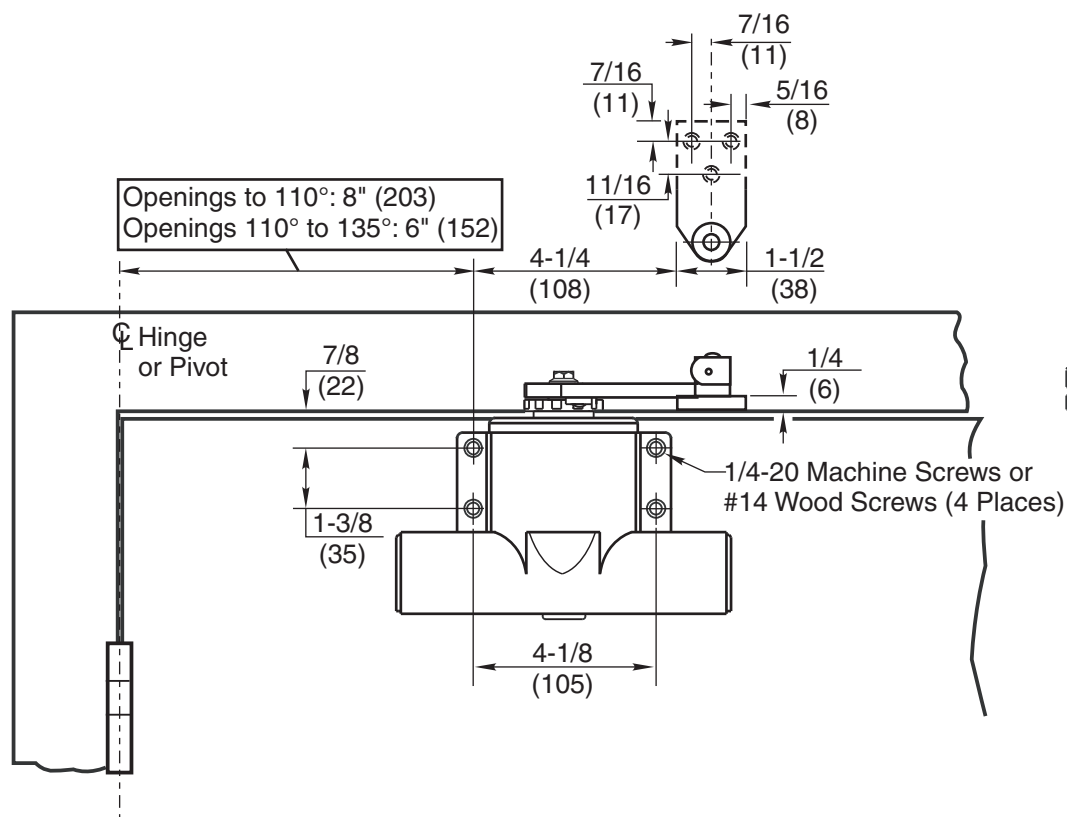
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0101**

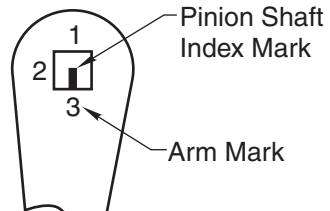
DATE

**01-09**

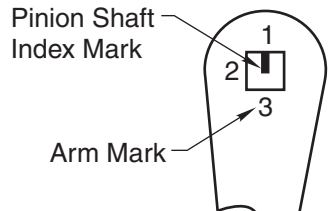


### Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



Bracket	Dim A	Dim B	
	Max.	Min.	Max.
2403	2-1/4 (57)	1-1/2 (38)	2 (51)
2403-3/4	3 (76)		2-3/4 (70)

#### Notes:

- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm).
- This template covers all regular arm installations to 135°.



TRADEMARK  
HARDWARE

## Series 78-B/F-RA Door Closers with 2403 or 2403-3/4 Bull-Nose Bracket Non-Hold Open Regular Arm Installation Closer Sizes 78-B/D-RA or 78-E/F-RA

**Norton**

ASSA ABLOY

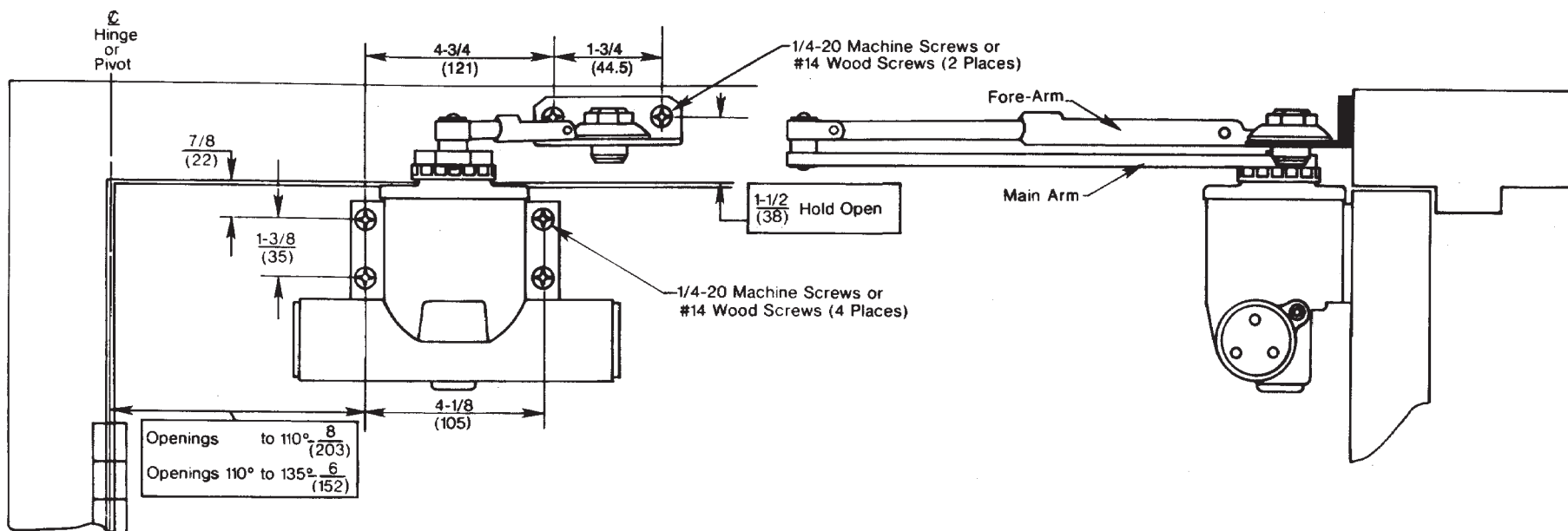
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-0102**

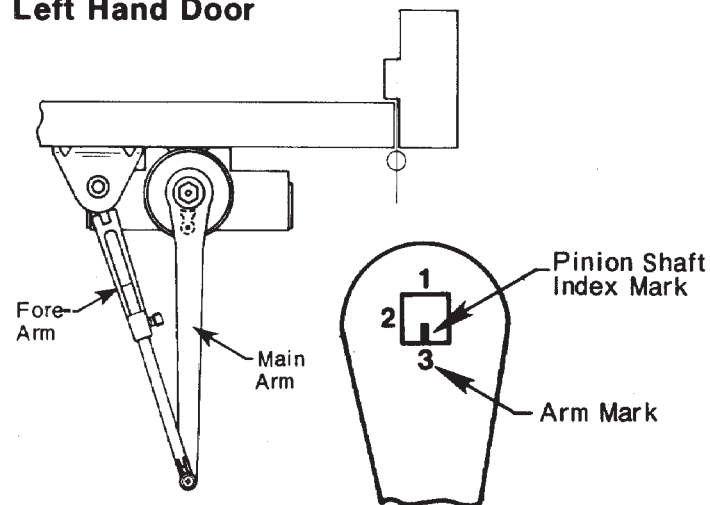
DATE

**01-09**

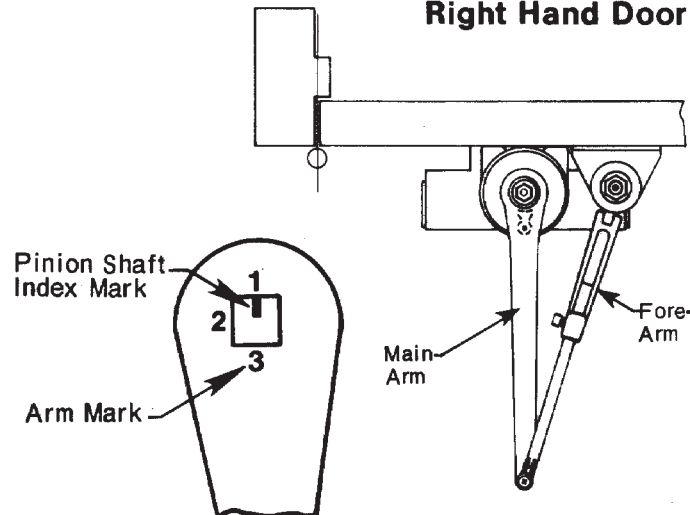


### Indexing of Main Arm Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



This template covers all holder arm installations from 90° to 135°

Measurements are given in inches  
mm

**Do Not Scale Drawing**  
**Right Hand Door Shown**



**TRADEMARK**  
**HARDWARE**

**Series 78-B/F-HA**  
**Hold-Open**  
**Regular Arm Installation**  
**Closer Sizes 78-B/D or 78-E/F**

**Norton**

**ASSA ABLOY**

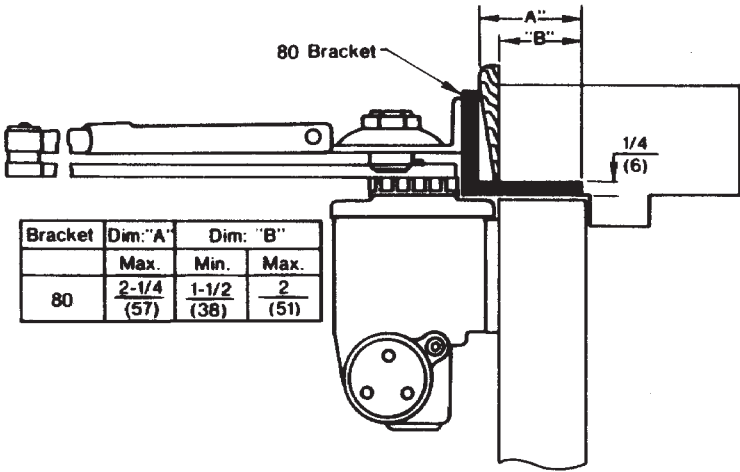
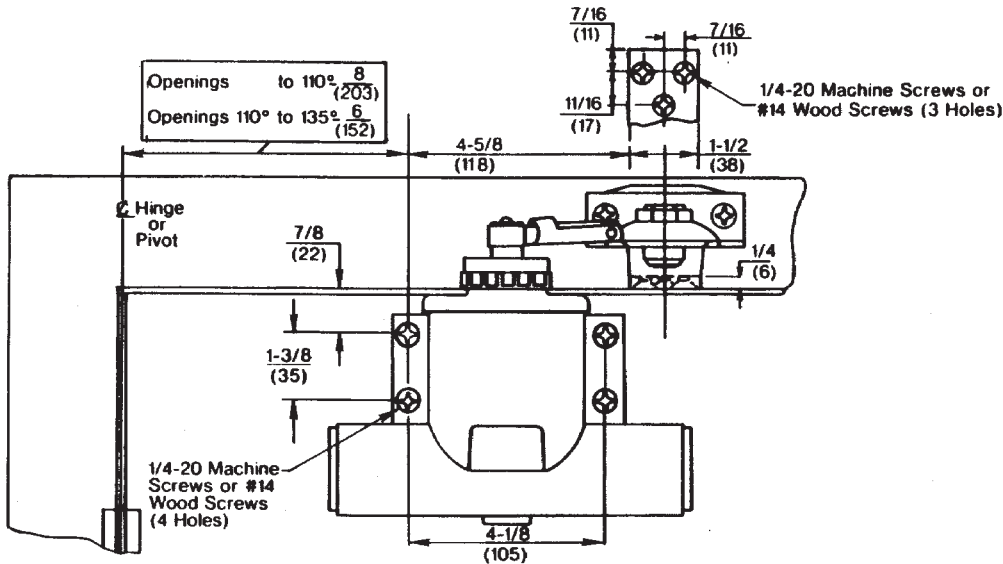
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

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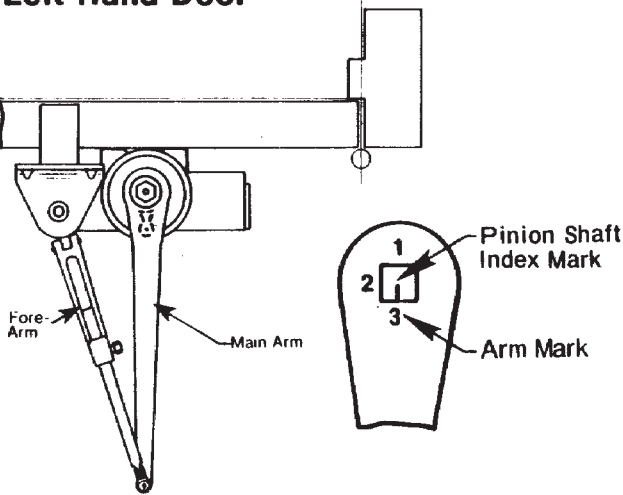
DATE

**02-09**

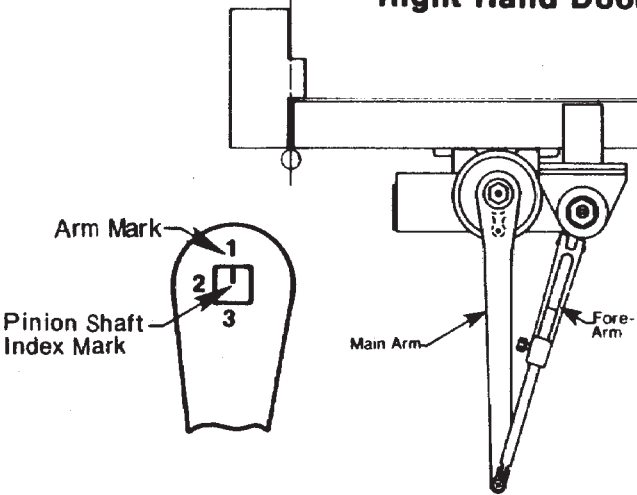


Indexing of Main Arm

Left Hand Door



Right Hand Door



This template covers all holder arm installations from 90° to 135°

Measurements are given in inches  
mm

Do Not Scale Drawing  
Right Hand Door Shown



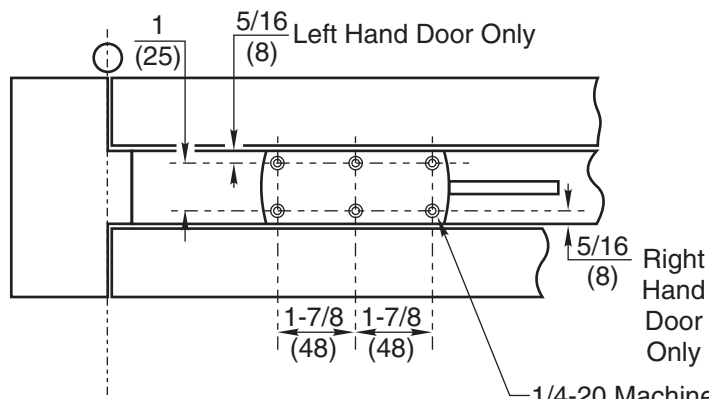
Series 78-B/F-HA Door Closers with 80 Bull Nose Bracket  
Hold-Open Regular Arm Installation  
Closer Sizes 78-B/D-HA or 78-E/F-HA

Norton

ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER	DATE
7349-0104	02-09

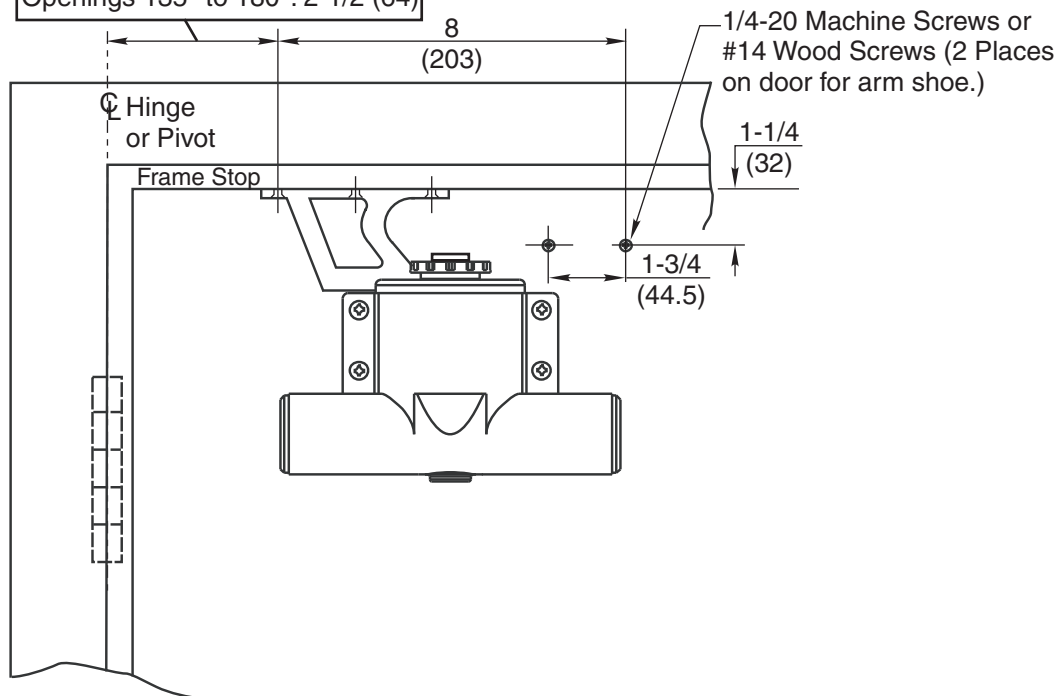


#### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm).
- When using Holder Arm:** Holder adjusting nut up for left hand door. Holder adjusting nut down for right hand door. Hand of closer must be opposite hand of door.

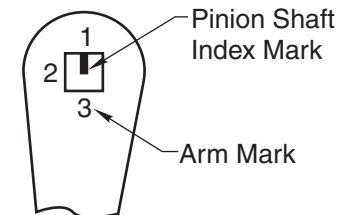
1/4-20 Machine Screws or #14 Wood Screws (6 Places on frame for bracket.)

Openings to 110°: 6" (153)  
Openings 110° to 135°: 4" (102)  
Openings 135° to 180°: 2-1/2" (64)

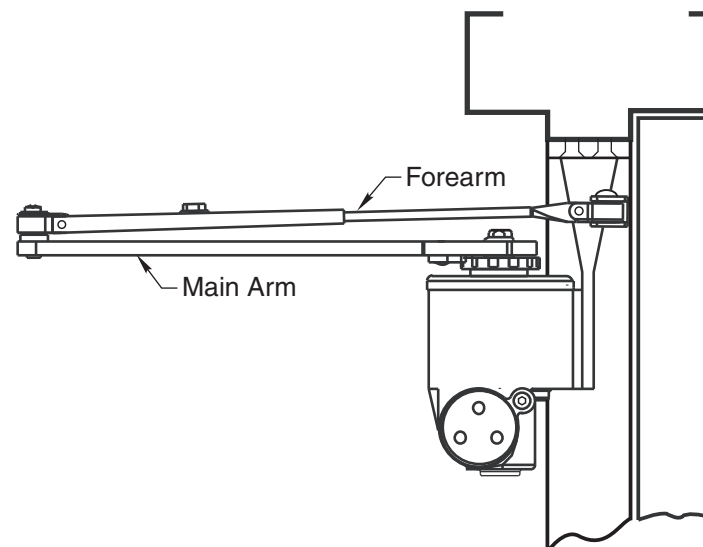
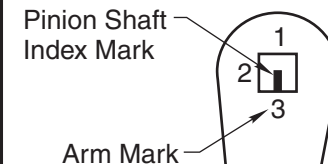


#### Indexing of Main Arm

##### Left Hand Door



##### Right Hand Door



TRADEMARK  
HARDWARE

**Series 78-B/F-RA Door Closers with B/F-1 Soffit Bracket**  
**Soffit Bracket Installation**  
**Non-Hold Open or Hold Open**  
**Closer Sizes 78-B/D-RA or 78-E/F-RA**

**Norton**

ASSA ABLOY

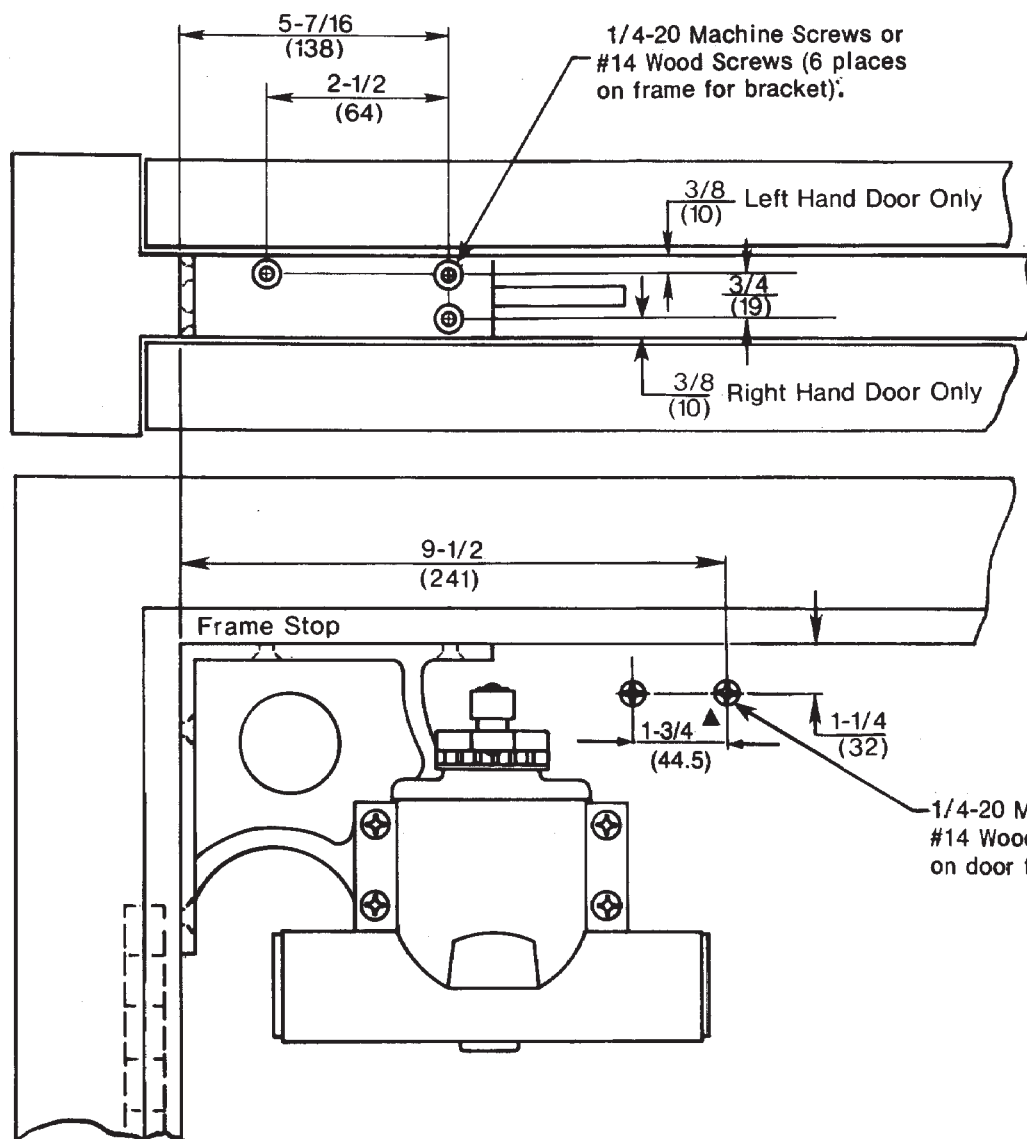
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0142**

DATE

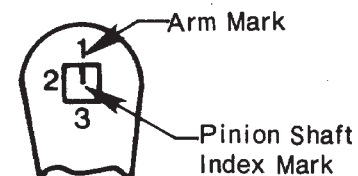
**01-09**



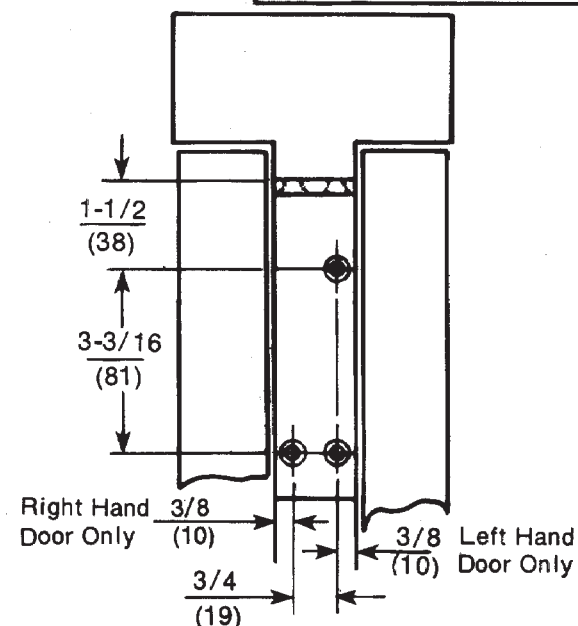
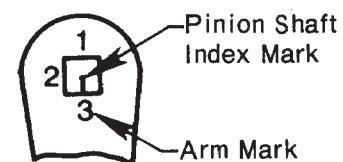
**NOTE: WHEN USING HOLDER ARM**  
Holder Adjusting Nut Up for Left Hand Door. Holder Adjusting Nut Down for Right Hand Door.  
Hand of Arm Must Be Opposite Hand of Door.

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



This Template Covers Installations to 180°

Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-RA Door Closers with B/F-2 Corner Bracket**  
**Standard Drop Corner Bracket Installation**  
**Non Hold-Open or Hold-Open**  
**Closer Sizes 78-B/D-RA or 78-E/F-RA**

**Norton**

ASSA ABLOY

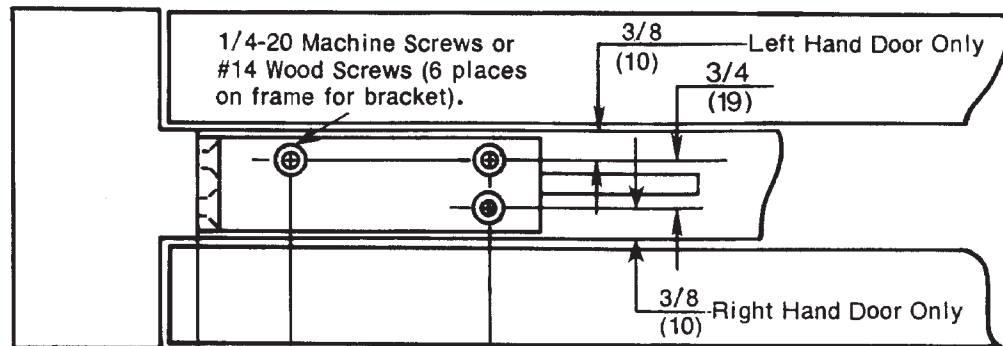
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

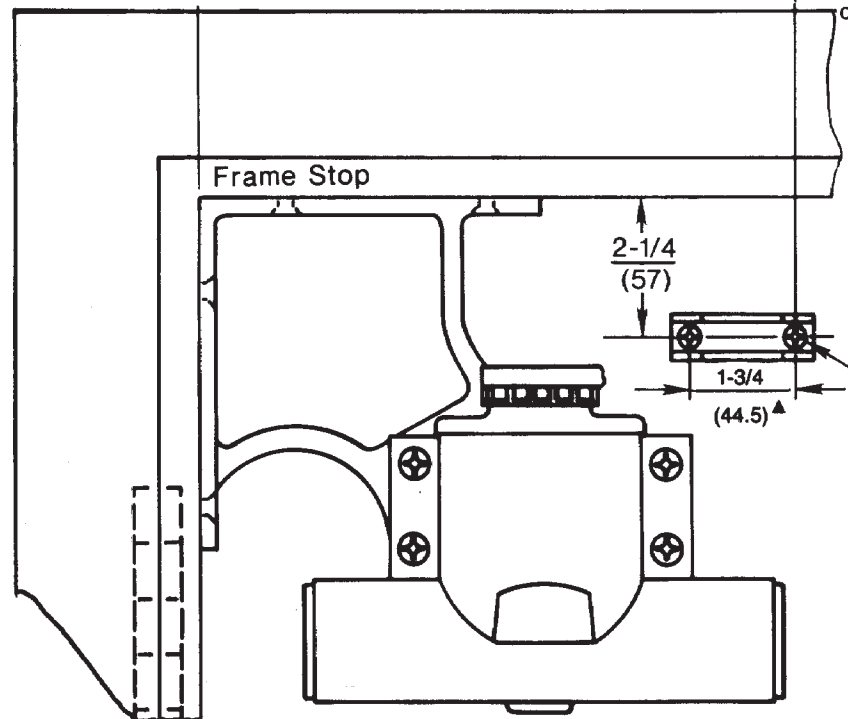
**7349-0143**

DATE

**02-09**



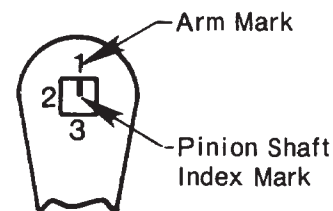
**NOTE: WHEN USING HOLDER ARM**  
Holder Adjusting Nut Up for Left Hand Door. Holder Adjusting Nut Down for Right Hand Door.  
Hand of Arm Must Be Opposite Hand of Door.



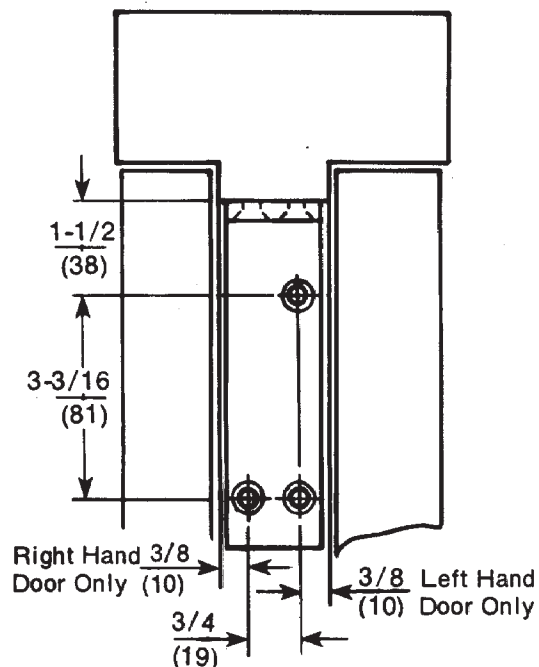
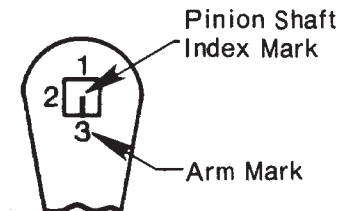
1/4-20 Machine Screws or #14 Wood Screws (2 places on door for arm shoe).

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-RA Door Closers with B/F-5 Corner Bracket**  
**Extra Drop Corner Bracket Installation**  
**Non Hold-Open or Hold-Open**  
**Closer Sizes 78-B/D-RA or 78-E/F-RA**

**Norton**

ASSA ABLOY

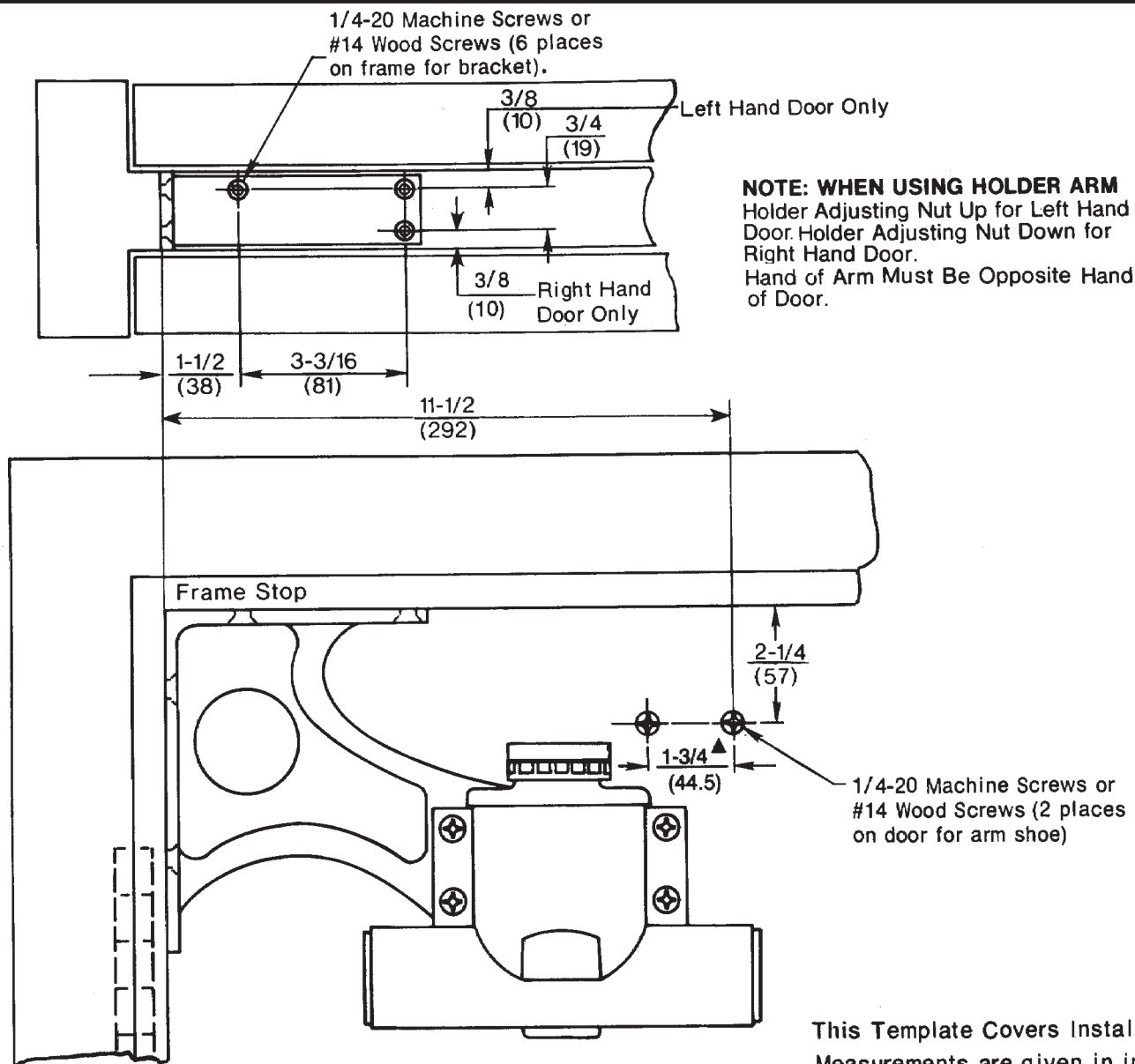
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0144**

DATE

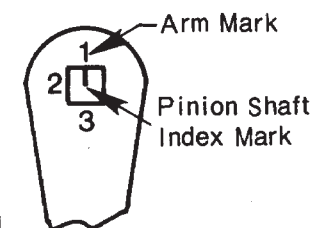
**02-09**



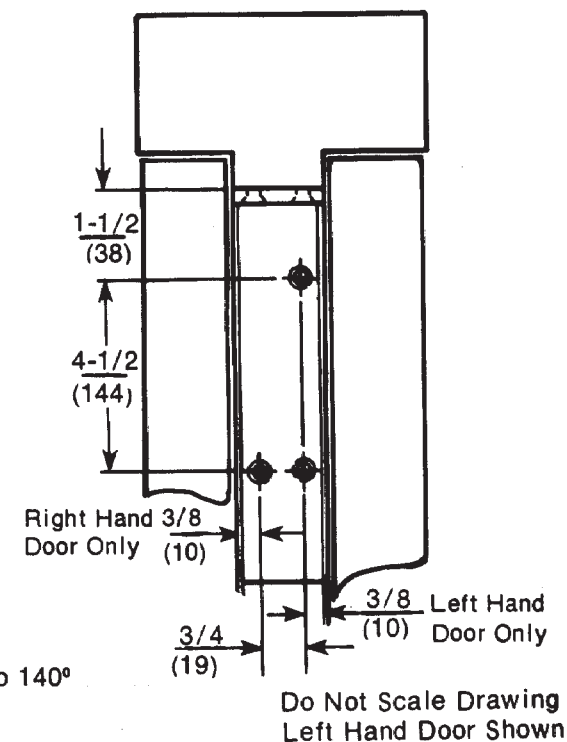
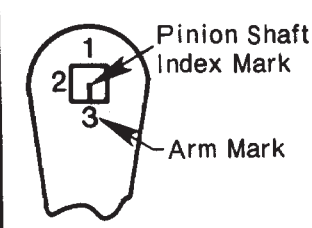
This Template Covers Installations to 140°  
Measurements are given in inches  
mm

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



TRADEMARK  
HARDWARE

**Series 78-B/F-RA Door Closers with B/F-8 Combination Bracket**  
**Combination Corner Bracket Installation**  
**Non Hold-Open or Hold-Open**  
**Closer Sizes 78-B/D-RA or 78-E/F-RA**

**Norton**

ASSA ABLOY

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

TEMPLATE NUMBER

**7349-0145**

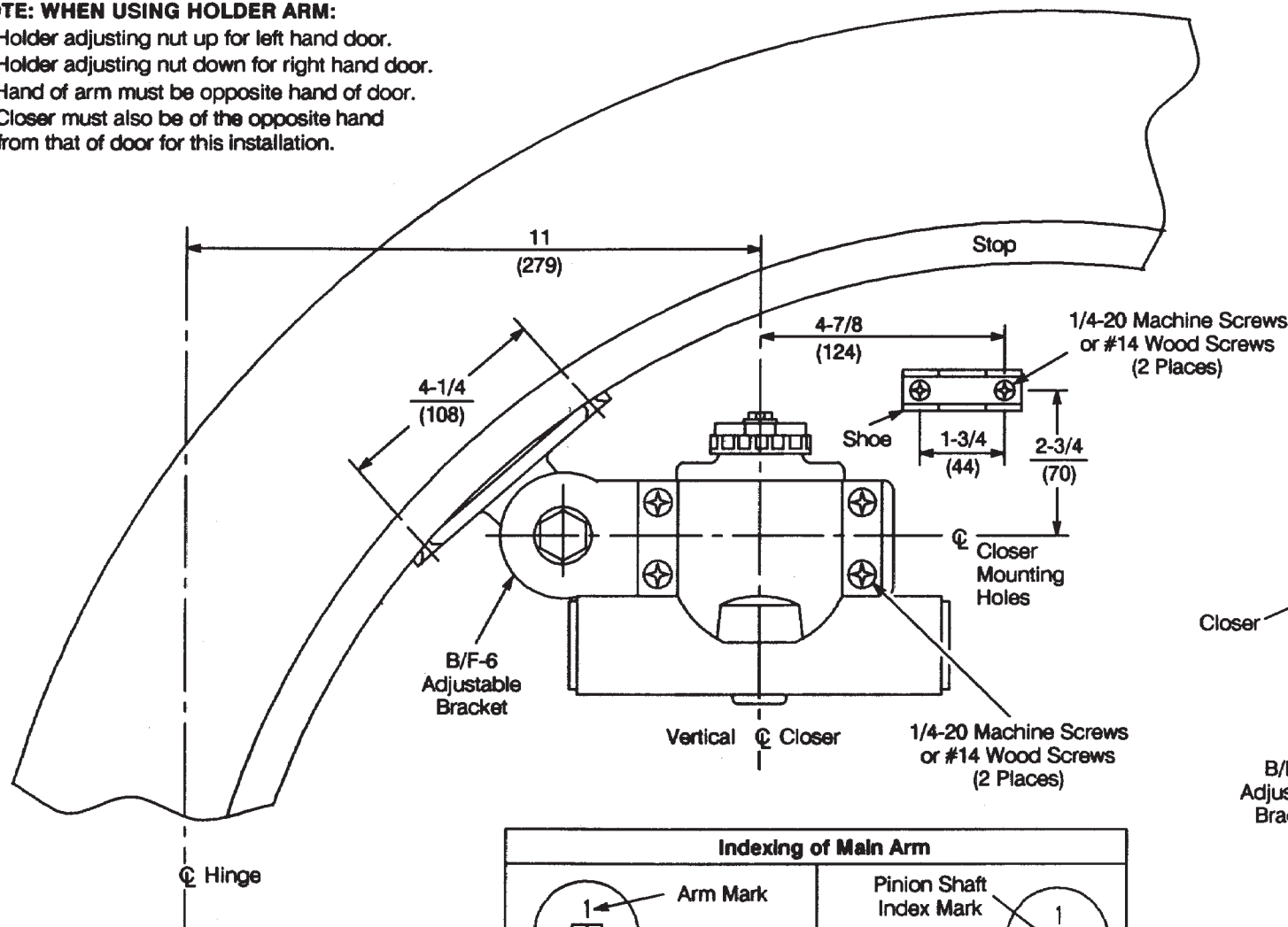
DATE

**02-09**



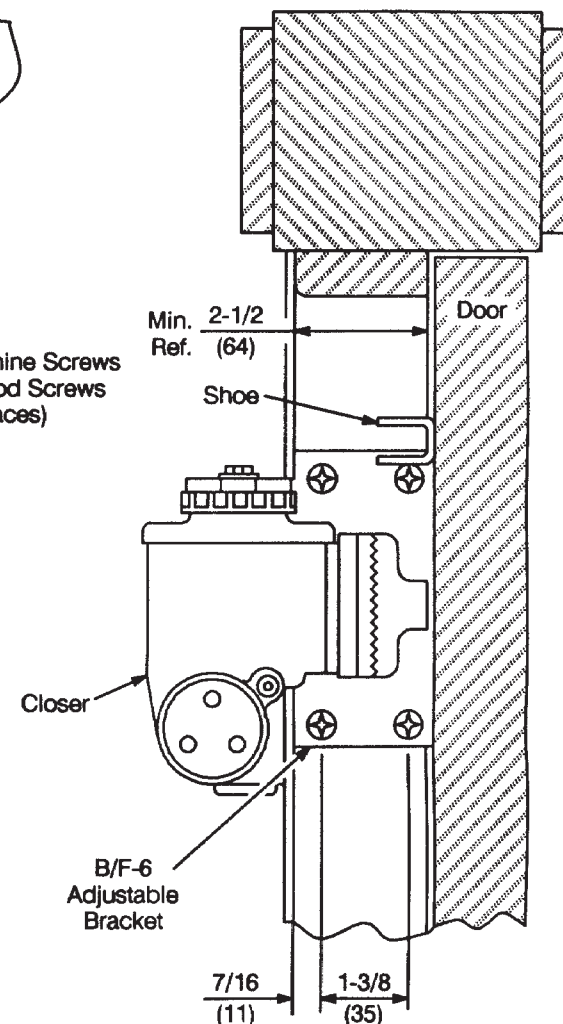
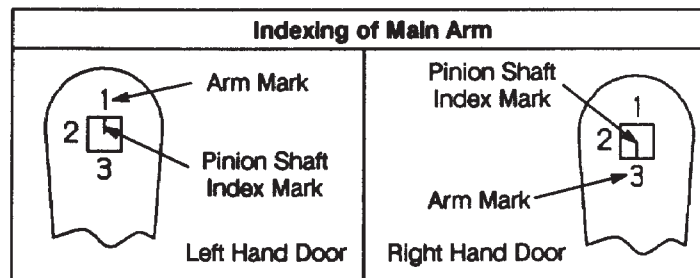
**NOTE: WHEN USING HOLDER ARM:**

- Holder adjusting nut up for left hand door.
- Holder adjusting nut down for right hand door.
- Hand of arm must be opposite hand of door.
- Closer must also be of the opposite hand from that of door for this installation.



**Notes:**

1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are given in inches (mm).



**To Open 90° Only:  
Push (Opposite Side to Hinge)  
Side of Door Installation**



**TRADEMARK  
HARDWARE**

**Series 78B/F-RA Door with B/F-6 Adjustable Bracket  
Push Side Arched Door Installation  
Closer Sizes 78B/D-RA or 78E/F-RA**

**Norton**

**ASSA ABLOY**

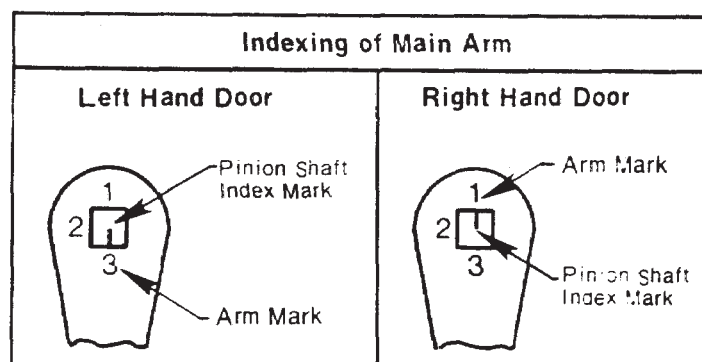
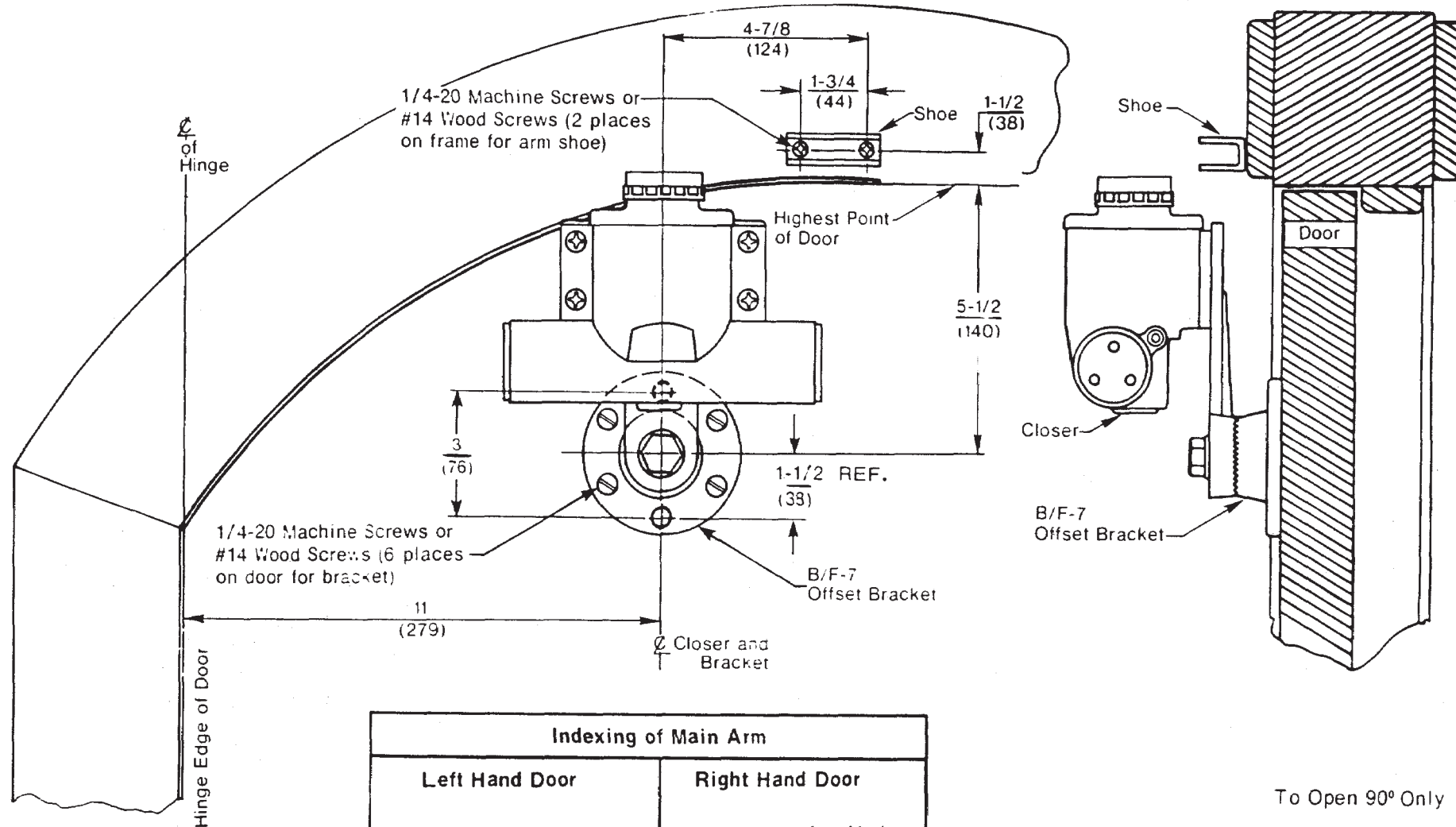
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0148**

DATE

**02-09**



To Open 90° Only  
Hinge (Pull) Side of  
Door Installation Only  
Measurements are given in inches  
mm

Do Not Scale Drawing  
Right Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-RA Door Closers with B/F-7 Offset Bracket**  
**Pull Side, Arched Door Installation**  
**Closer Sizes 78-B/D-RA or 78-E/F-RA**

**Norton**

ASSA ABLOY

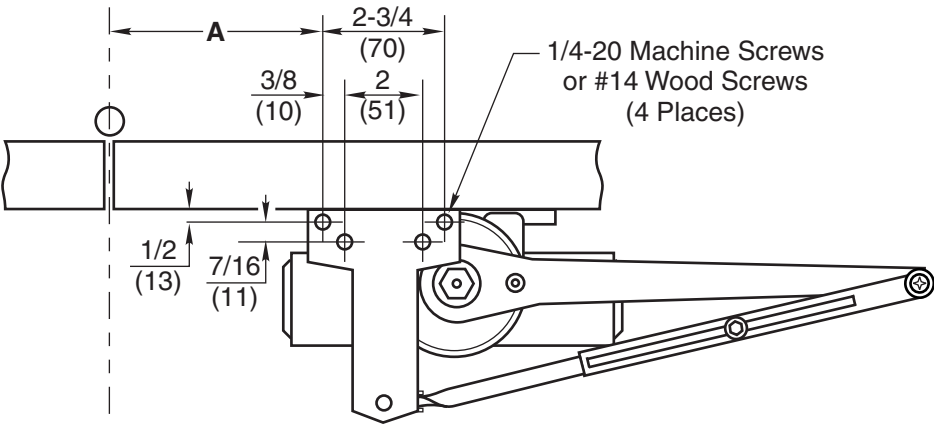
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0149**

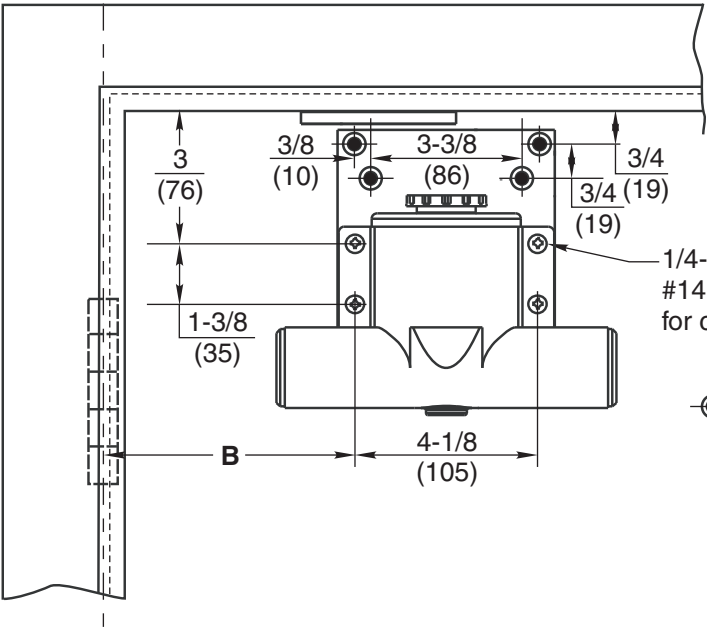
DATE

**02-09**



C Hinge  
or Pivot

Degree of Opening	Dim. A	Dim. B
Openings To 130°	7-3/4 (197)	8-1/2 (216)
Openings Over 130°	5-3/4 (146)	6-1/2 (165)



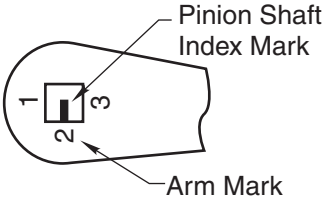
1/4-20 Machine Screws or  
#14 Wood Screws (4 Places)  
for closer or drop plate.

For use with  
#88 Drop Plate Only

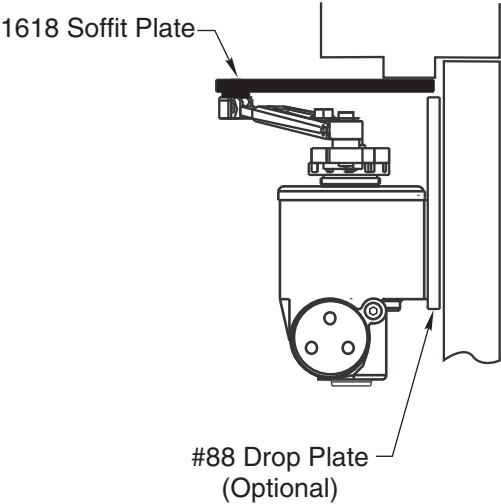
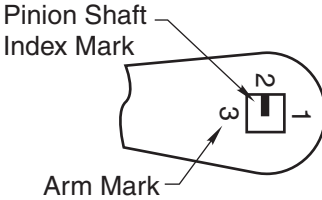
- Notes:**
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).

Indexing of Main Arm

Left Hand Door



Right Hand Door



TRADEMARK  
HARDWARE

**Series 78-B/F-PA Door Closers with 1618 Soffit Plate**  
**Non-Hold Open Parallel Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D-PA or 78-E/F-PA**

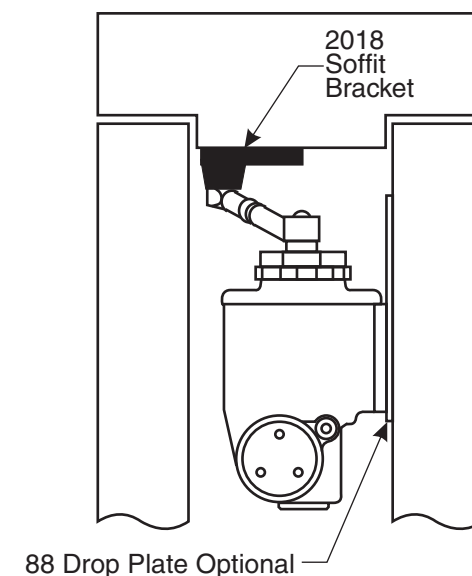
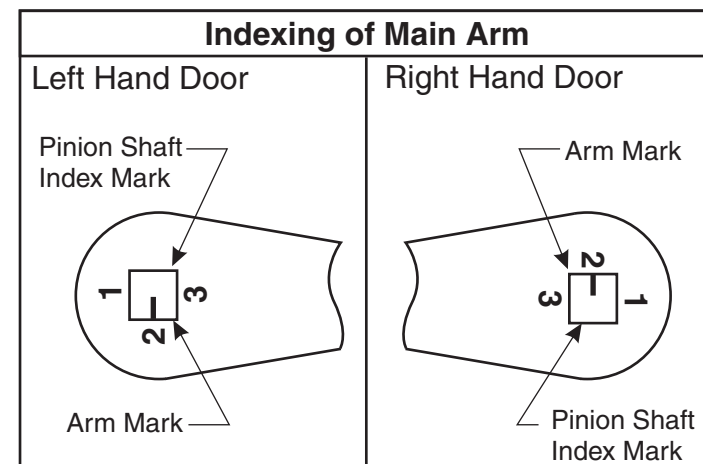
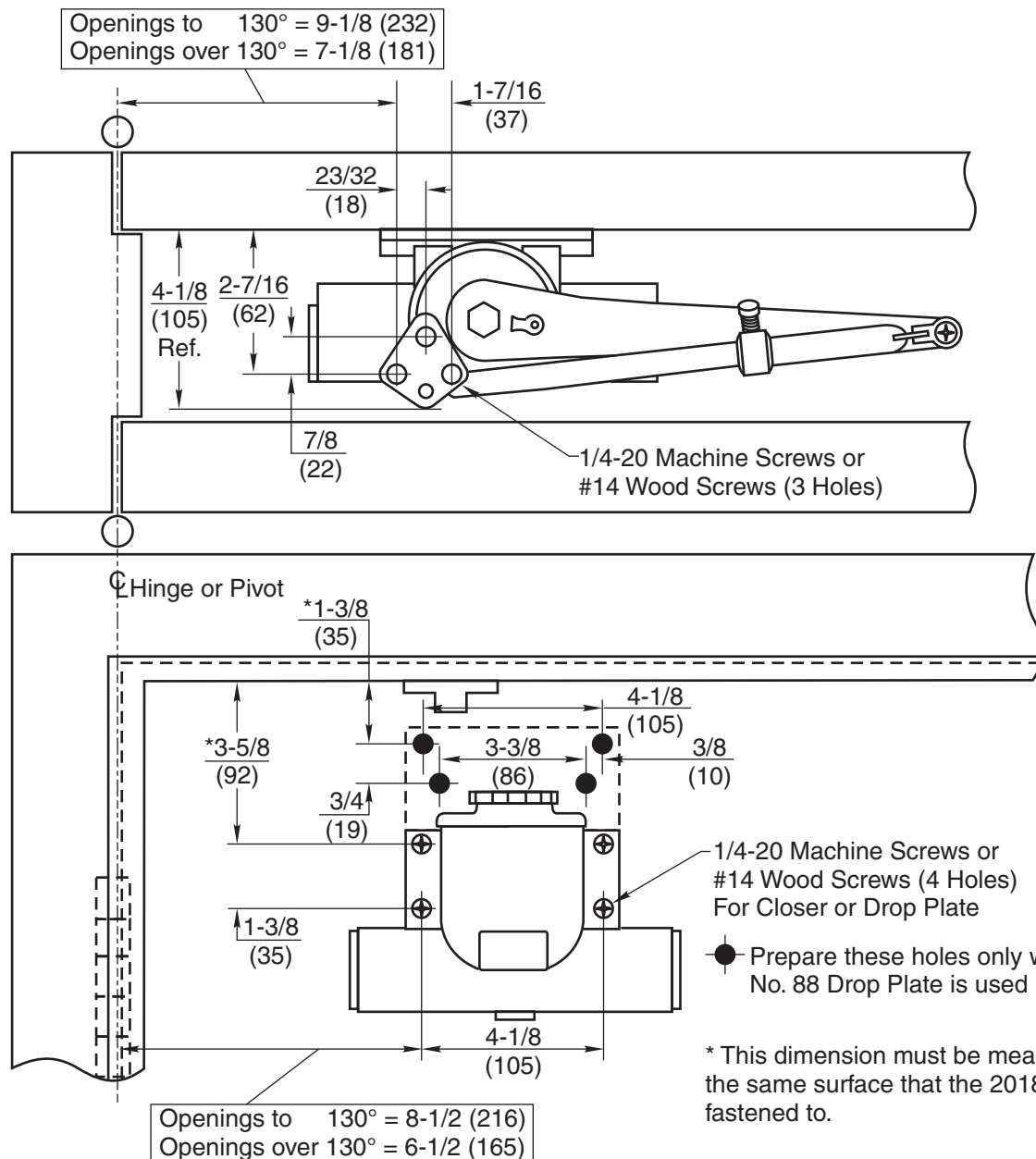
**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER  
**7349-0201**

DATE  
**01-09**



**NOTE:**

1. Do not scale drawing.
2. Measurements are given in inches (mm).
3. Left Hand door shown.



**TRADEMARK  
HARDWARE**

**78-B/F-PA Series Door Closers with 2018 Soffit Bracket  
Non-Hold Open Parallel Arm Installation  
With or Without No. 88 Drop Plate  
Closer Sizes 78-B/D-PA or 78-E/F-PA**

**Norton**

**ASSA ABLOY**

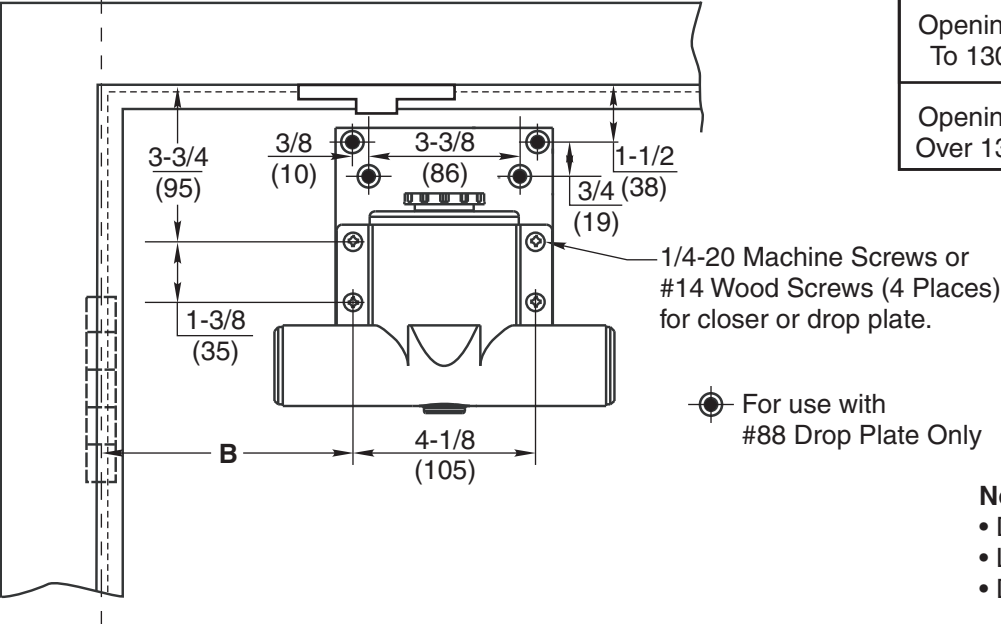
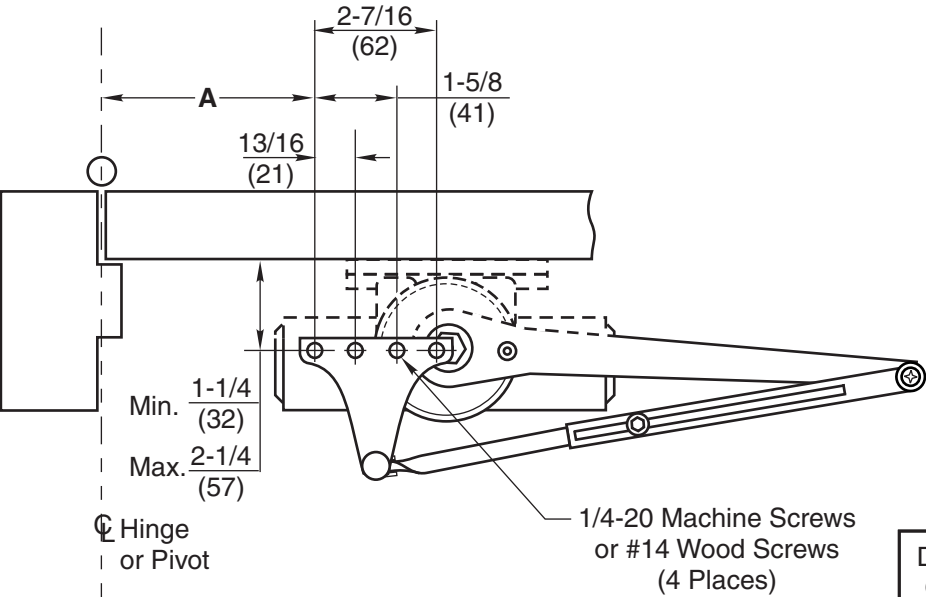
[www.nortondoорcontrols.com](http://www.nortondoорcontrols.com)

TEMPLATE NUMBER

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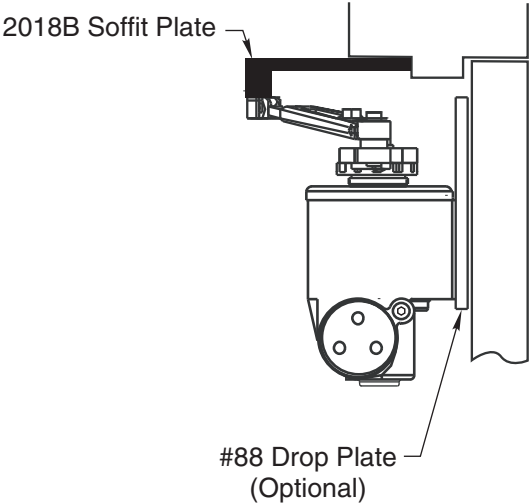
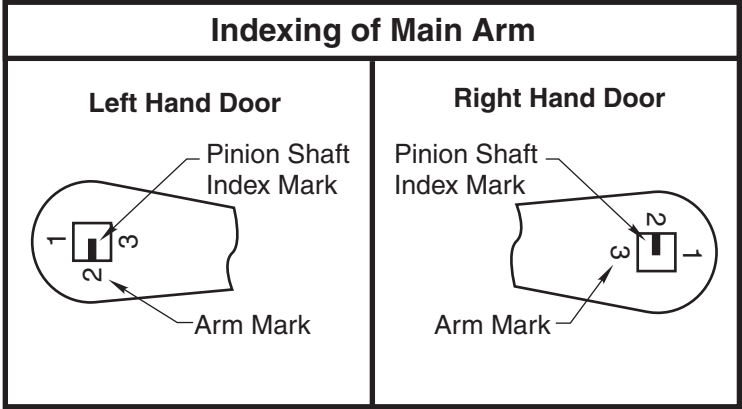
DATE

**08-09**



Degree of Opening	Dim. A	Dim. B
Openings To 130°	7-3/4 (197)	8-1/2 (216)
Openings Over 130°	5-3/4 (146)	6-1/2 (165)

- Notes:**
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).



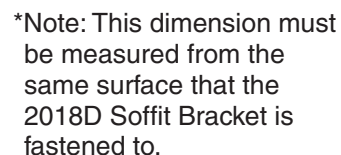
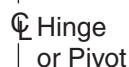
Series 78-B/F-PA Door Closers with 2018B Soffit Plate  
Non-Hold Open Parallel Arm Installation  
With or Without No. 88 Drop Plate  
Closer Sizes 78-B/D-PA or 78-E/F-PA

Norton

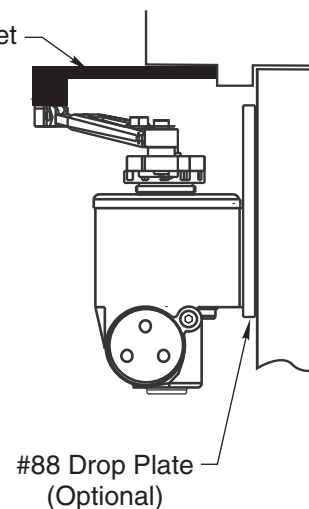
ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER 7349-0203 DATE 02-09



Degree of Opening	Dim. A	Dim. B
Openings To 130°	7-3/4 (197)	8-1/2 (216)
Openings Over 130°	5-3/4 (146)	6-1/2 (165)



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

TRADEMARK  
HARDWARE

**Series 78-B/F-PA Door Closers with 2018D Soffit Bracket  
Non-Hold Open Parallel Arm Installation  
With or Without No. 88 Drop Plate  
Closer Sizes 78-B/D-PA or 78-E/F-PA**



ASSA ABLOY

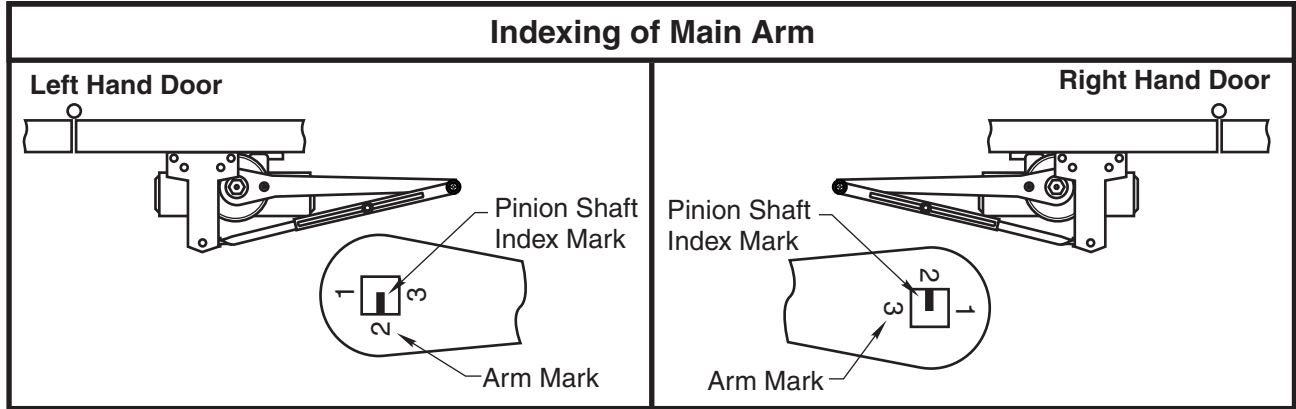
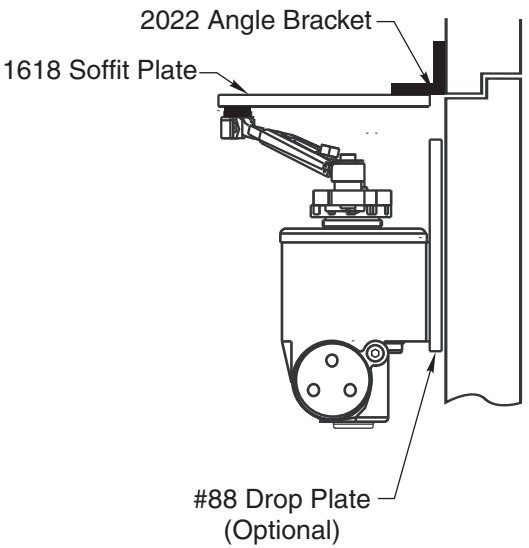
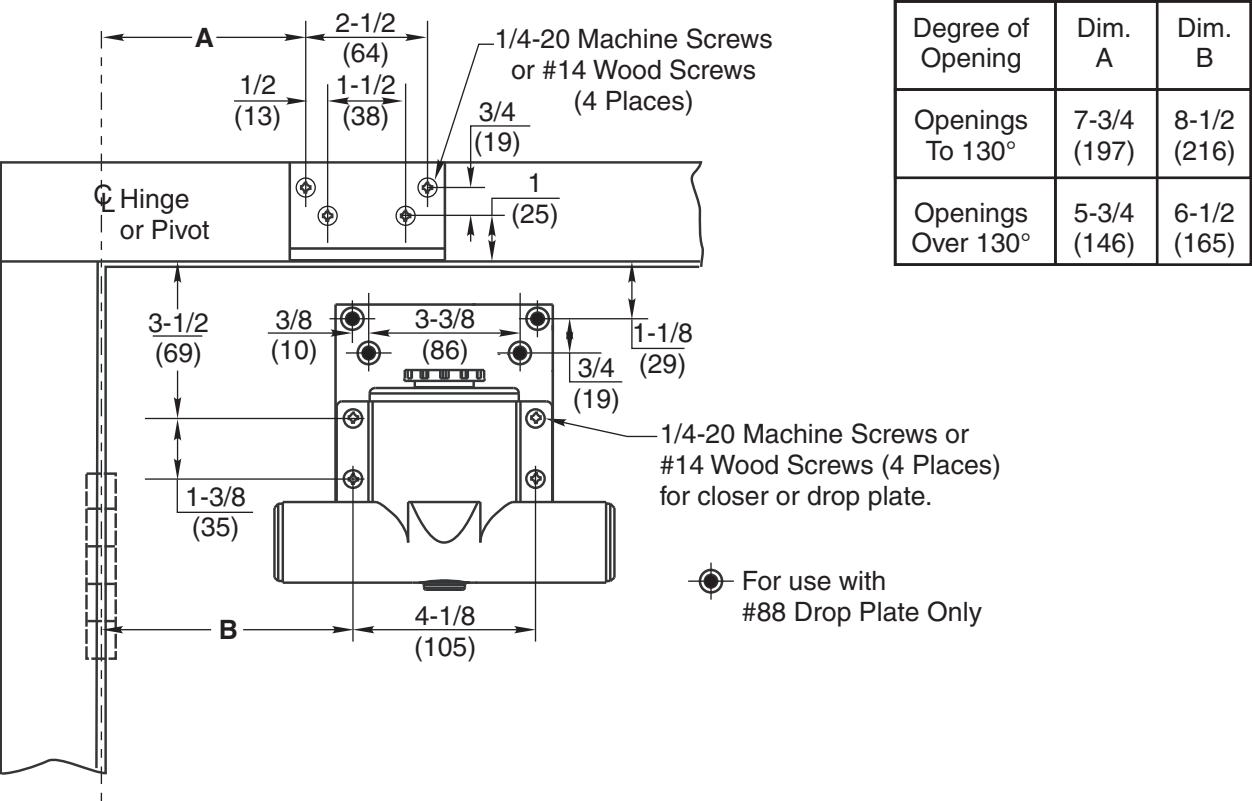
[www.nortondoорcontrols.com](http://www.nortondoорcontrols.com)

TEMPLATE NUMBER

7349-0204

DATE \_\_\_\_\_

02-09



- Notes:**
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).



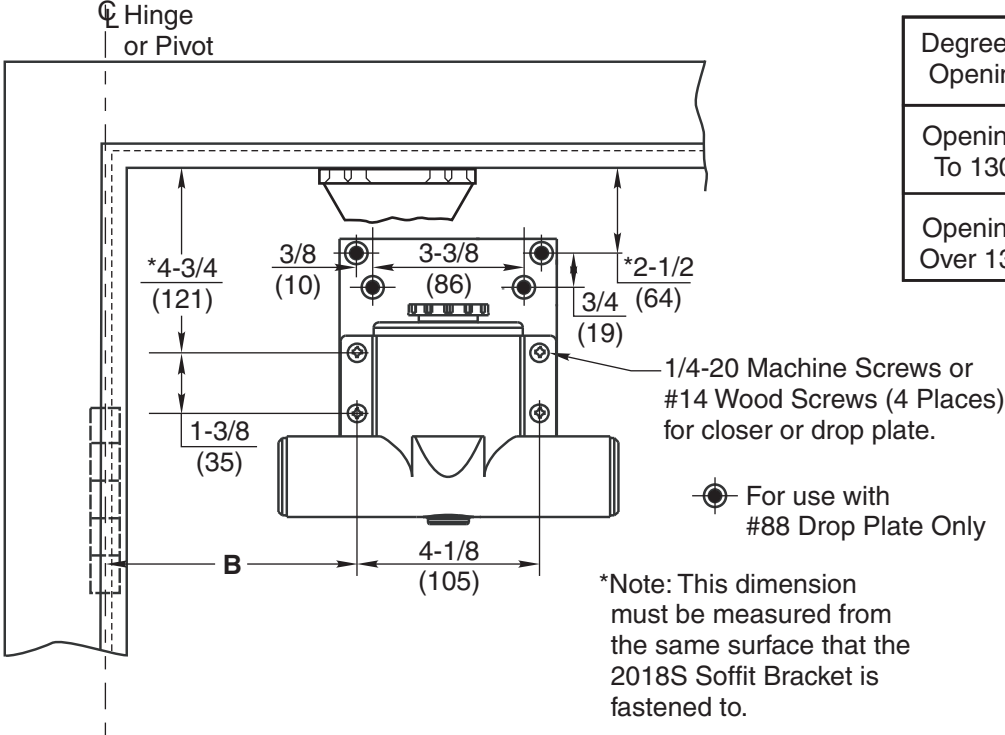
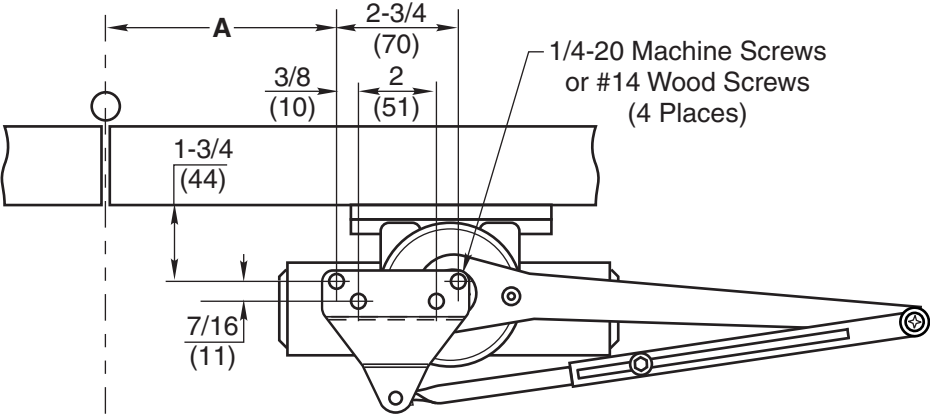
Series 78-B/F-PA Door Closers with 2022 Angle Bracket & 1618 Soffit Plate  
Non-Hold Open Parallel Arm Installation  
With or Without No. 88 Drop Plate  
Closer Sizes 78-B/D-PA or 78-E/F-PA



ASSA ABLOY

www.nortondoorcontrols.com

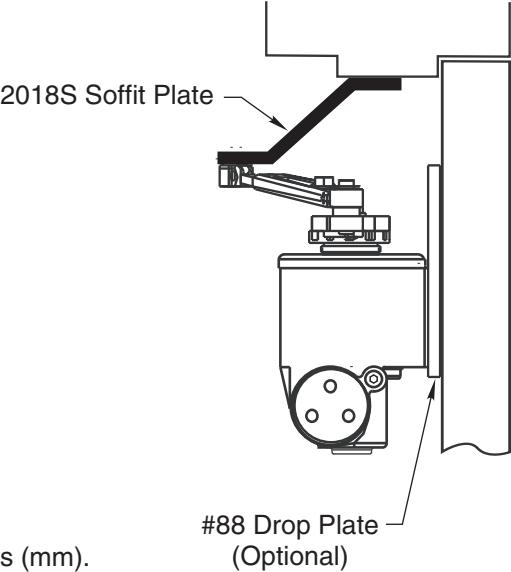
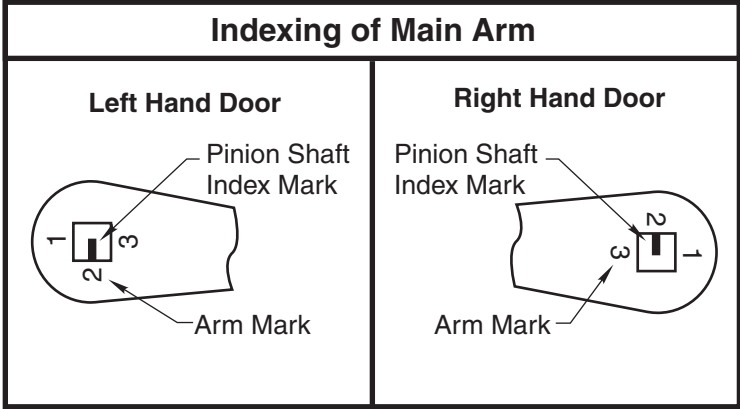




\*Note: This dimension must be measured from the same surface that the 2018S Soffit Bracket is fastened to.

Degree of Opening	Dim. A	Dim. B
Openings To 130°	7-3/4 (197)	8-1/2 (216)
Openings Over 130°	5-3/4 (146)	6-1/2 (165)

- Notes:**
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).
  - This template covers installations to 180° conditions permitting.



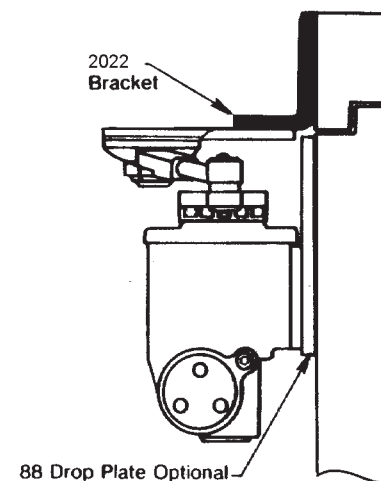
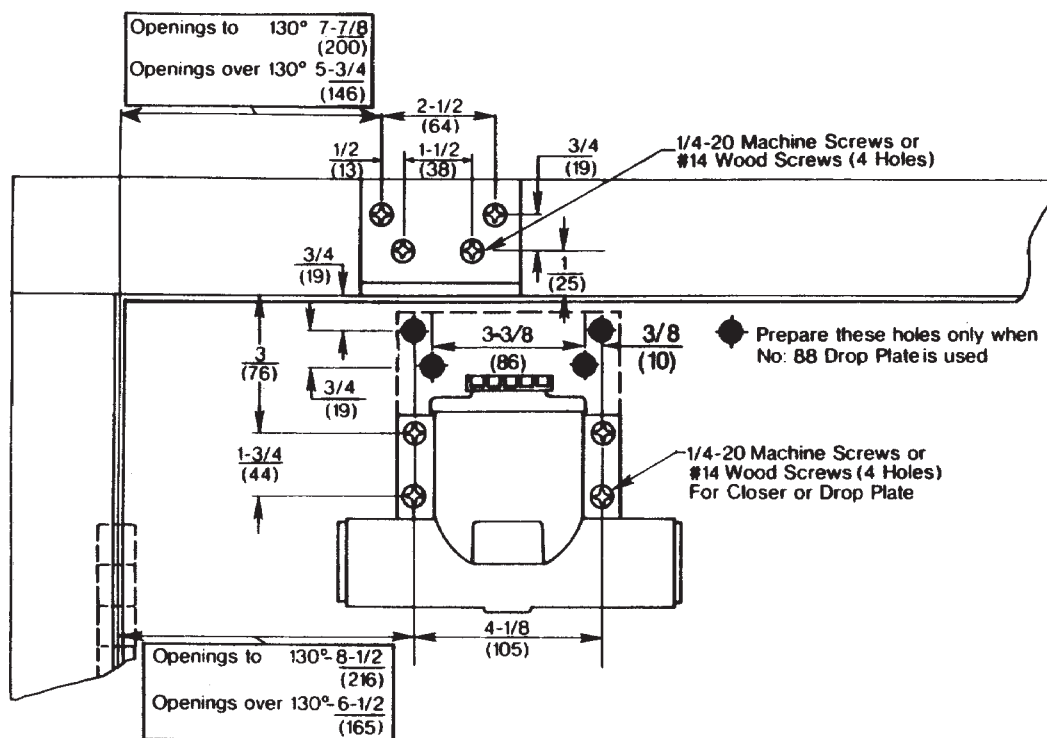
**Series 78-B/F-PA Door Closers with 2018S Soffit Plate**  
**Non-Hold Open Parallel Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D-PA or 78-E/F-PA**



ASSA ABLOY

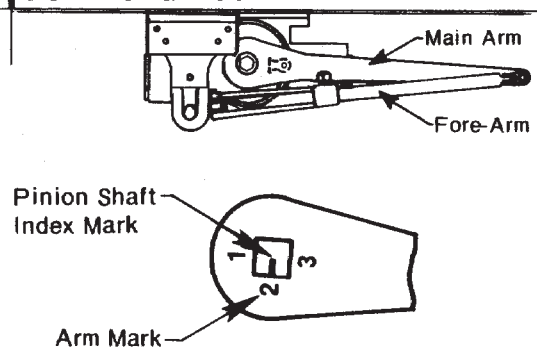
www.nortondoorcontrols.com



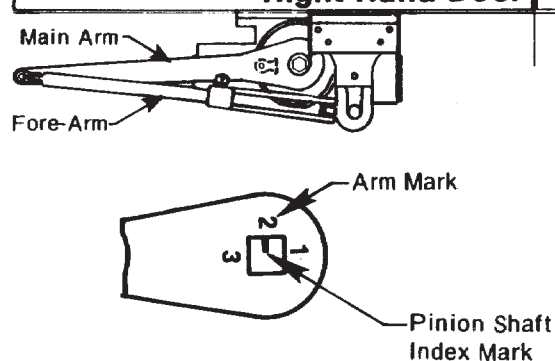


### Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-PHA Door Closers with 2022 Bracket**  
**Hold-Open Parallel Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D-PHA or 78-E/F-PHA**

**Norton**

ASSA ABLOY

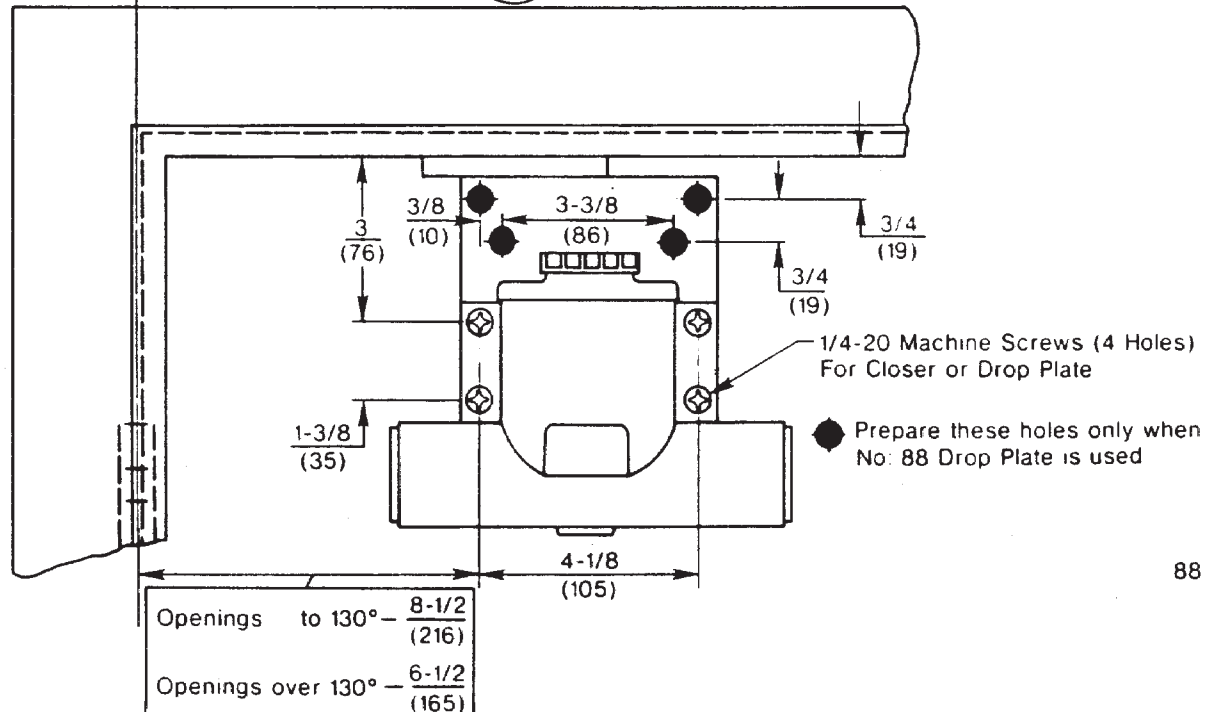
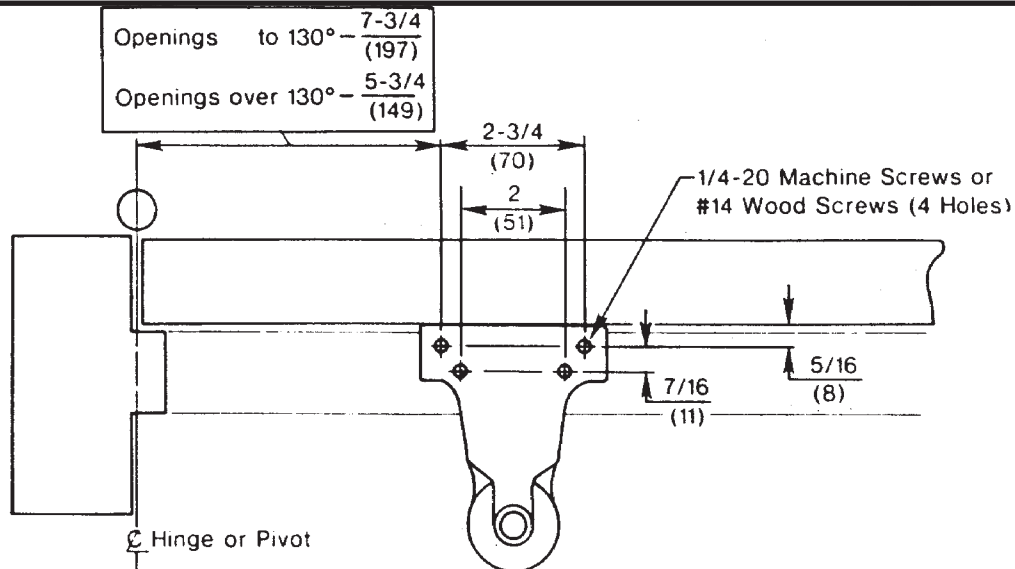
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

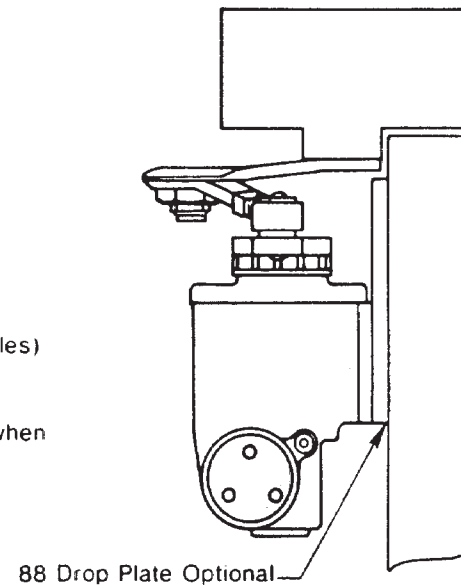
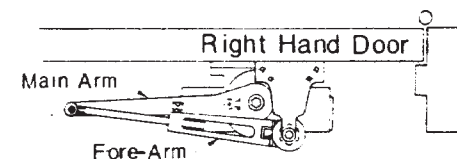
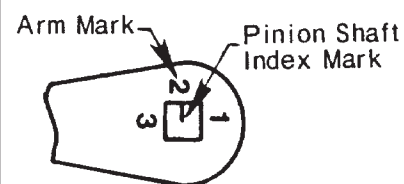
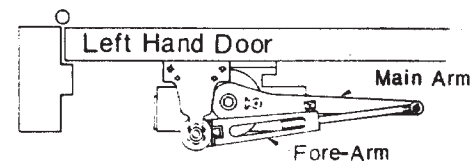
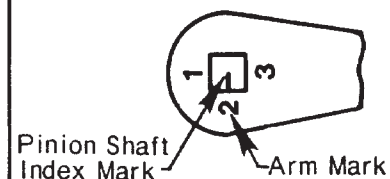
**7349-0208**

DATE

**02-09**



## Indexing of Main Arm



Measurements are given in inches (mm)

Do Not Scale Drawing  
 Left Hand Door Shown



TRADEMARK  
 HARDWARE

**Series 78-B/F-PHA Door Closers**  
**Hold-Open Parallel Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D-PHA or 78-E/F-PHA**

**Norton**

ASSA ABLOY

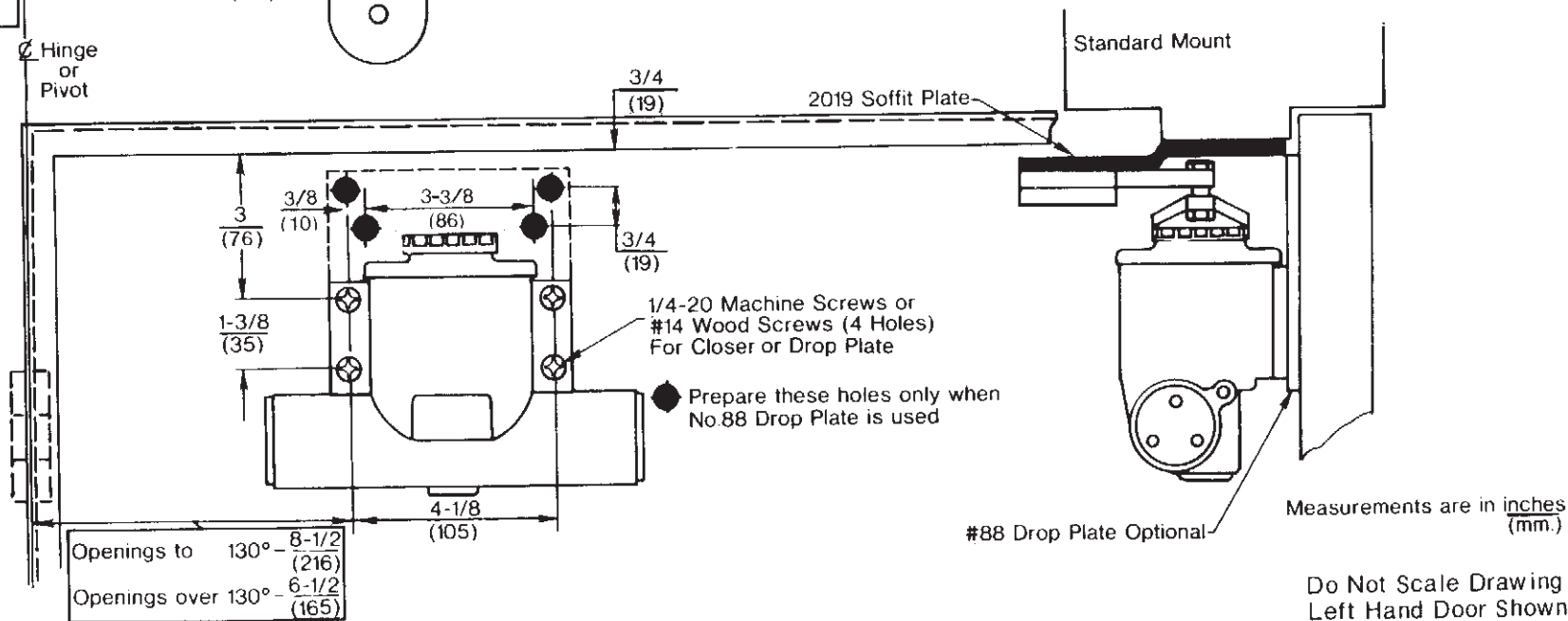
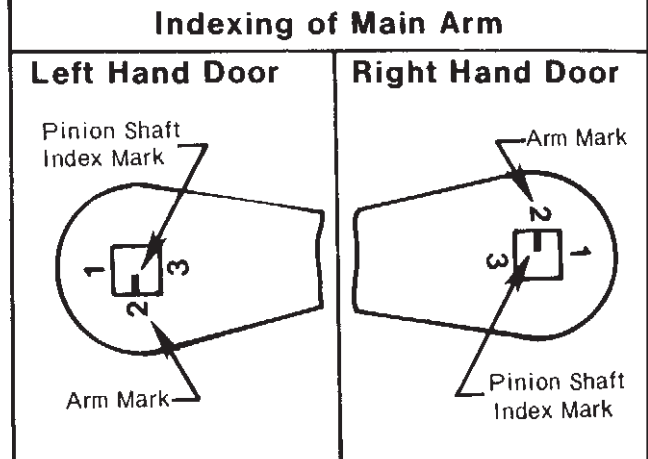
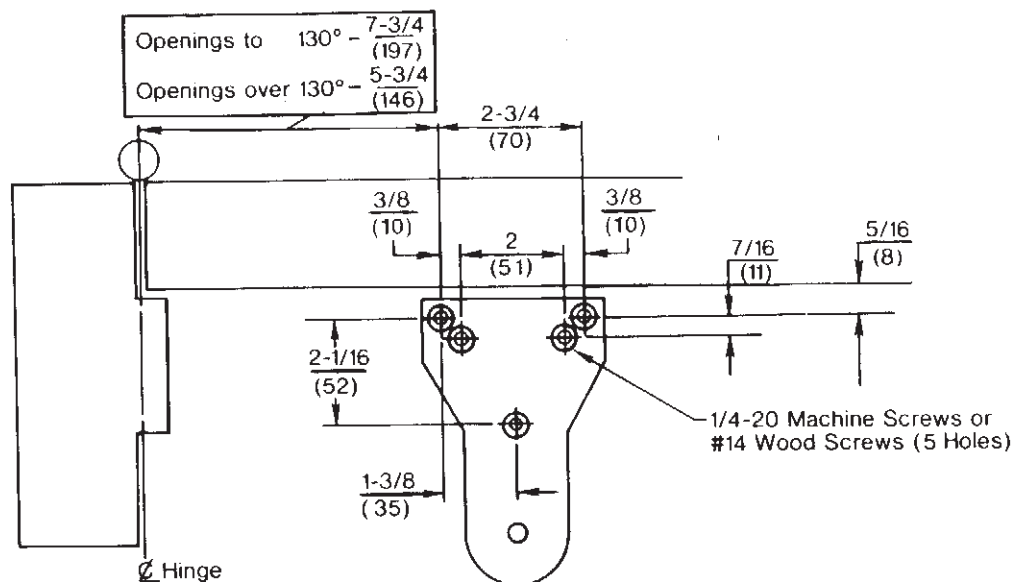
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0209**

DATE

**02-09**



TRADEMARK  
HARDWARE

## Series 78-B/F-(PRA or PHA) Door Closers With 2019 Soffit Plate

### Non Hold-Open or Hold-Open Parallel Rigid Arm Installation

### With or Without No. 88 Drop Plate

### Closer Sizes 78-B/D or 78-E/F

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

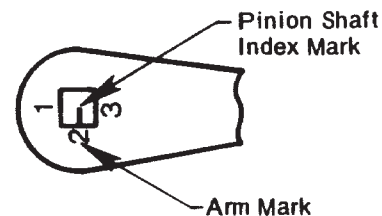
7349-0251

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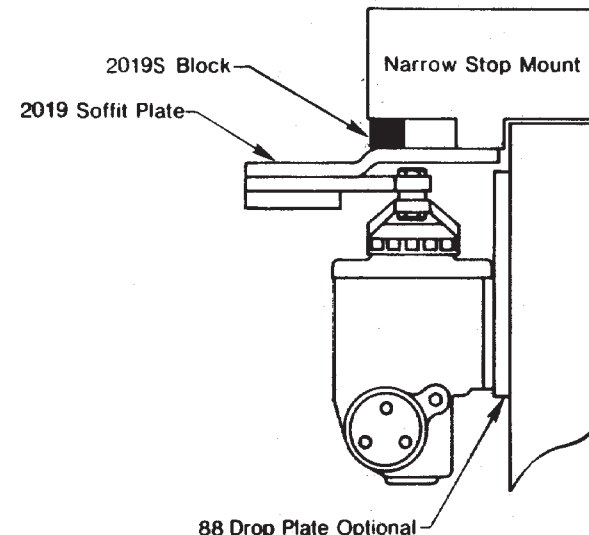
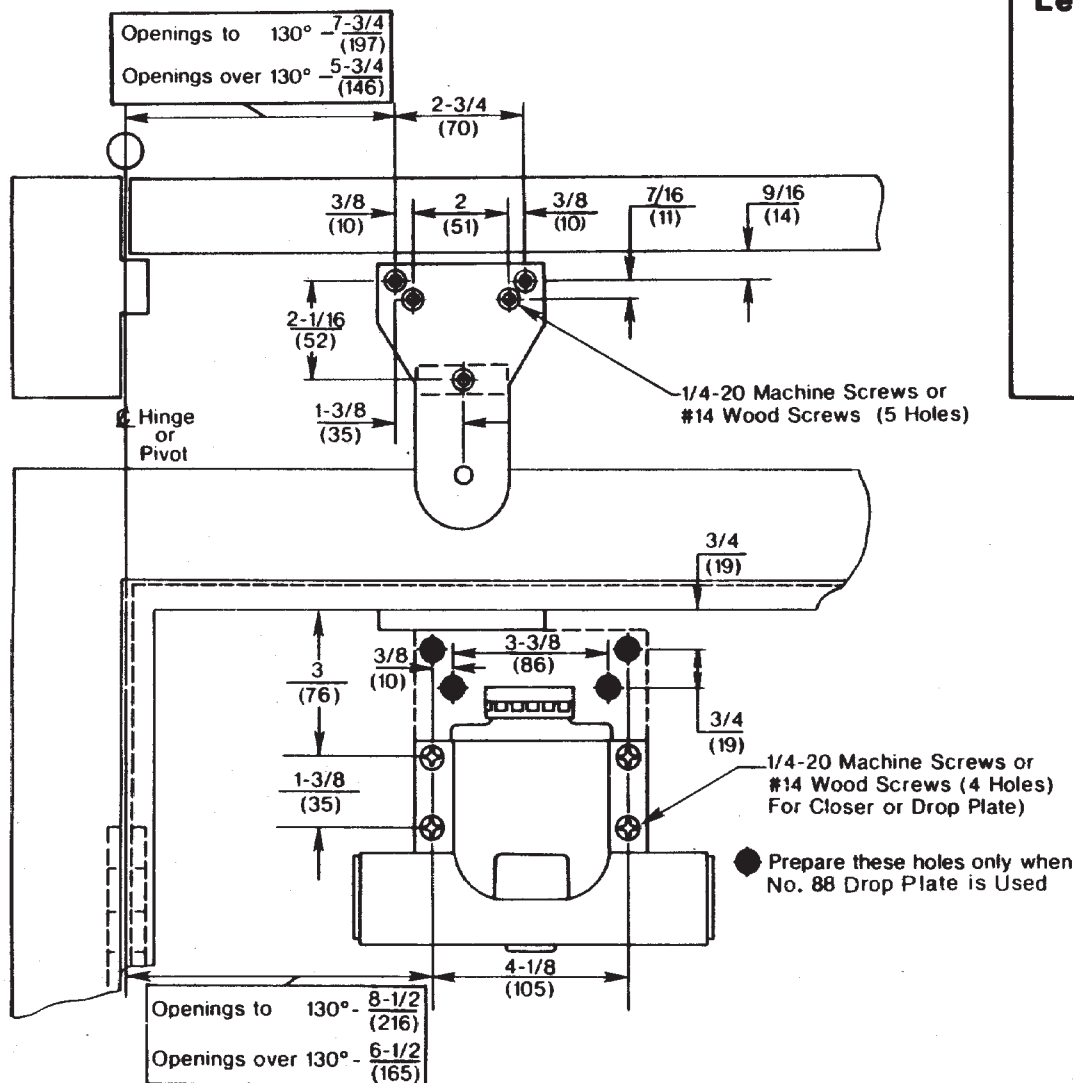
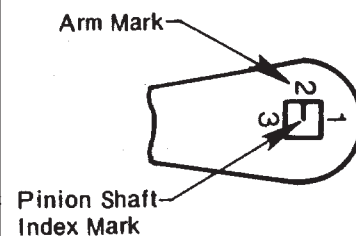
02-09

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-(PRA or PHA) Door Closers With 2019S Spacer Block**  
**Non Hold-Open or Hold-Open Parallel Rigid Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D or 78-E/F**

**Norton**

ASSA ABLOY

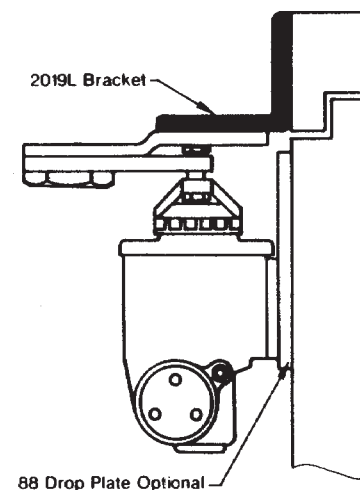
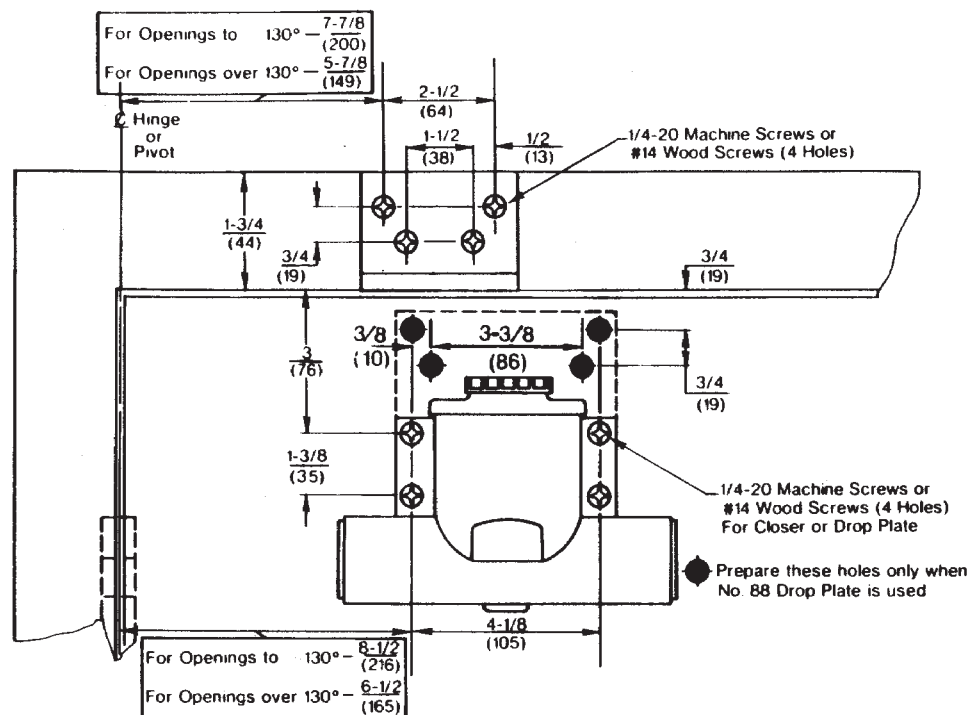
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

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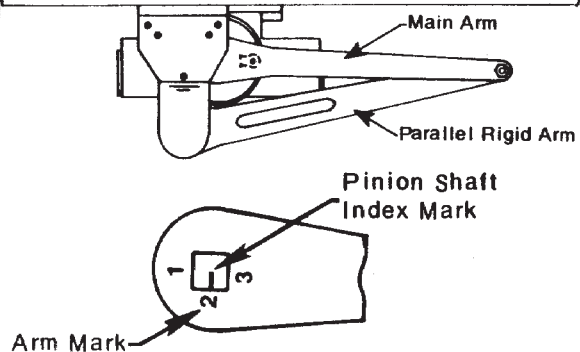
DATE

**02-09**

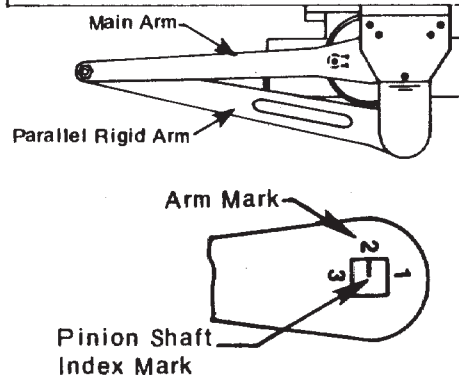


### Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-(PRA or PHA) Door Closers With 2019L Bracket**  
**Non Hold-Open or Hold-Open Parallel Rigid Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D or 78-E/F**

**Norton**

ASSA ABLOY

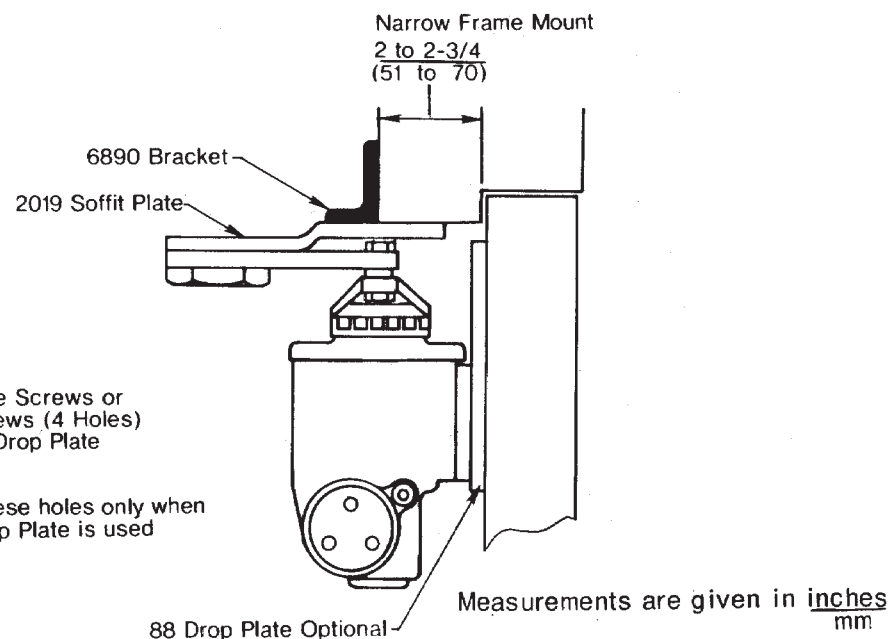
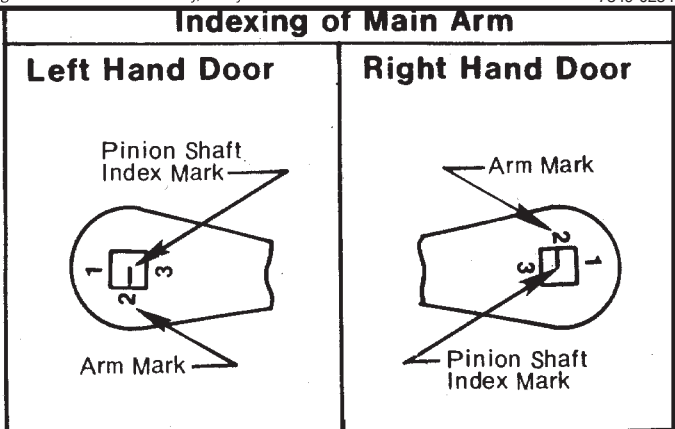
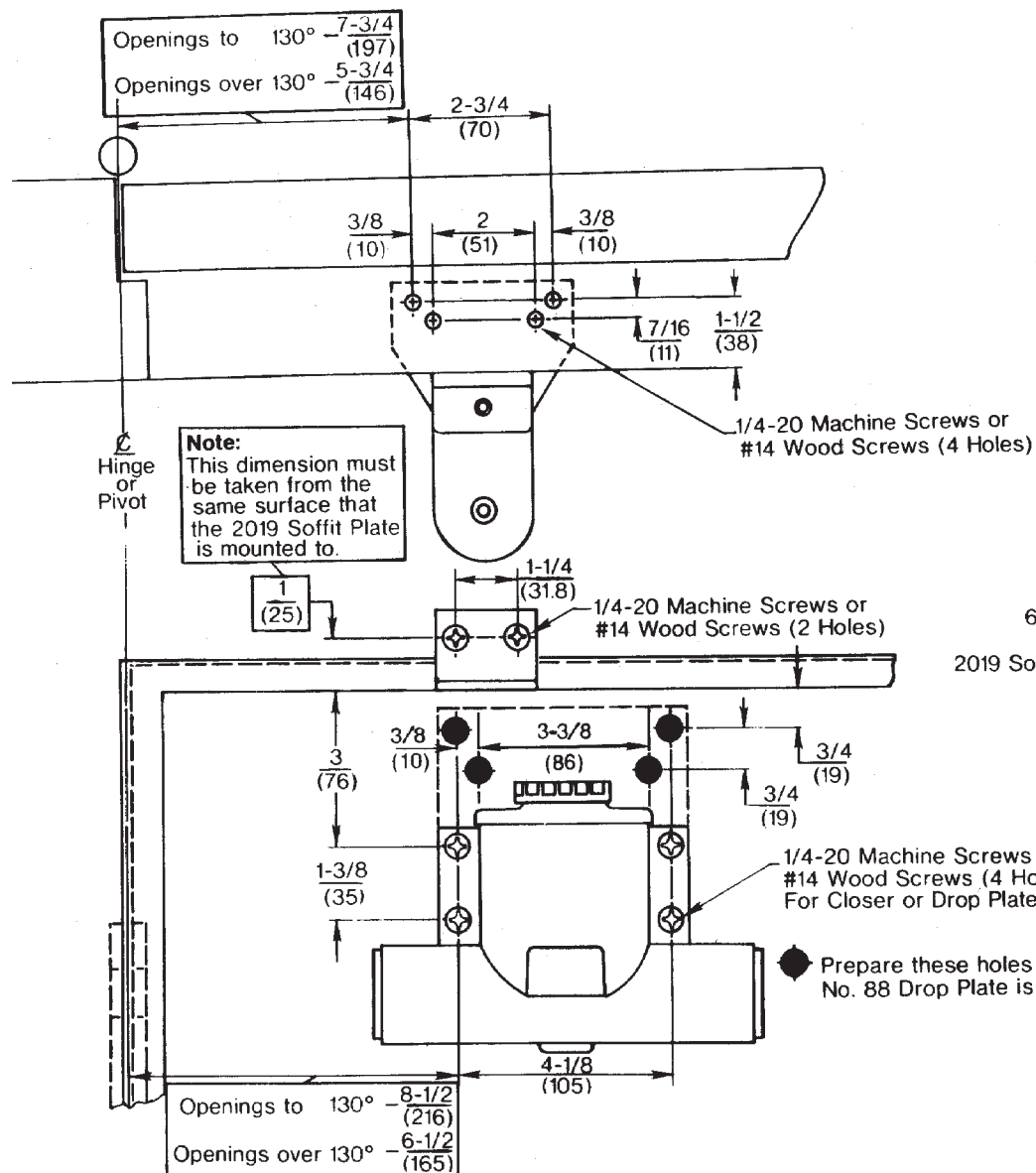
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TEMPLATE NUMBER

**7349-0253**

DATE

**02-09**



Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-(PRA or PHA) Door Closers With 6890 Support Bracket**  
**Non Hold-Open or Hold-Open Parallel Rigid Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D or 78-E/F**

**Norton**

ASSA ABLOY

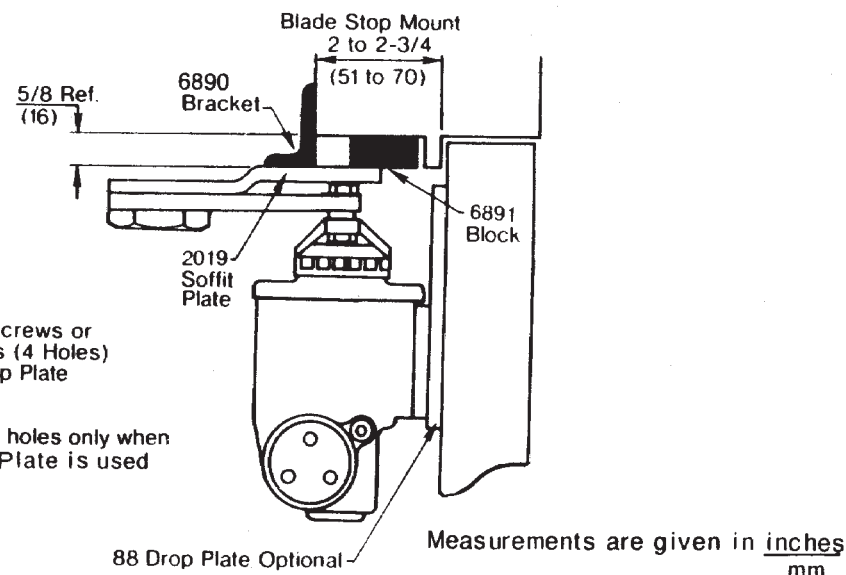
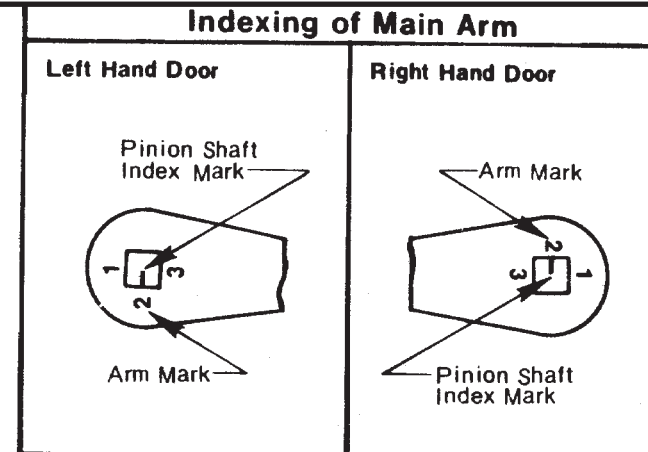
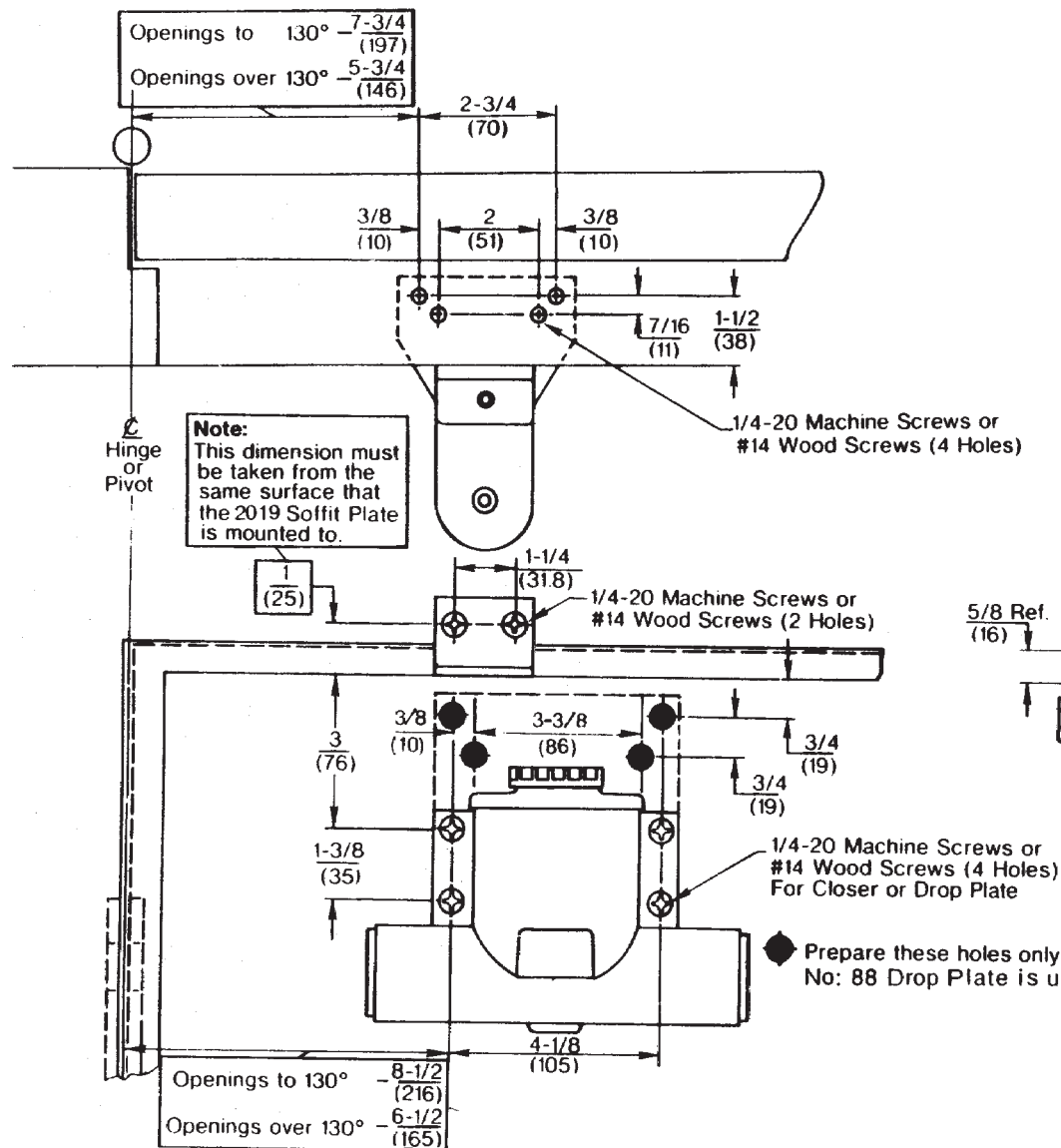
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

7349-0254

DATE

02-09



Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-(PRA or PHA) Door Closers With 6890 Support Bracket & 6891 Spacer Block**  
**Non Hold-Open or Hold-Open Parallel Rigid Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D or 78-E/F**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

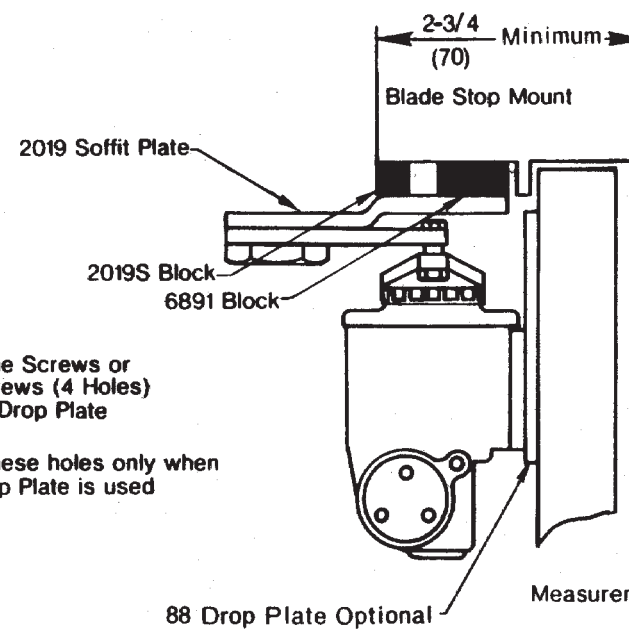
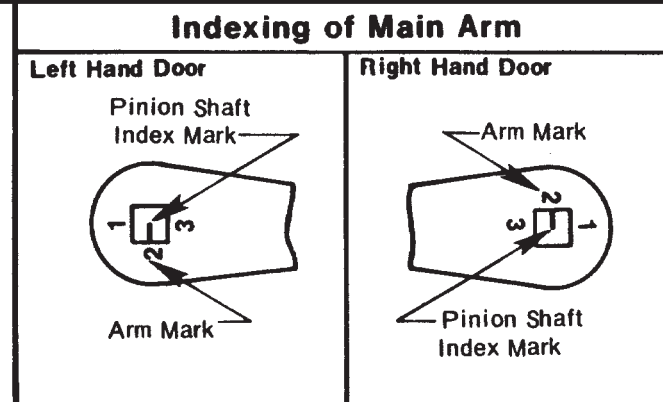
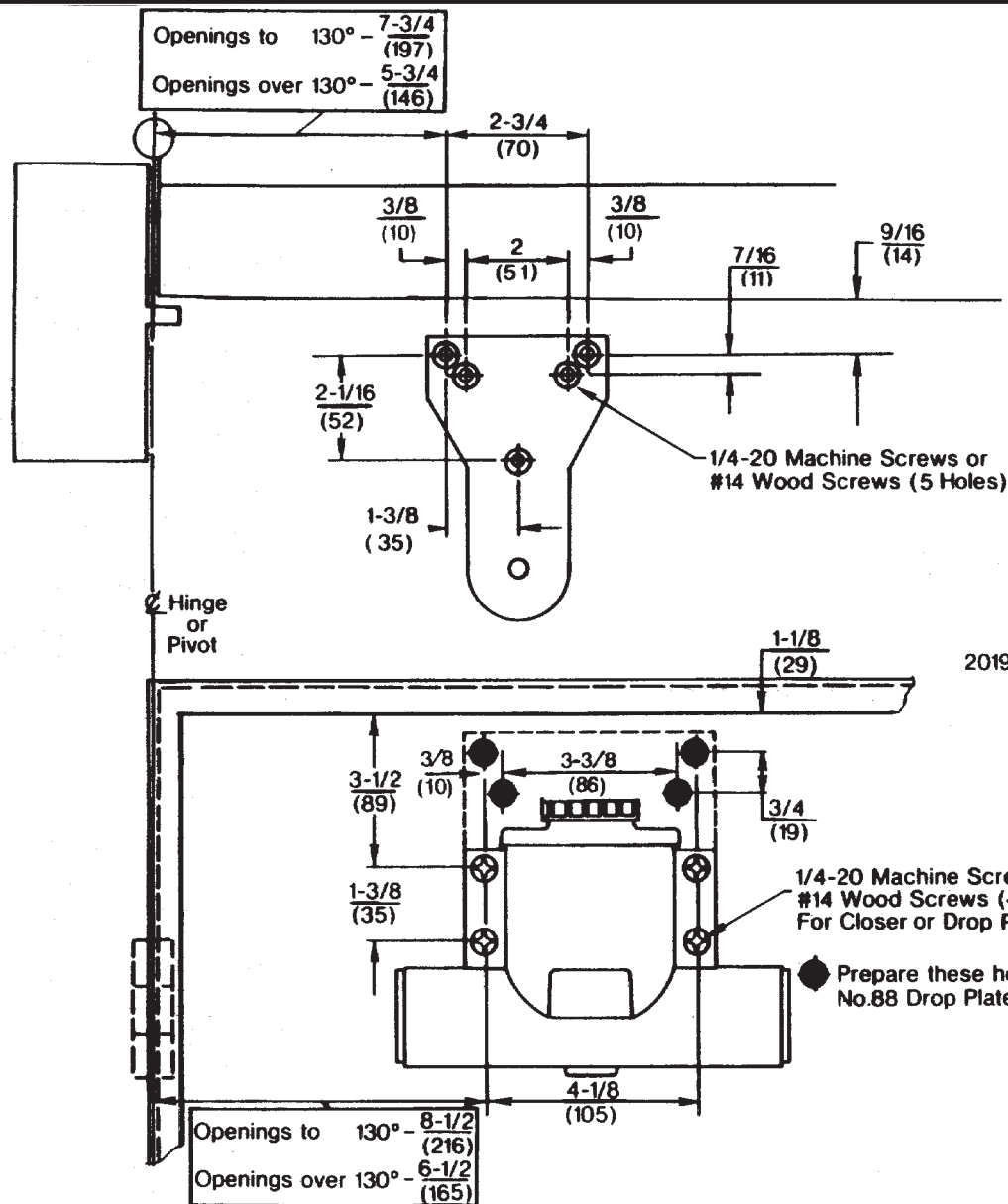
TEMPLATE NUMBER

**7349-0255**

DATE

**02-09**





Do Not Scale Drawing  
Left Hand Door Shown



TRADEMARK  
HARDWARE

**Series 78-B/F-(PRA or PHA) Door Closers With 2019S & 6891 Spacer Blocks**  
Non Hold-Open or Hold-Open Parallel Rigid Arm Installation For Blade Stop Frames With or Without No. 88 Drop Plate  
Closer Sizes 78-B/D or 78-E/F

**Norton**

ASSA ABLOY

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

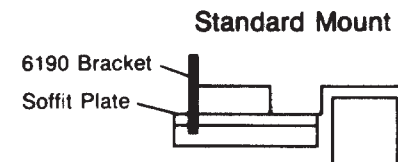
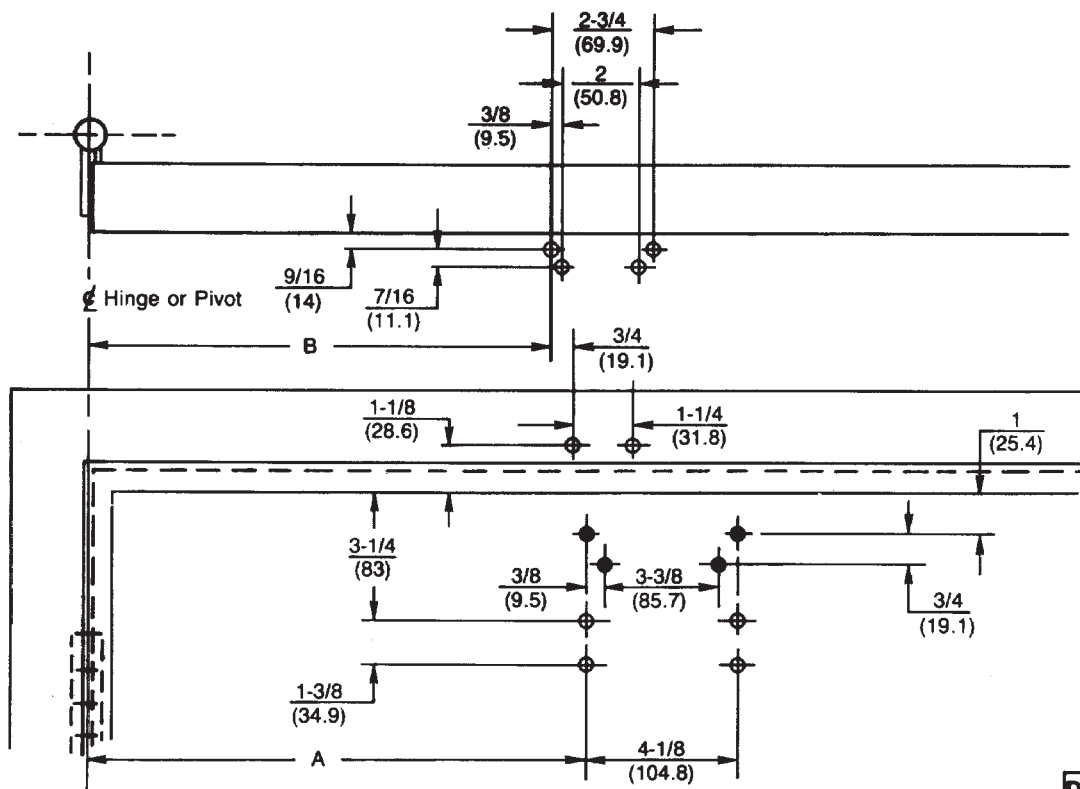
TEMPLATE NUMBER

**7349-0256**

DATE

**02-09**





◆ No. 88 drop plate mounting holes only

#### Notes:

- Do not scale drawing.
- All dimensions shown in inches (mm.).
- Left hand door shown.
- Caution: Hollow metal doors require channel or box type reinforcement.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer Drop plate	Hollow Metal	9/32" (7.00mm.) through 3/8" (9.50mm.) door face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
#14 x 1-1/4" (32mm.) type "A" S.M. screws	Soffit plate 6190 Bracket	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201") tap: 1/4-20
Through bolts and grommet nuts	Optional	All	9/32" (7.00mm.) through 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep, door face opposite to closer

Door Opening Angle		Dimensions*							
Hold Open**	Dead Stop	Butts and Offset Pivots				Center Pivots			
		Dimension A		Dimension B		Dimension A		Dimension B	
		Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.
85°	90°	11 5/8	295	10 3/8	263	12 3/8	314	11 1/8	282
90°	95°	11	279	9 3/4	247	11 3/4	298	10 1/2	266
95°	100°	10 1/2	266	9 3/8	238	11 1/4	286	10	254
100°	105°	10	254	8 3/4	222	10 3/4	273	9 1/2	241
105°	110°	9 1/2	241	8 1/4	209	10 1/4	260	9	229
110°	115°	9 1/8	231	7 7/8	200	9 7/8	251	8 5/8	219

\* "A" and "B" dimensions measured from centerline of hinge or pivot.  
\*\* Door must be free to swing up to 5° beyond hold open position.

**Unitrol Standard Application  
Series 78-B/F  
Doors 28" - 32" (0.70 - 0.80m) Wide**

**Parallel Arm Installation Template  
Stop Only or Hold-Open Unitrol Door Closer  
With or Without No. 88 Drop Plate**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

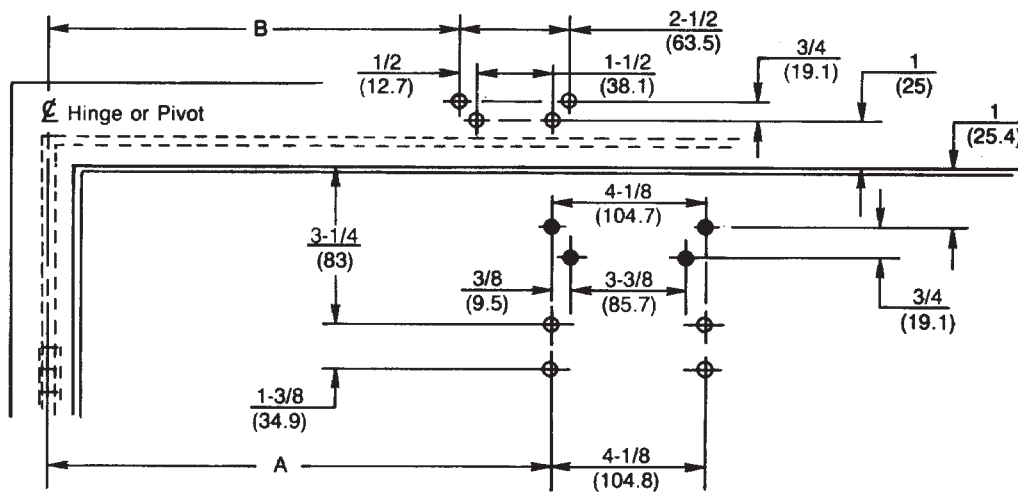
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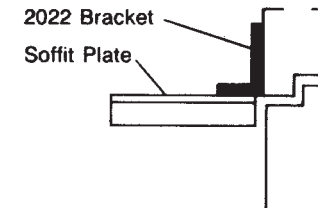
**02-09**



TRADEMARK  
HARDWARE



◆ No. 88 drop plate mounting holes only



#### Notes:

- Do not scale drawing.
- All dimensions shown in inches (mm.).
- Left hand door shown.
- Caution: Hollow metal doors require channel or box type reinforcement. Hollow metal frames require full width header reinforcement.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer Drop plate 2022 Bracket	Hollow Metal	9/32" (7.00mm.) through 3/8" (9.50mm.) door face opposite to closer
		Aluminum or wood	3/8" (9.50mm.) through

Door Opening Angle		Dimensions*							
Hold Open **	Dead Stop	Butts and Offset Pivots				Center Pivots			
		Dimension A		Dimension B		Dimension A		Dimension B	
		Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.
85°	90°	11 5/8	295	10 1/2	267	12 3/8	314	11 1/4	286
90°	95°	11	279	9 7/8	251	11 3/4	298	10 5/8	270
95°	100°	10 1/2	266	9 1/2	241	11 1/4	286	10 1/8	257
100°	105°	10	254	8 7/8	225	10 3/4	273	9 5/8	244
105°	110°	9 1/2	241	8 3/8	213	10 1/4	260	9 1/8	232
110°	115°	9 1/8	231	8	203	9 7/8	251	8 3/4	222

\* "A" and "B" dimensions measured from centerline of hinge or pivot.  
\*\* Door must be free to swing up to 5° beyond hold open position.

**Unitrol With 2022 Bracket  
Series 78-B/F  
Doors 28" - 32" (0.70 - 0.80m) Wide**

**Parallel Arm Installation Template - Flush Partitions  
Stop Only or Hold-Open Unitrol Door Closer  
With or Without No. 88 Drop Plate**

**Norton**

ASSA ABLOY

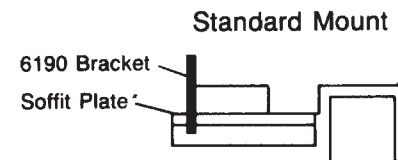
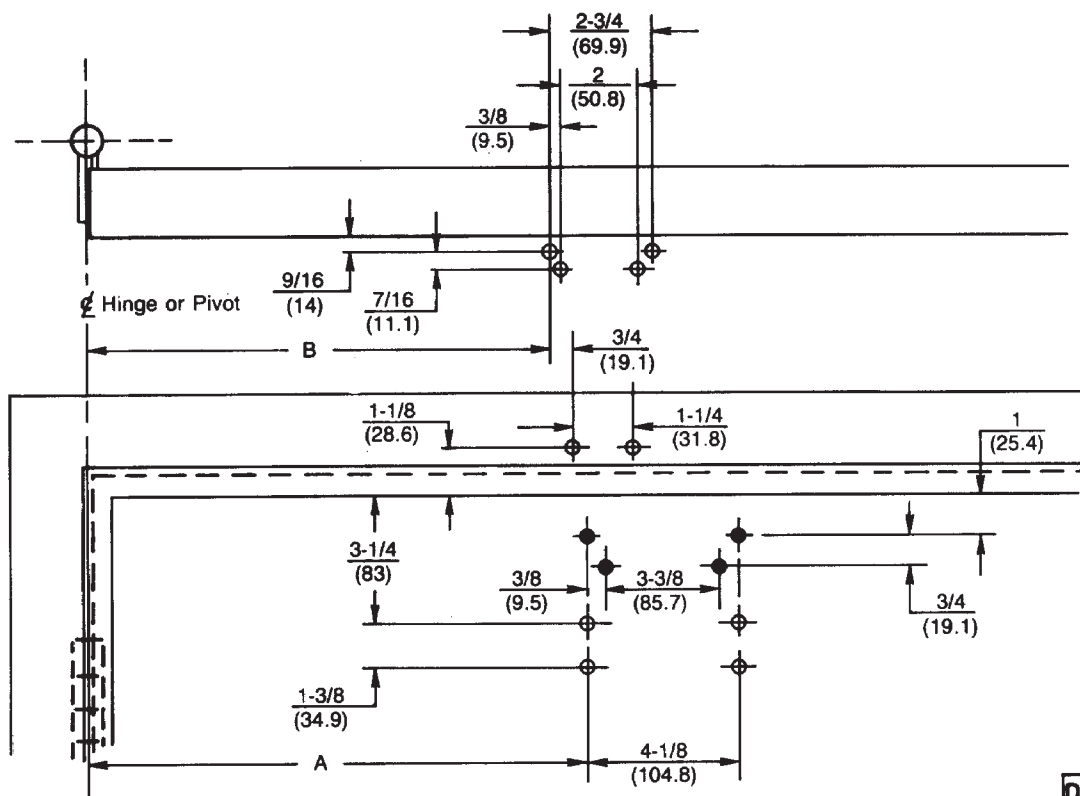
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-1352**

DATE

**02-09**



◆ No. 88 drop plate mounting holes only

**Notes:**

- Do not scale drawing.
- All dimensions shown in  $\frac{\text{inches}}{(\text{mm.})}$ .
- Left hand door shown.
- Caution: Hollow metal doors require channel or box type reinforcement.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer Drop plate	Hollow Metal	9/32" (7.00mm.) through 3/8" (9.50mm.) door face opposite to closer
		Aluminum or wood	3/8" (9.50mm.) through
#14 x 1-1/4" (32mm.) type "A" S.M. screws	Soffit plate 6190 Bracket	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201") tap: 1/4-20
Through bolts and grommet nuts	Optional	All	9/32" (7.00mm.) through 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep, door face opposite to closer

Door Opening Angle		Dimensions*							
Hold Open**	Dead Stop	Butts and Offset Pivots				Center Pivots			
		Dimension A		Dimension B		Dimension A		Dimension B	
		Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.
85°	90°	14	356	12 <sup>7</sup> / <sub>8</sub>	327	14 <sup>3</sup> / <sub>4</sub>	375	13 <sup>5</sup> / <sub>8</sub>	346
90°	95°	13 <sup>3</sup> / <sub>8</sub>	340	12 <sup>1</sup> / <sub>4</sub>	311	14 <sup>1</sup> / <sub>8</sub>	359	13	330
95°	100°	12 <sup>3</sup> / <sub>4</sub>	324	11 <sup>5</sup> / <sub>8</sub>	295	13 <sup>1</sup> / <sub>2</sub>	343	12 <sup>3</sup> / <sub>8</sub>	314
100°	105°	12 <sup>1</sup> / <sub>8</sub>	308	11	279	12 <sup>7</sup> / <sub>8</sub>	327	11 <sup>3</sup> / <sub>4</sub>	298
105°	110°	11 <sup>5</sup> / <sub>8</sub>	295	10 <sup>1</sup> / <sub>2</sub>	267	12 <sup>3</sup> / <sub>8</sub>	314	11 <sup>1</sup> / <sub>4</sub>	286
110°	115°	11 <sup>1</sup> / <sub>4</sub>	286	10 <sup>1</sup> / <sub>8</sub>	257	12	305	10 <sup>7</sup> / <sub>8</sub>	276

\* "A" and "B" dimensions measured from centerline of hinge or pivot.

\*\* Door must be free to swing up to 5° beyond hold open position.

**Unitrol Standard Application  
Series 78-B/F  
Doors 33" - 41" (0.85 - 1.00m) Wide**

**Parallel Arm Installation Template  
Stop Only or Hold-Open Unitrol Door Closer  
With or Without No. 88 Drop Plate**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

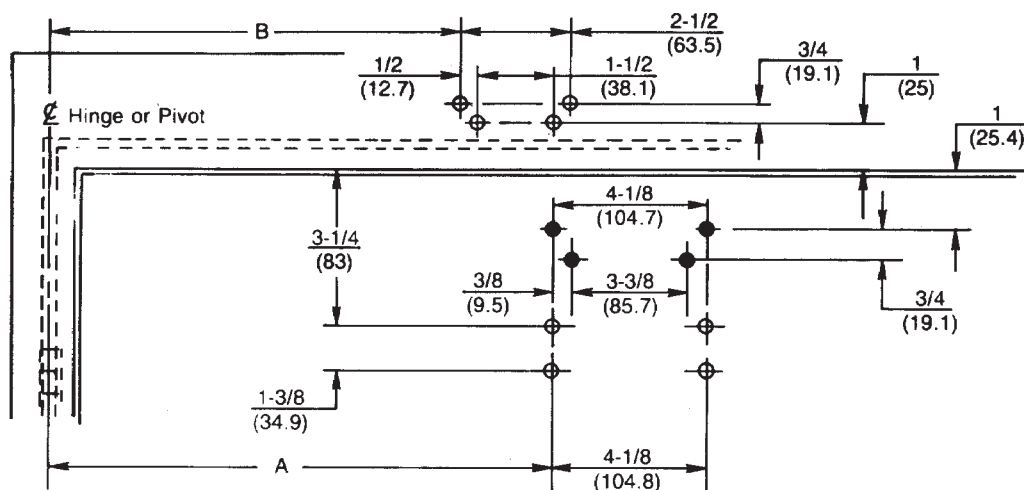
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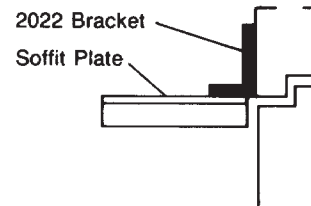
**02-09**



TRADEMARK  
HARDWARE



◆ No. 88 drop plate mounting holes only



#### Notes:

- Do not scale drawing.
- All dimensions shown in inches (mm.).
- Left hand door shown.
- Caution: Hollow metal doors require channel or box type reinforcement. Hollow metal frames require full width header reinforcement.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer	Hollow Metal	9/32" (7.00mm.) through
	Drop plate	Aluminum or wood	3/8" (9.50mm.) door face opposite to closer
	2022 Bracket		3/8" (9.50mm.) through

Door Opening Angle		Dimensions*							
Hold Open**	Dead Stop	Butts and Offset Pivots				Center Pivots			
		Dimension A		Dimension B		Dimension A		Dimension B	
		Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.
85°	90°	14	356	13	330	14 3/4	375	13 3/4	349
90°	95°	13 3/8	340	12 3/8	314	14 1/8	359	13 1/8	333
95°	100°	12 3/4	324	11 3/4	298	13 1/2	343	12 1/2	318
100°	105°	12 1/8	308	11 1/8	283	12 7/8	327	11 7/8	302
105°	110°	11 5/8	295	10 5/8	270	12 3/8	314	11 3/8	289
110°	115°	11 1/4	286	10 1/4	260	12	305	11	279

\* "A" and "B" dimensions measured from centerline of hinge or pivot.

\*\* Door must be free to swing up to 5° beyond hold open position.

**Unitrol With 2022 Bracket**  
**Series 78-B/F**  
**Doors 33" - 41" (0.85 - 1.00m) Wide**

**Parallel Arm Installation Template - Flush Partitions**  
**Stop Only or Hold-Open Unitrol Door Closer**  
**With or Without No. 88 Drop Plate**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

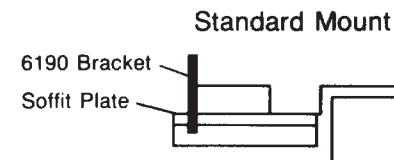
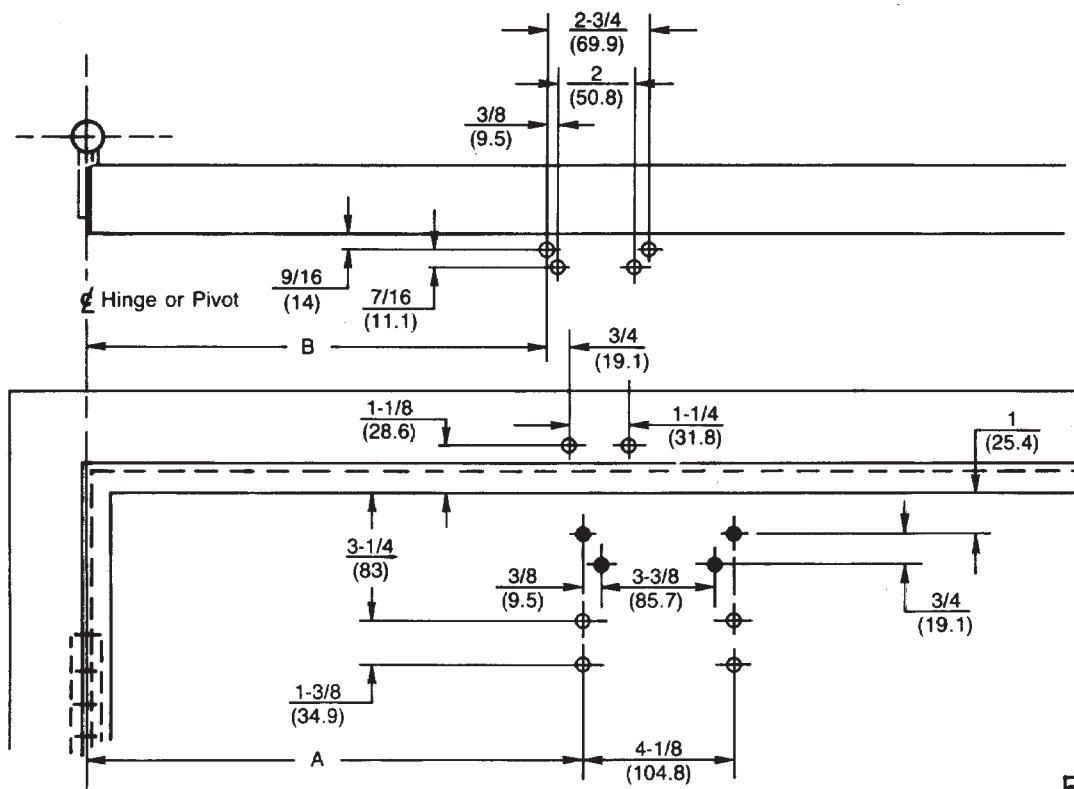
**7349-1354**

DATE

**02-09**



TRADEMARK  
HARDWARE



◆ No. 88 drop plate mounting holes only

#### Notes:

- Do not scale drawing.
- All dimensions shown in inches (mm.).
- Left hand door shown.
- Caution: Hollow metal doors require channel or box type reinforcement.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer drop plate	Hollow Metal	9/32" (7.00mm.) through 3/8" (9.50mm.) door face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
#14 x 1-1/4" (32mm.) type "A" S.M. screws	Soffit plate 6190 bracket	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201") tap: 1/4-20
Through bolts and grommet nuts	Optional	All	9/32" (7.00mm.) through 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep, door face opposite to closer

Door Opening Angle		Dimensions*							
Hold Open**	Dead Stop	Butts and Offset Pivots				Center Pivots			
		Dimension A		Dimension B		Dimension A		Dimension B	
		Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.
85°	90°	16 <sup>3</sup> / <sub>8</sub>	416	15 <sup>1</sup> / <sub>4</sub>	387	17 <sup>1</sup> / <sub>8</sub>	435	16	406
90°	95°	15 <sup>1</sup> / <sub>2</sub>	394	14 <sup>3</sup> / <sub>8</sub>	365	16 <sup>1</sup> / <sub>4</sub>	413	15 <sup>1</sup> / <sub>8</sub>	384
95°	100°	14 <sup>3</sup> / <sub>4</sub>	375	13 <sup>5</sup> / <sub>8</sub>	346	15 <sup>1</sup> / <sub>2</sub>	394	14 <sup>3</sup> / <sub>8</sub>	365
100°	105°	14 <sup>1</sup> / <sub>8</sub>	359	13	330	14 <sup>7</sup> / <sub>8</sub>	378	13 <sup>3</sup> / <sub>4</sub>	349
105°	110°	13 <sup>5</sup> / <sub>8</sub>	346	12 <sup>1</sup> / <sub>2</sub>	318	14 <sup>3</sup> / <sub>8</sub>	365	13 <sup>1</sup> / <sub>4</sub>	336
110°	115°	13 <sup>1</sup> / <sub>8</sub>	333	12	305	13 <sup>7</sup> / <sub>8</sub>	352	12 <sup>3</sup> / <sub>4</sub>	324

\* "A" and "B" dimensions measured from centerline of hinge or pivot.

\*\* Door must be free to swing up to 5° beyond hold open position.

**Unitrol Standard Application  
Series 78-B/F  
Doors 42" - 48" (1.05 - 1.20m) Wide**

**Parallel Arm Installation Template  
Stop Only or Hold-Open Unitrol Door Closer  
With or Without No. 88 Drop Plate**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

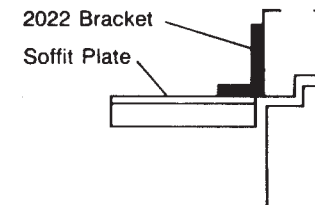
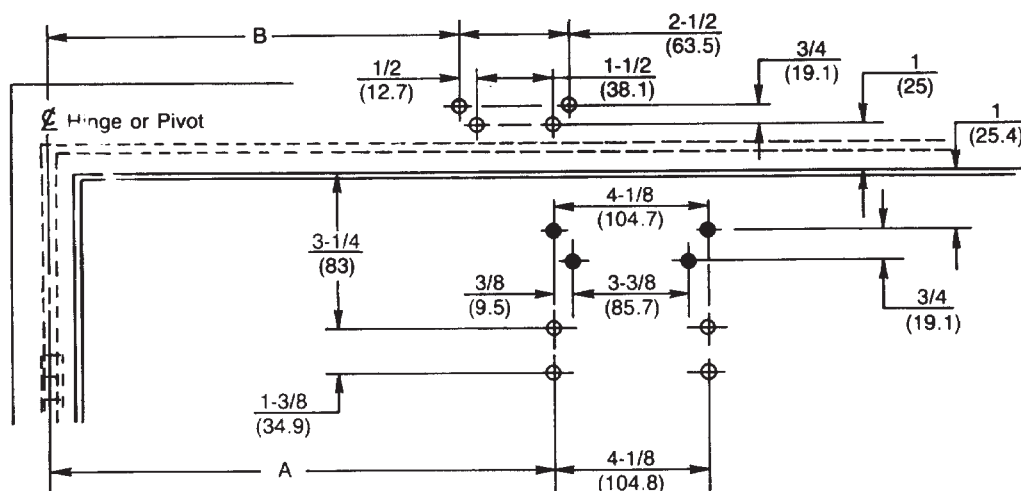
**7349-1355**

DATE

**02-09**



**TRADEMARK**  
**HARDWARE**



#### Notes:

- Do not scale drawing.
- All dimensions shown in inches (mm.).
- Left hand door shown.
- Caution: Hollow metal doors require channel or box type reinforcement. Hollow metal frames require full width header reinforcement.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer Drop plate 2022 Bracket	Hollow Metal	9/32" (7.00mm.) through 3/8" (9.50mm.) door face opposite to closer
		Aluminum or wood	3/8" (9.50mm.) through

Door Opening Angle		Dimensions*							
Hold Open**	Dead Stop	Butts and Offset Pivots				Center Pivots			
		Dimension A		Dimension B		Dimension A		Dimension B	
		Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.
85°	90°	16 <sup>3</sup> / <sub>8</sub>	416	15 <sup>3</sup> / <sub>8</sub>	391	17 <sup>1</sup> / <sub>8</sub>	435	16 <sup>1</sup> / <sub>8</sub>	410
90°	95°	15 <sup>1</sup> / <sub>2</sub>	394	14 <sup>1</sup> / <sub>2</sub>	368	16 <sup>1</sup> / <sub>4</sub>	413	15 <sup>1</sup> / <sub>4</sub>	387
95°	100°	14 <sup>3</sup> / <sub>4</sub>	375	13 <sup>3</sup> / <sub>4</sub>	349	15 <sup>1</sup> / <sub>2</sub>	394	14 <sup>1</sup> / <sub>2</sub>	368
100°	105°	14 <sup>1</sup> / <sub>8</sub>	359	13 <sup>1</sup> / <sub>8</sub>	333	14 <sup>7</sup> / <sub>8</sub>	378	13 <sup>7</sup> / <sub>8</sub>	352
105°	110°	13 <sup>5</sup> / <sub>8</sub>	346	12 <sup>5</sup> / <sub>8</sub>	321	14 <sup>3</sup> / <sub>8</sub>	365	13 <sup>3</sup> / <sub>8</sub>	340
110°	115°	13 <sup>1</sup> / <sub>8</sub>	333	12 <sup>1</sup> / <sub>8</sub>	308	13 <sup>7</sup> / <sub>8</sub>	352	12 <sup>7</sup> / <sub>8</sub>	327

\* "A" and "B" dimensions measured from centerline of hinge or pivot.  
\*\* Door must be free to swing up to 5° beyond hold open position.

**Unitrol With 2022 Bracket**  
**Series 78-B/F**  
**Doors 42" - 48" (1.05 - 1.20m) Wide**

**Parallel Arm Installation Template - Flush Partitions**  
**Stop Only or Hold-Open Unitrol Door Closer**  
**With or Without No. 88 Drop Plate**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-1356**

DATE

**02-09**