

Opening	Dim. A
To 100°	7
100° to 120°	6
Over 120°	3-1/2

inches	mm.	inches	mm.
3/4	19.1	3-1/2	89
7/8	22	6	152
1-1/4	32	7	178
1-3/4	44.5	9-1/16	230.2

#### Notes:

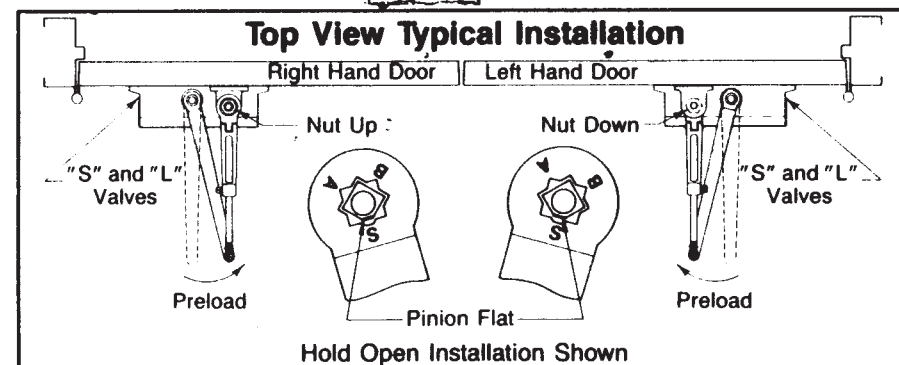
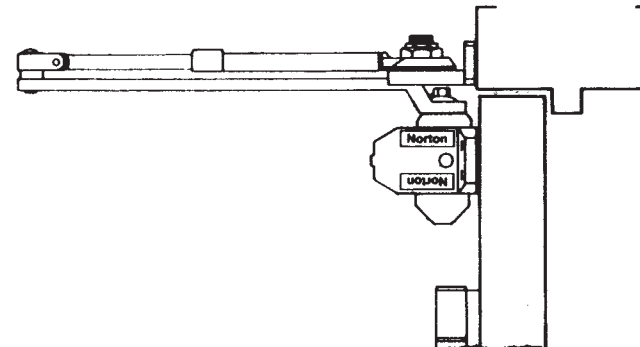
- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

Door swing may be limited by door, frame, wall or hardware conditions. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Hold Open Arm door closers are not permitted to be used on fire doors.



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

1600 Series Door Closers  
Regular Arm Application  
Non Hold Open or Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

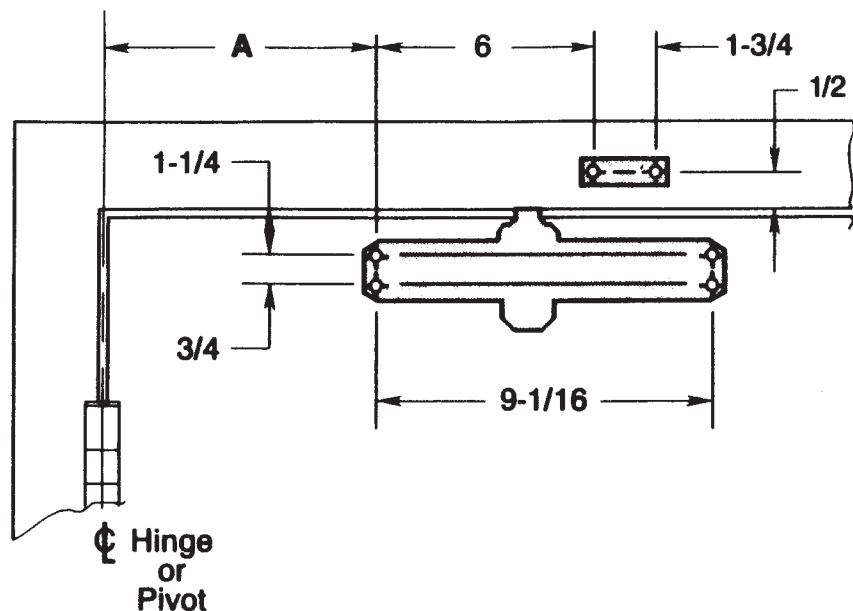
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1102

REV

2



Opening	Dim. A
To 100°	7
100° to 120°	6
Over 120°	3-1/2

#### Notes:

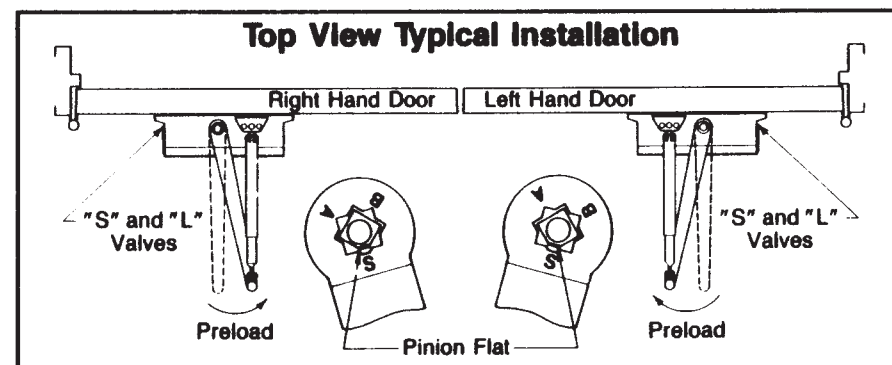
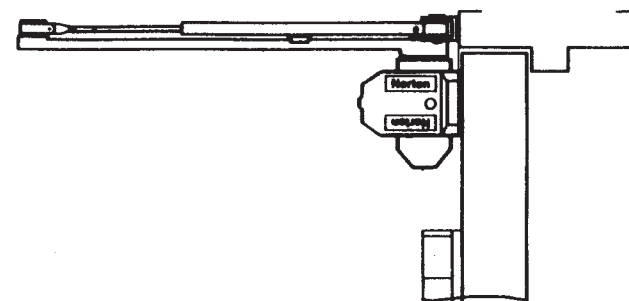
- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

inches	mm.	inches	mm.
1/2	13	3-1/2	89
3/4	19.1	6	152
1-1/4	32	7	178
1-3/4	44.5	9-1/16	230.2

Door swing may be limited by door, frame, wall or hardware conditions. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

1600 Series Door Closers With Low Profile Arm  
Regular Arm Application  
Non Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

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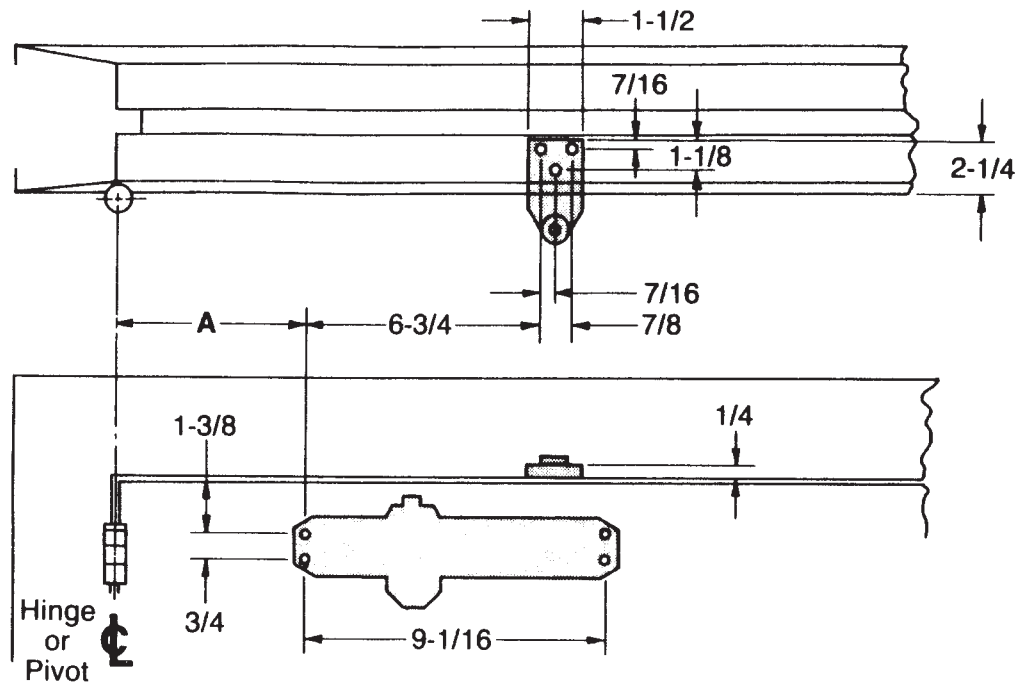
TEMPLATE NUMBER

7316-1106

REV

2





# NOTES:

- Do not scale drawing.
- Right hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A
To 100°	7
100° to 120°	6
Over 120°	3-1/2

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
1/4	6.4	1-1/8	28.6	3-1/2	89
7/16	11.1	1-3/8	35	6	152
3/4	19.1	1-1/2	38.1	6-3/4	171
7/8	22.2	2-1/4	57.2	7	178
				9-1/16	230.2

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill ... 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

1600 Series Door Closers  
Regular Arm Application With 2403 Bracket  
Non Hold Open Arm for Molded or Bullnose Frame  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

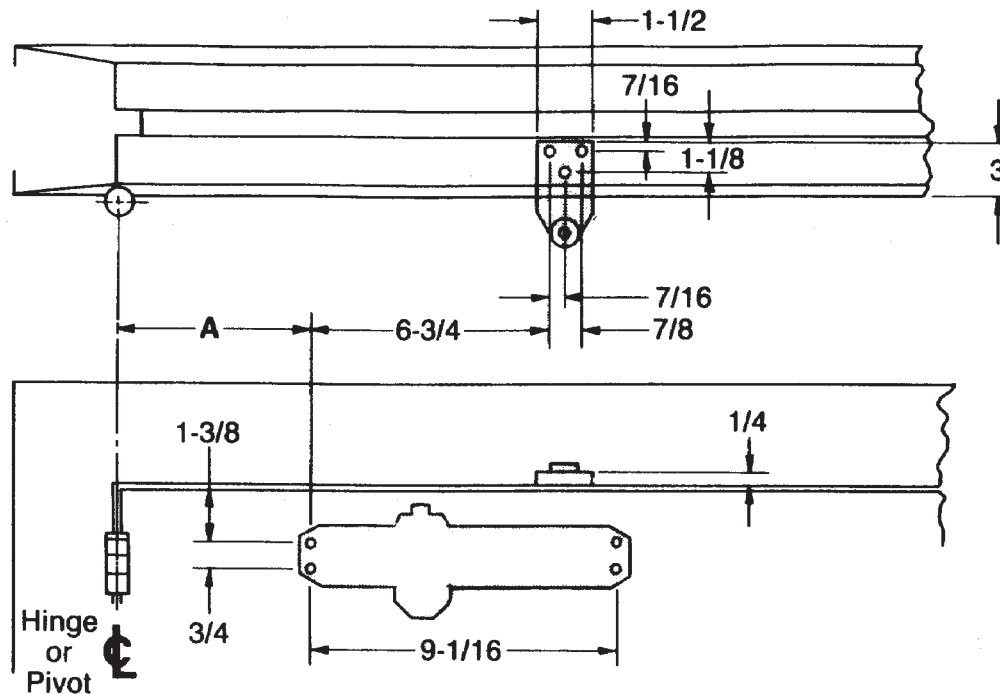
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1108

REV

2



### NOTES:

- Do not scale drawing.
- Right hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A
To 100°	7
100° to 120°	6
Over 120°	3-1/2

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
1/4	6.4	1-1/8	28.6	3-1/2	89
7/16	11.1	1-3/8	35	6	152
3/4	19.1	1-1/2	38.1	6-3/4	171
7/8	22.2	3	76.2	7	178
				9-1/16	230.2

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill . . . 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

1600 Series Door Closers  
Regular Arm Application With 2403 3/4 Bracket  
Non Hold Open Arm for Molded or Bullnose Frame  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

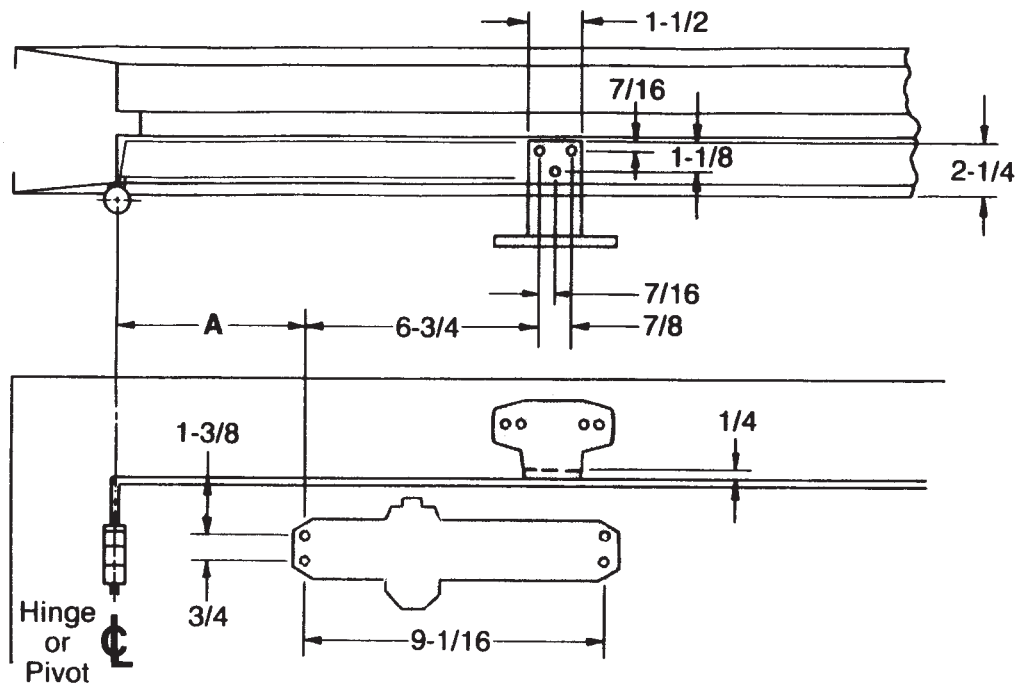
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1110

REV

2



#### NOTES:

- Do not scale drawing.
- Right hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A
To 100°	7
100° to 120°	6
Over 120°	3-1/2

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
1/4	6.4	1-1/8	28.6	3-1/2	89
7/16	11.1	1-3/8	35	6	152
3/4	19.1	1-1/2	38.1	6-3/4	171
7/8	22.2	2-1/4	57.2	7	178
				9-1/16	230.2

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill . . . 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

**1600H Series Door Closers**  
**Regular Arm Application With 80 Bracket for Molded or Bullnose Frame**  
**Hold Open Arm**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

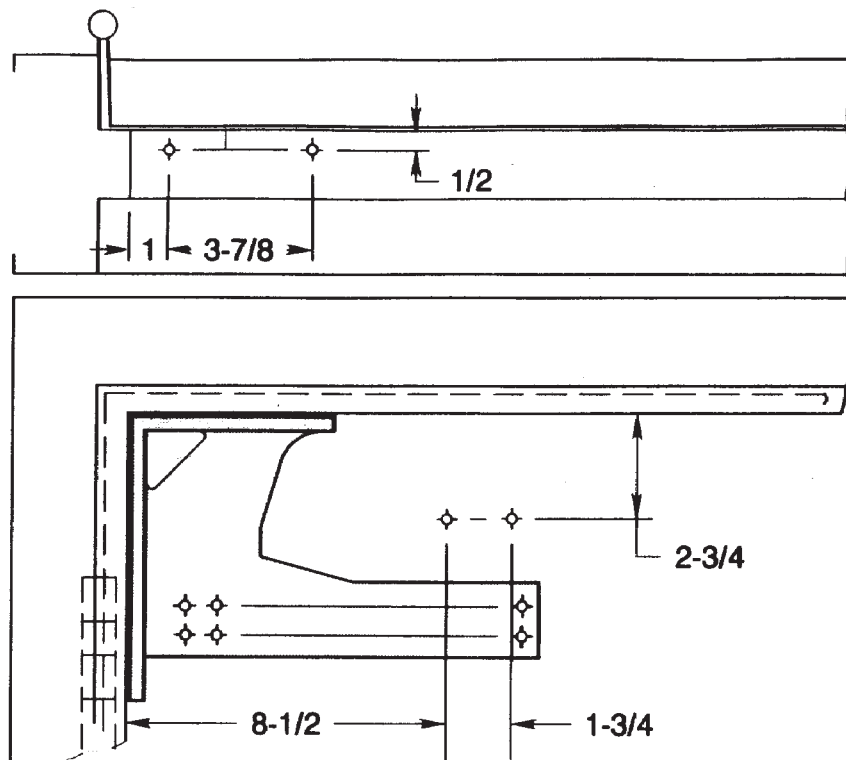
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7316-1112**

REV

**2**



#### Notes:

- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches. See conversion chart metric dimensions.

inches	mm.	inches	mm.
1/2	13	3-7/8	98.54
1	25	5-15/16	150.8
1-3/4	44.5	8-1/2	216
2-3/4	70		

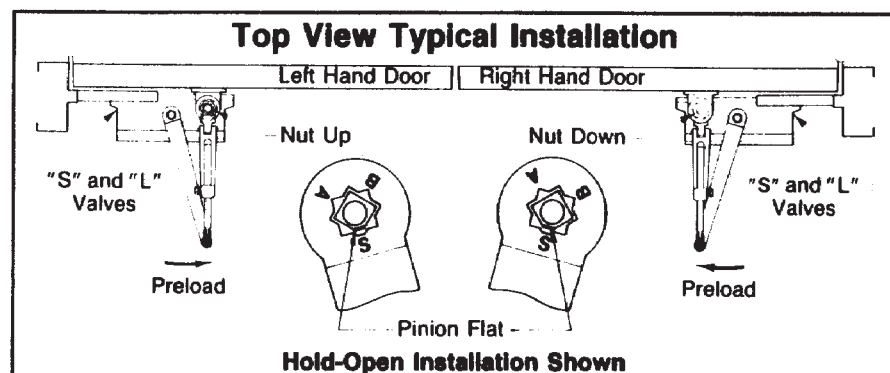
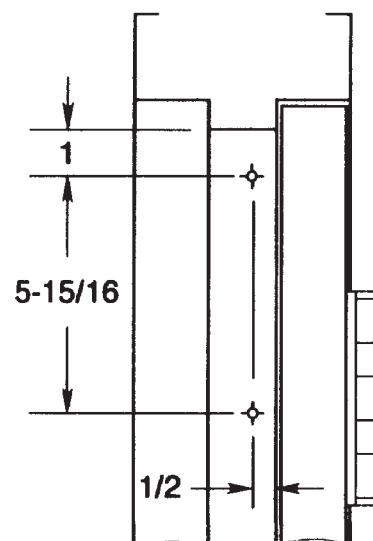
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Hold Open arm closers without fusible-link release are not permitted to be used on fire doors.



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4" 20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

1600 or 1600H Series Door Closers  
Corner Bracket Application With 1647 Corner Bracket  
Non Hold Open or Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

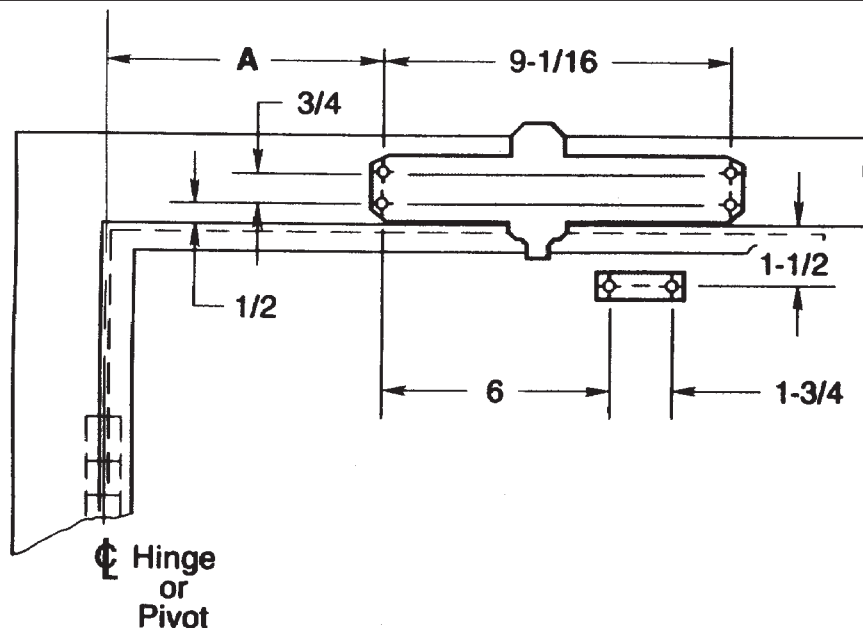
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1149

REV

2



Opening	Dim. A
To 100°	7-1/2
100° to 120°	6
Over 120°	3-1/2

inches	mm.	inches	mm.
1/2	13	3-1/2	89
3/4	19.1	6	152
1-1/2	38	7-1/2	191
1-3/4	44.5	9-1/16	230.2

#### Notes:

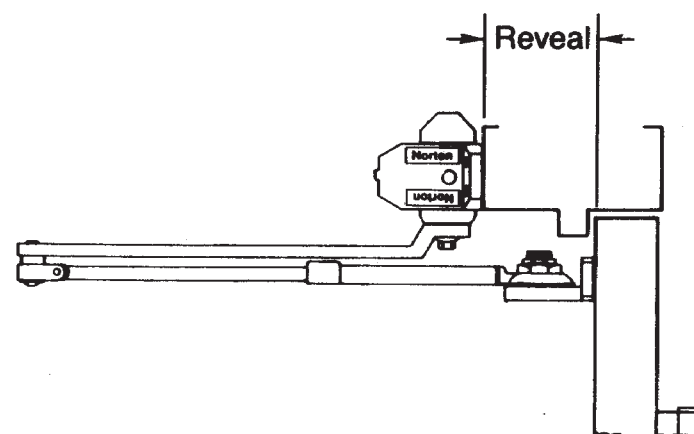
- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

Door swing may be limited by door, frame, wall or hardware conditions.

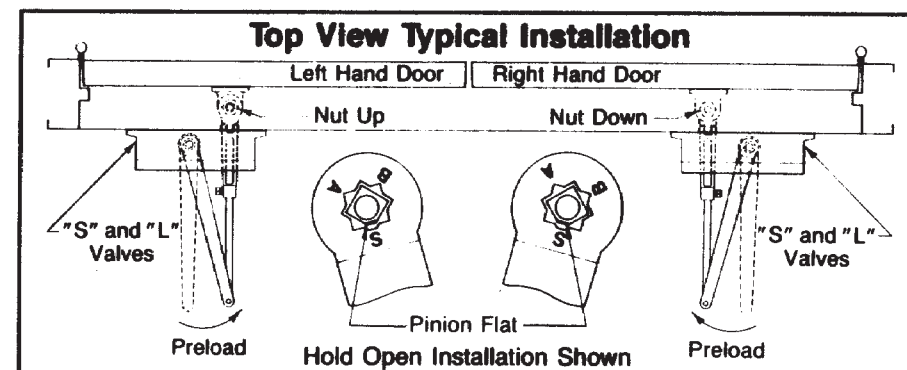
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Hold Open Arm door closers are not permitted to be used on fire doors. Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



REVEAL inches/(mm.)	CLOSER SERIES
0 to 3 (0 to 77)	1600
2-7/8 to 7 (73 to 178)	J1600
0 to 2-3/4 (0 to 70)	1600H
2-3/4 to 6-3/4 (70 to 171)	J1600H



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(J)1600 and (J)1600H Series Door Closers  
Top Jamb Application  
Non Hold Open or Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Units 1-6

**Norton**

ASSA ABLOY

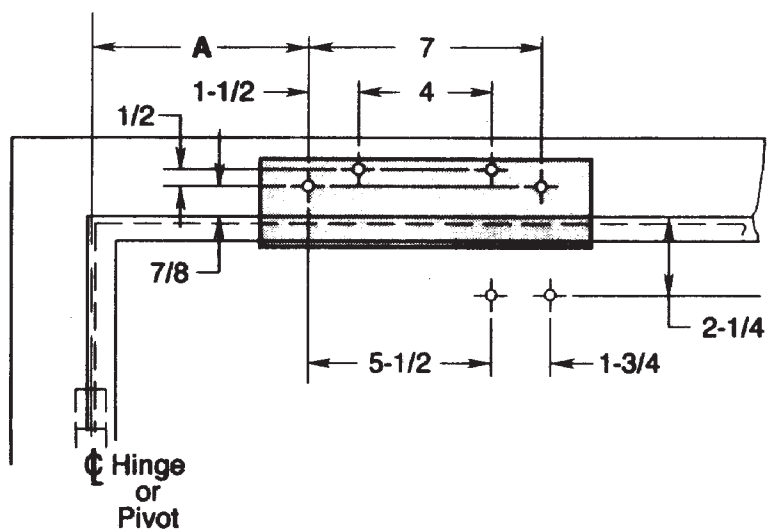
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1152

REV

2



#### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

Opening	Dim. A
To 100°	8
100° to 120°	6-1/2
Over 120°	4

inches	mm.	inches	mm.
1/2	12.7	4	105
7/8	22	5-1/2	140
1-1/2	38.1	6-1/2	165
1-3/4	44.5	7	177.8
2-1/4	57	8	203

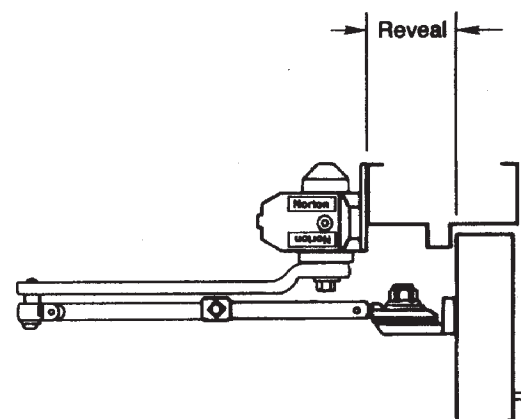
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

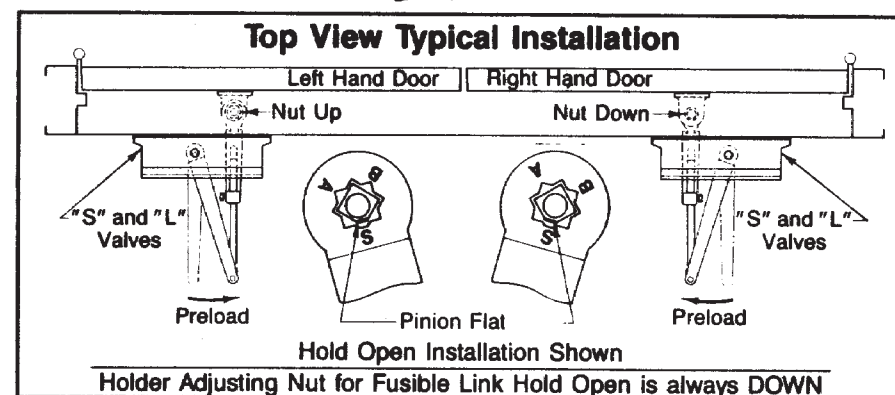
Hold Open Arm door closers without Fusible-link release are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



REVEAL inches/(mm.)	CLOSER SERIES
0 to 3 (0 to 76)	1600
3 to 7 (76 to 178)	J1600
0 to 2-1/4 (0 to 57)	1600H 1600HFL
2-1/4 to 5 (57 to 127)	J1600H J1600HFL



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(J)1600 and (J)1600H Series Door Closers  
Top Jamb Application With 1687 Drop Plate  
Non Hold Open or Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

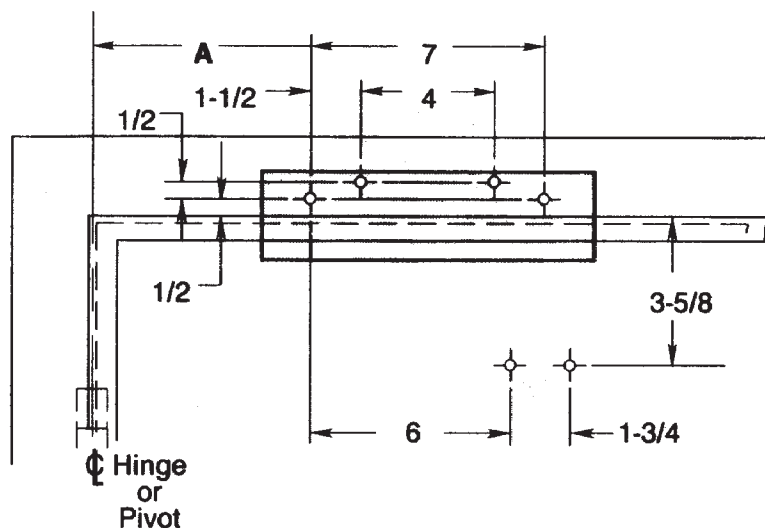
TEMPLATE NUMBER

7316-1158

REV

2





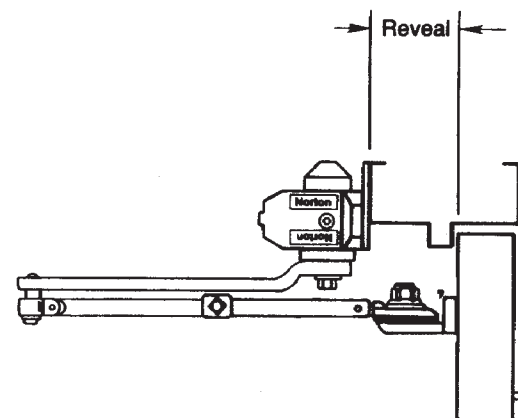
Opening	Dim. A
To 100°	8
100° to 120°	6-1/2
Over 120°	4

#### Notes:

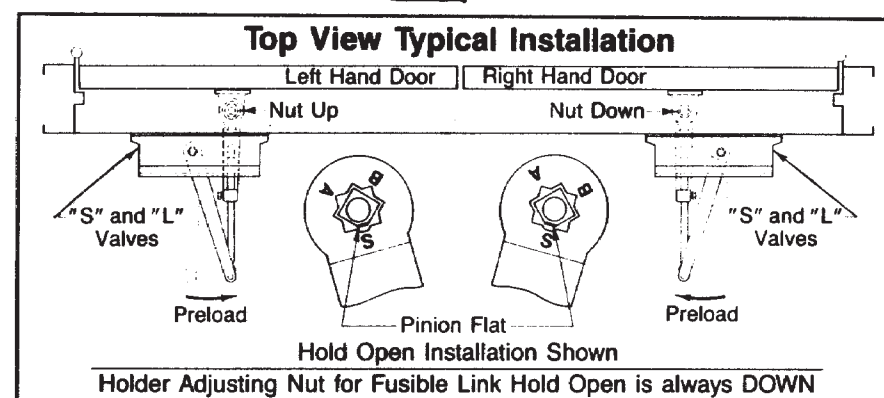
- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

inches	mm.	inches	mm.
1/2	12.7	6	152
1-1/2	38.1	6-1/2	165
1-3/4	44.5	7	177.8
3-5/8	92	8	203
4	101.6		

Door swing may be limited by door, frame, wall or hardware conditions. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified. Hold Open Arm door closers without Fusible-link release are not permitted to be used on fire doors. Sex-bolts may be required for wood or plastic faced fire door mounting. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



REVEAL inches/(mm.)	CLOSER SERIES
0 to 3 (0 to 76)	1600
2-7/8 to 7 (73 to 178)	J1600
0 to 2-3/4 (0 to 70)	1600H 1600HFL
2-3/4 to 6-3/4 (70 to 171)	J1600H J1600HFL



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(J)1600 and (J)1600H Series Door Closers  
Top Jamb Application With 1688 Drop Plate  
Non Hold Open or Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

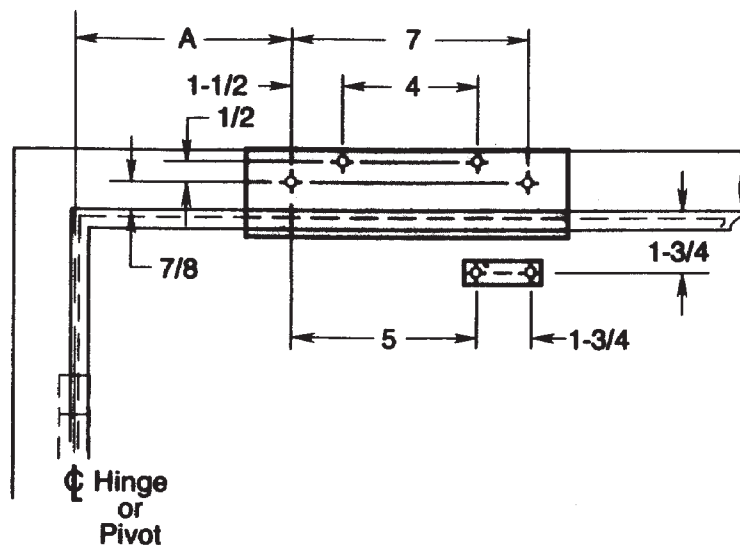
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1160

REV

2



#### Notes:

- Do not scale drawing.
- Left hand door shown.
- Maximum reveal in 2-7/8 inches.
- Dimensions are in inches. See conversion chart for metric dimensions.

Opening	Dim. A
To 100°	8-1/2
100° to 120°	7
Over 120°	4-1/2

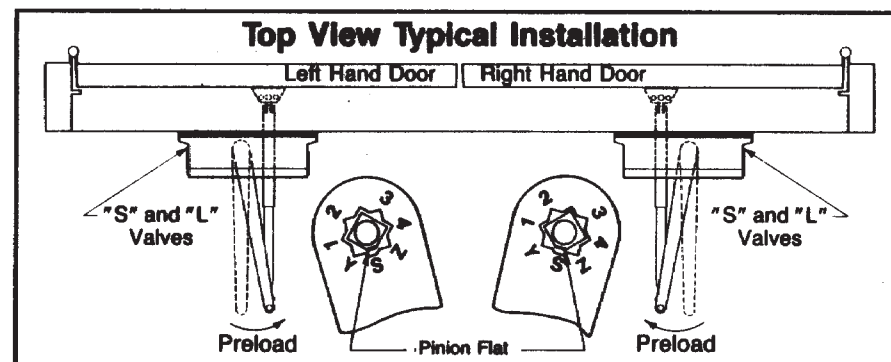
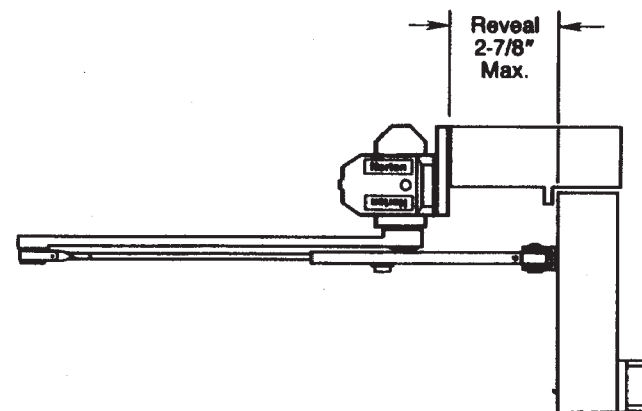
inches	mm.	inches	mm.
1/2	12.7	4-1/2	114
7/8	19.1	5	127
1-1/2	38.1	7	177.8
1-3/4	44.5	8-1/2	216
4	101.6		

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(J)1680 Series Door Closers With Low Profile Arm  
Top Jamb Application With 1687 Drop Plate  
Non Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

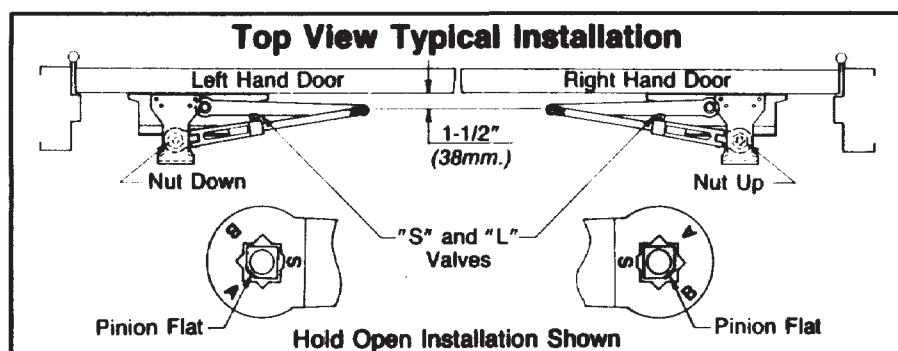
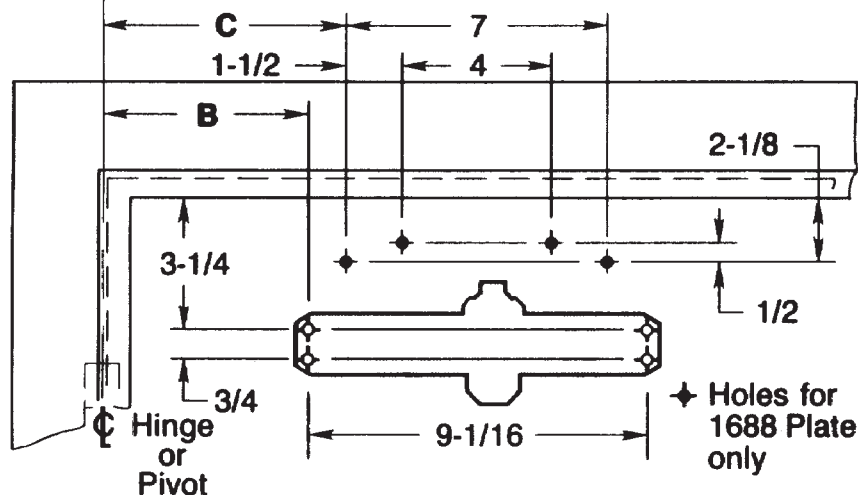
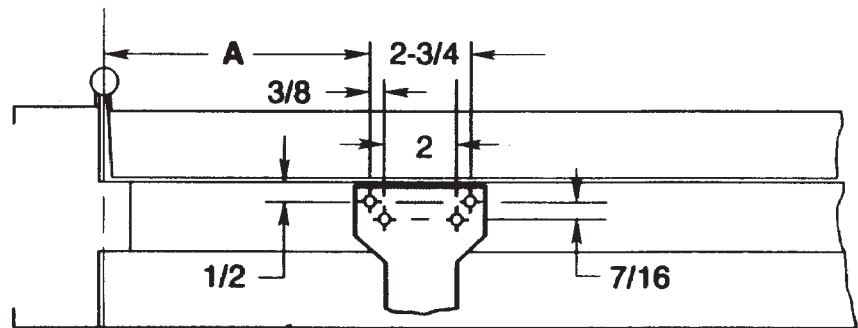
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1162

REV

2



Opening	Dim. A	Dim. B	Dim. C
To 100°	9-1/4	7-5/8	8-5/8
100° to 130°	7-3/4	6-1/8	7-1/8
Over 130°	5-3/4	4-1/8	5-1/8

#### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-1/8	54	7	177.8
3/8	9.5	2-3/4	69.9	7-1/8	181
7/16	11.1	3-1/4	83	7-5/8	194
1/2	12.7	4	101.6	7-3/4	197
3/4	19.1	4-1/8	105	8-5/8	219
1-1/2	38.1	5-1/8	130	9-1/16	230.2
2	50.8	5-3/4	146	9-1/4	235
		6-1/8	156		

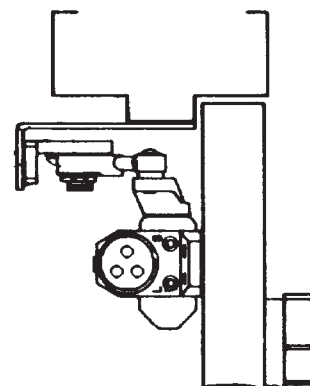
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Hold Open Arm door closers are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(P)1600 and (P)1600H Series Door Closers  
Parallel Arm Applications with or without 1688 Drop Plate  
Non Hold Open or Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-sized Unit 1-6

**Norton**

ASSA ABLOY

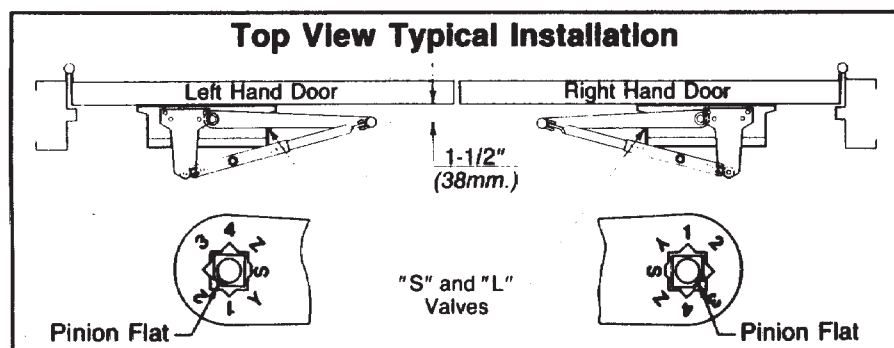
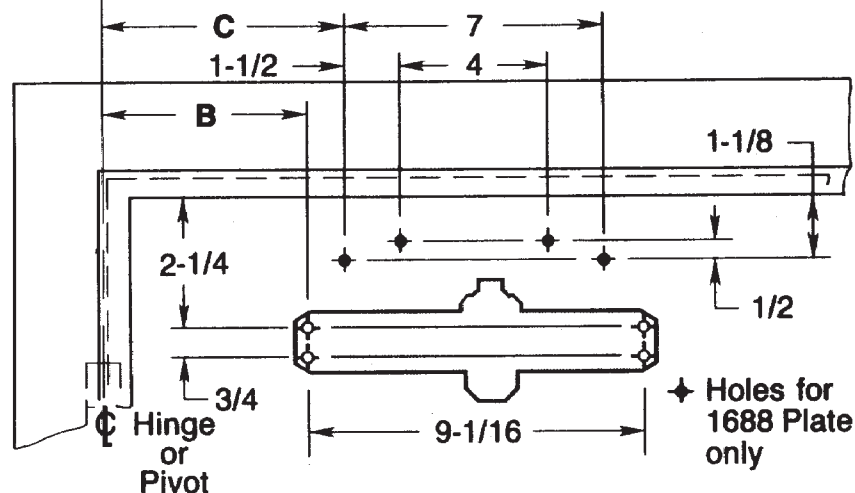
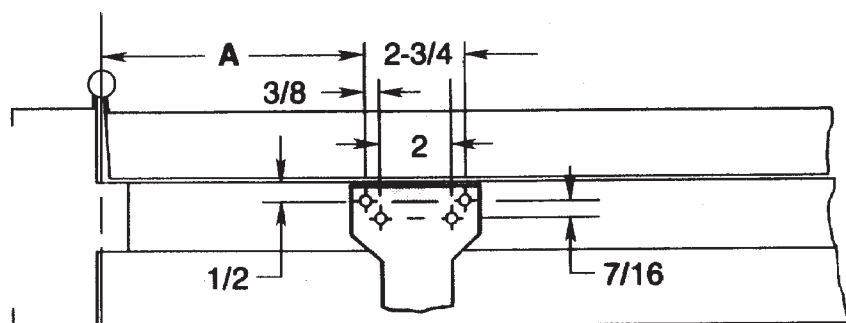
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

7316-1202

REV

2



Opening	Dim. A	Dim. B	Dim. C
To 100°	9-1/4	7-5/8	8-5/8
100° to 130°	7-3/4	6-1/8	7-1/8
Over 130°	5-3/4	4-1/8	5-1/8

Inches	mm.	Inches	mm.	Inches	mm.
		2-1/4	57	7	177.8
3/8	9.5	2-3/4	69.9	7-1/8	181
7/16	11.1	4	101.6	7-5/8	194
1/2	12.7	4-1/8	105	7-3/4	197
1-1/8	28.6	5-1/8	130	8-5/8	219
1-1/2	38.1	5-3/4	146	9-1/16	230.2
2	50.8	6-1/8	156	9-1/4	235

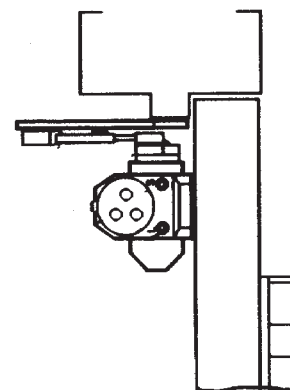
#### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.
- Minimum top rail with 5/8" (16mm.) frame stop — 4" (102mm.).

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts may be required for wood or plastic faced fire-door mounting. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Fastener	Door or Frame	Drill
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201 dia.) or 5.10mm. drill 1/4"20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(P)1680 Series Door Closers With Low Profile Arm  
Parallel Arm Application With or Without 1688 Drop Plate  
Non Hold Open Arm  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

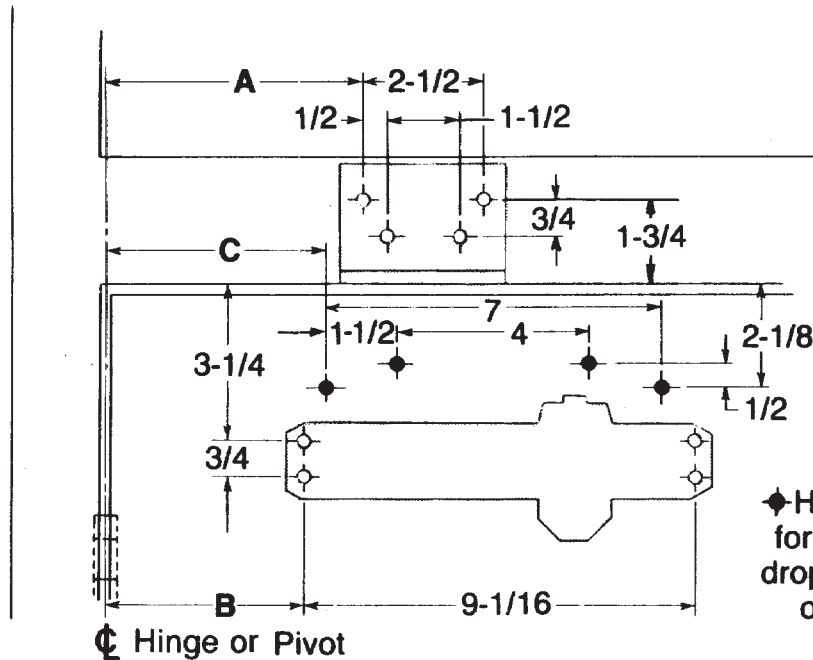
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

7316-1206

REV

2



#### NOTES:

- Do not scale drawing.
- Left hand door shown.
- Dimensions shown in inches. Metric equivalents charted.

- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- Hold Open Arm door closers without Fusible-link release are not permitted to be used on fire doors.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A	DIM. B	DIM. C
To 100°	9-3/8	7-5/8	8-5/8
100° to 130°	7-7/8	6-1/8	7-1/8
Over 130°	5-7/8	4-1/8	5-1/8

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
1/2	12.7	4	101.6	7-1/8	181
3/4	19.1	4-1/8	105	7-5/8	194
1-1/2	38.1	5-1/8	130	7-7/8	200
1-3/4	44	5-7/8	149	8-5/8	219
2-1/8	54	6-1/8	156	9-1/16	230.2
2-1/2	63.5	7	177.8	9-3/8	238
3-1/4	83				

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill . . . 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(P)1600 and (P)1600H Series Door Closers  
 Parallel Arm Applications with 2022 Flush Transom Bracket  
 and with or without 1688 Drop Plate  
 Non Hold Open or Hold Open Arm  
 Individually Sized Units 3 and 4 & Multi-sized Unit 1-6

**Norton**

ASSA ABLOY

www.nortondoortcontrols.com

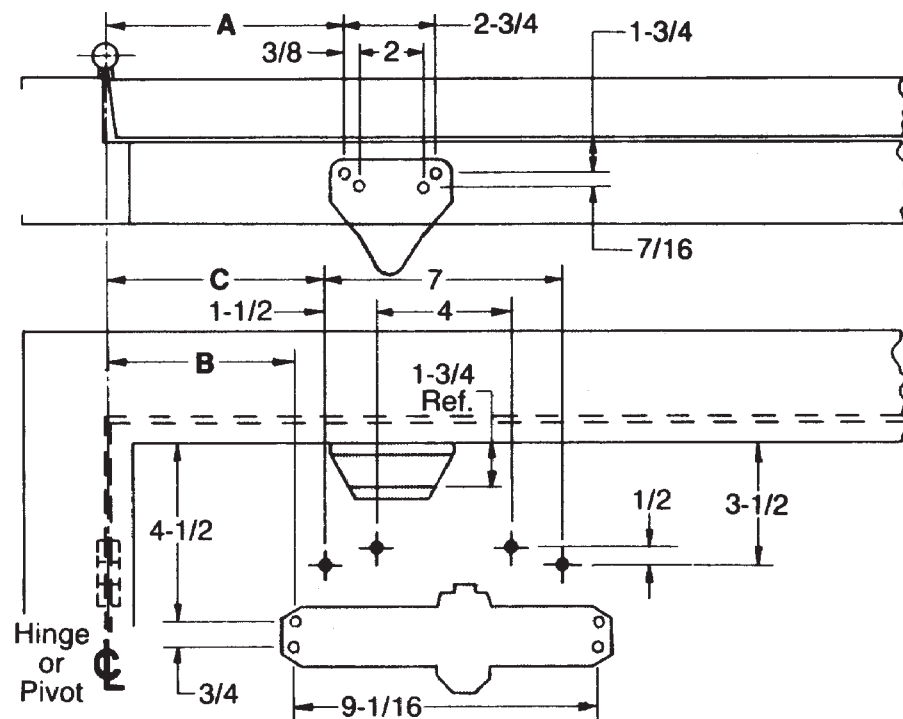
TEMPLATE NUMBER

7316-1208

REV

2





Holes for 1688 plate only.

### NOTES:

- Do not scale drawing.
- Left hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A	DIM. B	DIM. C
To 100°	9-1/4	7-5/8	8-5/8
100° to 130°	7-3/4	6-1/8	7-1/8
Over 130°	5-3/4	4-1/8	5-1/8

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
3/8	9.5	2-3/4	69.9	6-1/8	156
7/16	11.1	3-1/2	89	7	177.8
1/2	12.7	4	101.6	7-1/8	181
3/4	19.1	4-1/8	105	7-5/8	194
1-1/2	38.1	4-1/2	114	7-3/4	197
1-3/4	45	5-1/8	130	8-5/8	219
2	50.8	5-3/4	146	9-1/16	230.2
				9-1/4	235

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill ... 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

**(P)1600 Series Door Closers**  
**Parallel Arm Application With 2018S Offset Soffit Plate & With or Without 1688 Drop Plate**  
**Non Hold Open Arm**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

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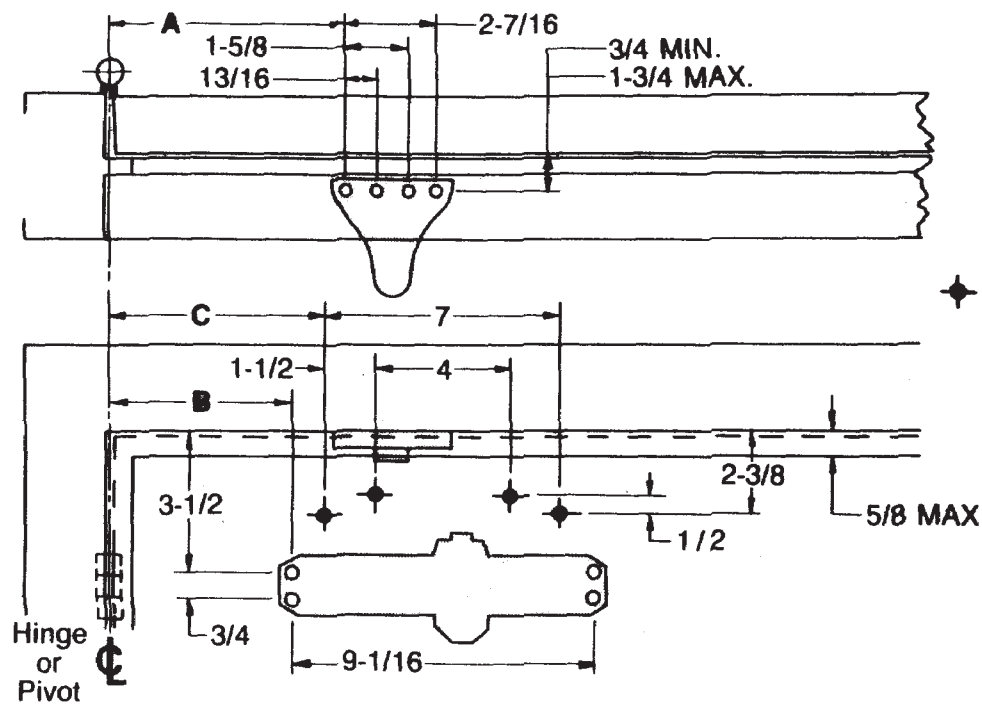
TEMPLATE NUMBER

**7316-1210**

REV

**2**





#### NOTES:

- Do not scale drawing.
- Left hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A	DIM. B	DIM. C
To 100°	9-1/4	7-5/8	8-5/8
100° to 130°	7-3/4	6-1/8	7-1/8
Over 130°	5-3/4	4-1/8	5-1/8

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
1/2	12.7	2-7/16	61.9	7	177.8
5/8	16	3-1/2	89	7-1/8	181
3/4	19.1	4	101.6	7-5/8	194
13/16	20.6	4-1/8	105	7-3/4	197
1-1/2	38.1	5-1/8	130	8-5/8	219
1-5/8	41.3	5-3/4	146	9-1/16	230.2
1-3/4	45	6-1/8	156	9-1/4	235
2-3/8	60				

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill ... 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru ...
TBGN (optional)	all	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

**(P)1600 Series Door Closers**  
**Parallel Arm Application With 2018B Soffit Plate & With or Without 1688 Drop Plate**  
**Non Hold Open Arm**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

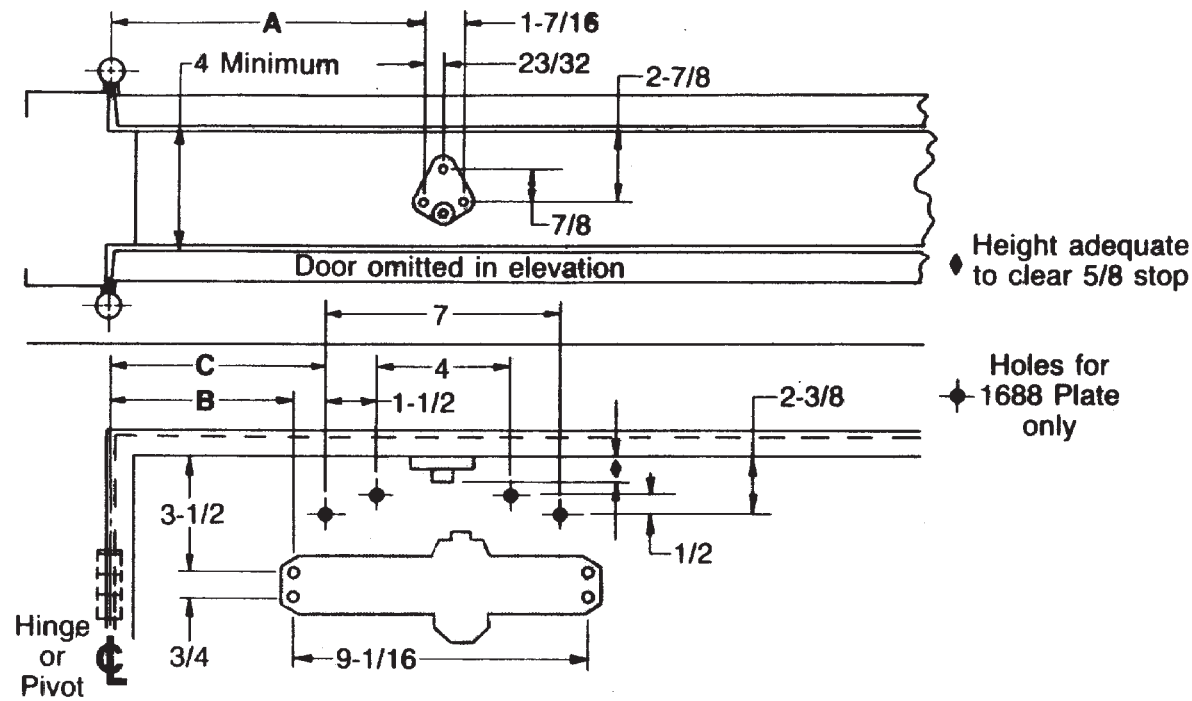
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7316-1212**

REV

**2**



### NOTES:

- Do not scale drawing.
- Left hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- .1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A	DIM. B	DIM. C
To 100°	9-7/8	7-5/8	8-5/8
100° to 130°	8-3/8	6-1/8	7-1/8
Over 130°	6-3/8	4-1/8	5-1/8

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
1/2	12.7	2-3/8	60	6-3/8	162
5/8	16	2-7/8	73	7	177.8
23/32	18.3	3-1/2	89	7-1/8	181
3/4	19.1	4	101.6	7-5/8	194
7/8	22.2	4-1/8	105	8-3/8	213
1-7/16	36.5	5-1/8	130	8-5/8	219
1-1/2	38.1	6-1/8	156	9-1/16	230.2
				9-7/8	251

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill ... 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru ... 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(P)1600 Series Door Closers  
 Parallel Arm Application With 2018 Soffit Plate & With or Without 1688 Drop Plate  
 Non Hold Open Arm  
 Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

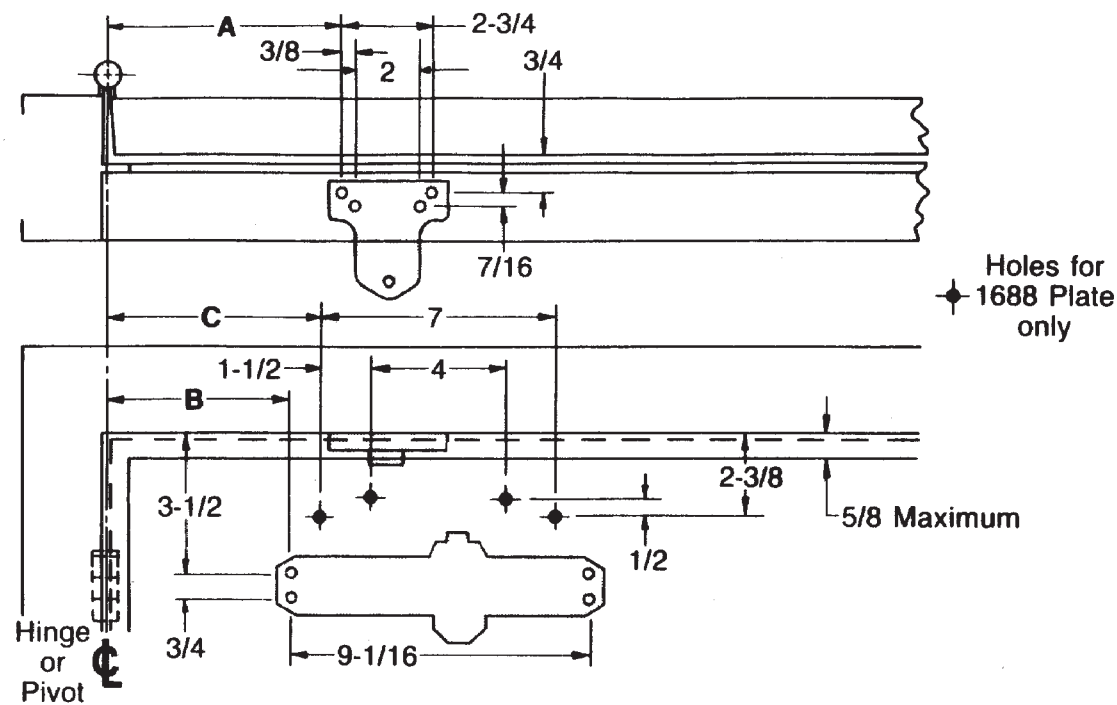
www.nortondoorcontrols.com

TEMPLATE NUMBER

7316-1214

REV

2



## NOTES:

- Do not scale drawing.
- Left hand door shown.
- Dimensions shown in inches. Metric equivalents charted.
- 1046" (2.7mm.) minimum recommended for hollow-metal door and frame reinforcements.
- SNB required to mount closer on steel covered composite type, sheet metal type, or hollow-metal type fire doors provided without reinforcements.
- SNB or TBGN may be required to mount closer on wood or plastic faced composite type fire doors.
- Hollow-metal doors require channel or box-type reinforcements when TBGN mount is specified for closers.

OPENING	DIM. A	DIM. B	DIM. C
To 100°	9-1/4	7-5/8	8-5/8
100° to 130°	7-3/4	6-1/8	7-1/8
Over 130°	5-3/4	4-1/8	5-1/8

METRIC CONVERSION					
inches	mm.	inches	mm.	inches	mm.
3/8	9.5	2-3/8	60	6-1/8	156
7/16	11.1	2-3/4	69.9	7	177.8
1/2	12.7	3-1/2	89	7-1/8	181
5/8	16	4	101.6	7-5/8	194
3/4	19.1	4-1/8	105	7-3/4	197
1-1/2	38.1	5-1/8	130	8-5/8	219
2	50.8	5-3/4	146	9-1/16	230.2
				9-1/4	235

PREPARATION FOR FASTENERS		
FASTENER	DOOR or FRAME	DRILL
#14 type "A" sheet metal screw	wood	7/32" (5.5mm)
1/4-20 machine screw	metal	#7 (.201" dia.) or 5.10mm. drill . . . 1/4-20 tap
SNB (optional)	hollow-metal	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru
TBGN (optional)	all	9/32" (7.00mm.) thru . . . 3/8" (9.50mm.) diameter x 3/8" (10mm.) deep, door face opposite to closer

(P)1600 Series Door Closers  
 Parallel Arm Application With 2018D Soffit Plate & With or Without 1688 Drop Plate  
 Non Hold Open Arm  
 Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

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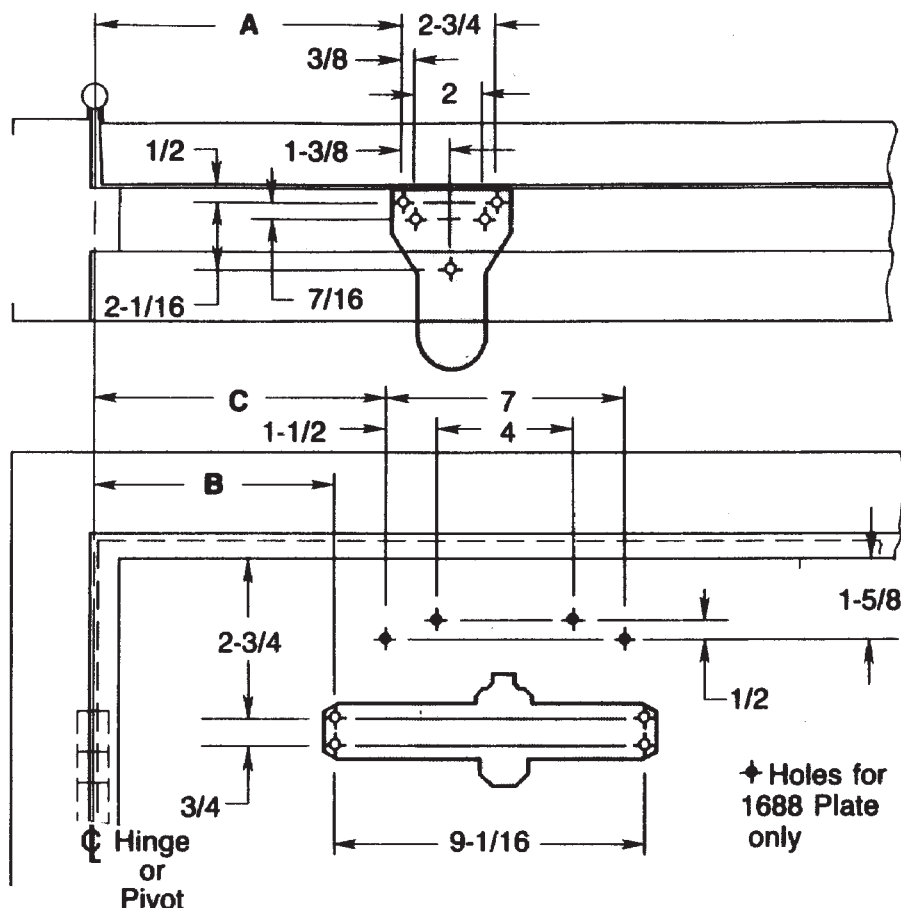
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7316-1216

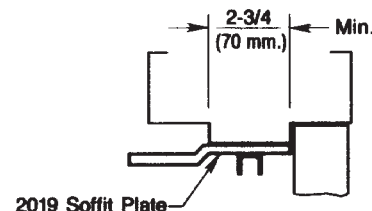
REV

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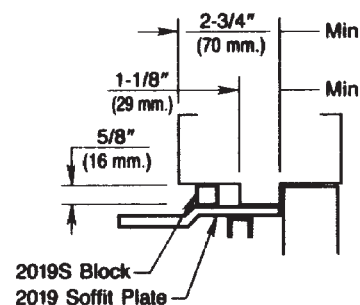


Opening	Dim. A	Dim. B	Dim. C
To 100°	9-5/8	7-5/8	8-5/8
100° to 130°	8-1/8	6-1/8	7-1/8
Over 130°	6-1/8	4-1/8	5-1/8

inches	mm.	inches	mm.	inches	mm.
		1-5/8	41	7	177.8
3/8	9.5	2	50.8	7-1/8	181
7/16	11.1	2-1/16	52.4	7-5/8	194
1/2	12.7	2-3/4	69.9	8-1/8	206
3/4	19.1	4	101.6	8-5/8	219
1-3/8	34.9	4-1/8	105	9-1/16	230.2
1-1/2	38.1	5-1/8	130	9-5/8	244
		6-1/8	156		



Wide Stop Frame



Narrow Stop Frame

### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

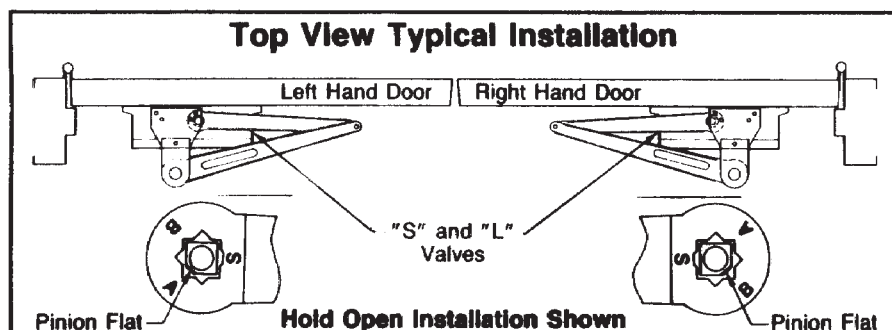
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Hold Open Arm door closers without Fusible-link release are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Fastener	Frame	Door	Drill
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
1/4-20 machine screw	metal	none	#7 (.201 dia.) or 5.10mm. drill 1/4"20 tap
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**PR1600 or PR1600H Series Door Closers**  
**Parallel Rigid Arm Applications with or without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm**  
**Individually Sized Units 3 and 4 & Multi-sized Unit 1-6**

**Norton**

ASSA ABLOY

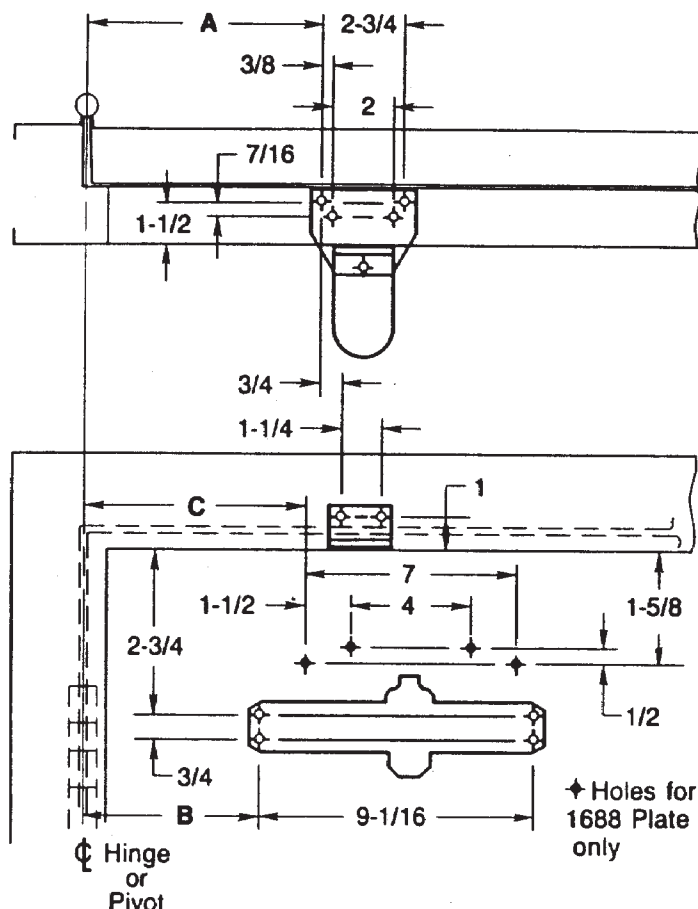
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7316-1252**

REV

**2**



Opening	Dim. A	Dim. B	Dim. C
To 100°	9-5/8	7-5/8	8-5/8
100° to 130°	8-1/8	6-1/8	7-1/8
Over 130°	6-1/8	4-1/8	5-1/8

inches	mm.	inches	mm.	inches	mm.
3/8	9.5	1-5/8	41	7	177.8
7/16	11.1	2	50.8	7-1/8	181
1/2	12.7	2-3/4	69.9	7-5/8	194
3/4	19.1	4	101.6	8-1/8	206
1	25	4-1/8	105	8-5/8	219
1-1/4	31.8	5-1/8	130	9-1/16	230.2
1-1/2	38.1	6-1/8	156	9-5/8	244

### Notes:

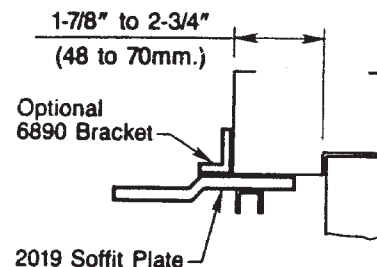
- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

Door swing may be limited by door, frame, wall or hardware conditions.

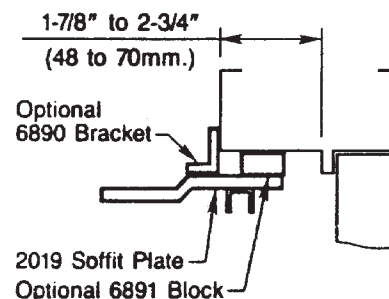
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Hold Open Arm door closers without Fusible-link release are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



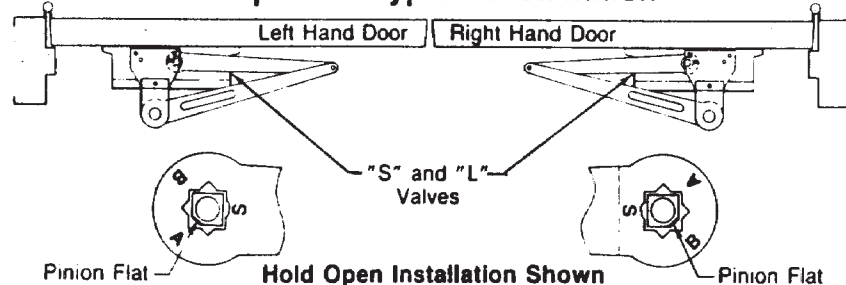
Single Rabbetted Frame



Blade Stop Frame

Fastener	Frame	Door	Drill
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
1/4-20 machine screw	metal	none	#7 (.201 dia.) or 5.10mm. drill 1/4-20 tap
SNB	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

### Top View Typical Installation



**PR1600 or PR1600H Series Door Closers**  
**Parallel Rigid Arm Applications with 6890 Reinforcing Bracket**  
**and with or without 6891 Spacer Block and/or 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm**  
**Individually Sized Units 3 and 4 & Multi-sized Unit 1-6**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

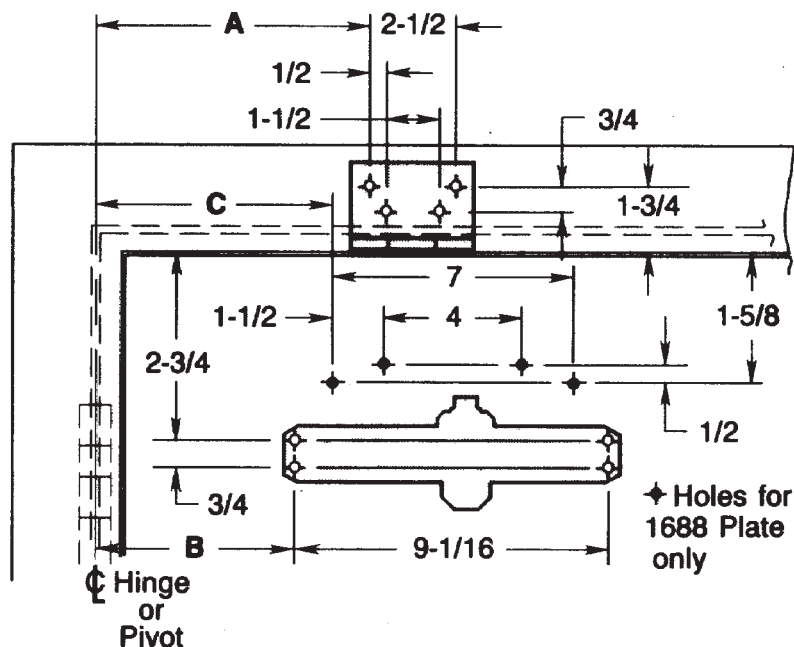
TEMPLATE NUMBER

**7316-1254**

REV

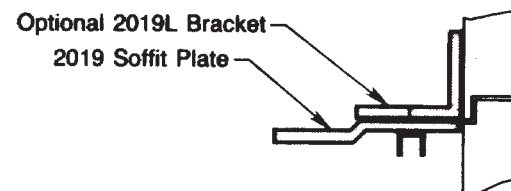
**2**





Opening	Dim. A	Dim. B	Dim. C
To 100°	9-3/4	7-5/8	8-5/8
100° to 130°	8-1/4	6-1/8	7-1/8
Over 130°	6-1/4	4-1/8	5-1/8

inches	mm.	inches	mm.	inches	mm.
1/2	12.7	2-3/4	69.9	7-1/8	181
3/4	19.1	4	101.6	7-5/8	194
1-1/2	38.1	4-1/8	105	8-1/4	210
1-5/8	41	5-1/8	130	8-5/8	219
1-3/4	44	6-1/8	156	9-1/16	230.2
2-1/2	63.5	6-1/4	159	9-3/4	248
		7	177.8		



### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches. See conversion chart for metric dimensions.

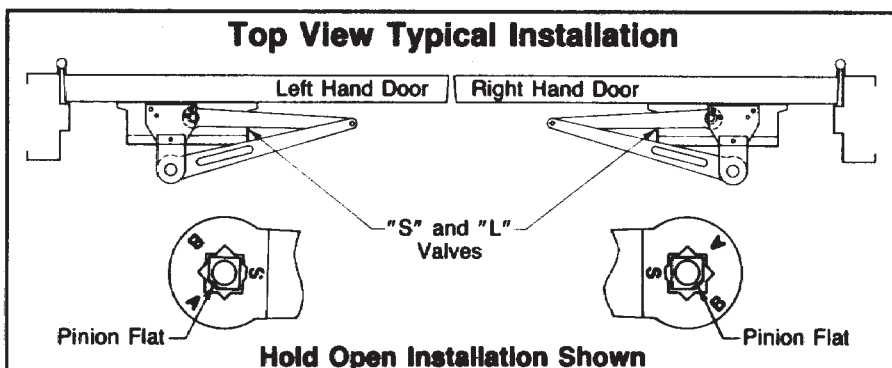
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Hold Open Arm door closers without Fusible-link release are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Fastener	Frame	Door	Drill
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
1/4-20 machine screw	metal	none	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**Pr1600 or PR1600H Series Door Closers**  
**Parallel Rigid Arm Application With 2019L Flush Transom Bracket & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

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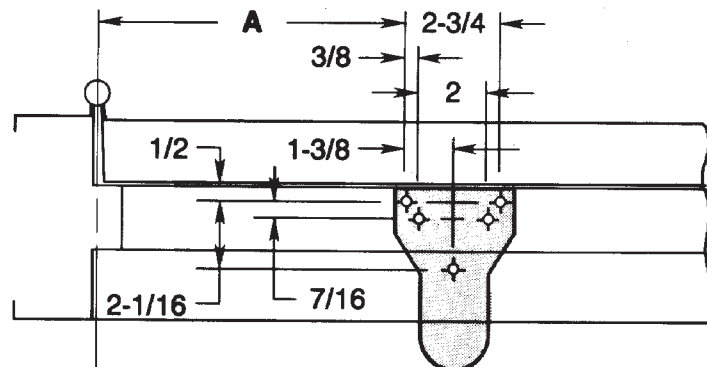
TEMPLATE NUMBER

**7316-1256**

REV

**2**





Door Opening ★	DIM. A	DIM. B	DIM. C
85°	11-1/8	9-1/8	10-1/8
90°	10-3/8	8-3/8	9-3/8
95°	9-5/8	7-5/8	8-5/8
100°	9	7	8
105°	8-3/8	6-3/8	7-3/8
110°	7-3/4	5-3/4	6-3/4

★ Template dimensions are for hold-open/door stop within  $\pm 2^\circ$  of charted door openings. Doors may overtravel up to  $5^\circ$  beyond the rest position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

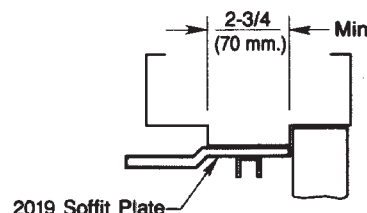
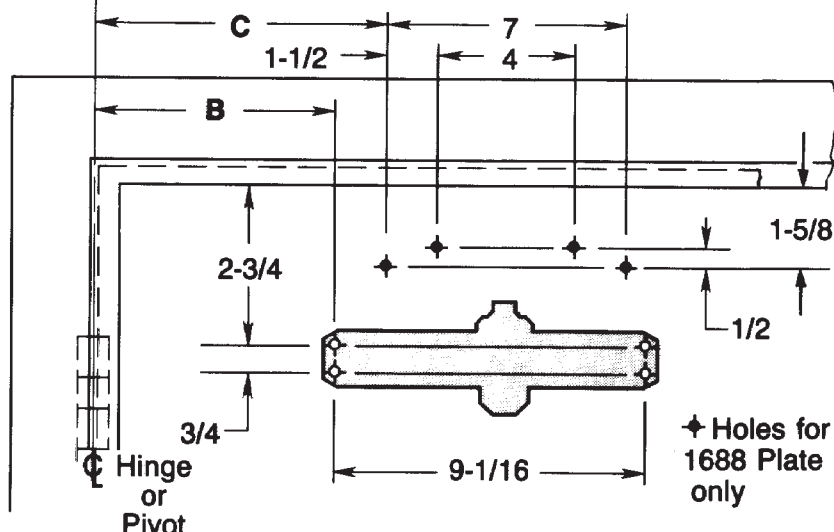
Hold Open Arm door closers are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

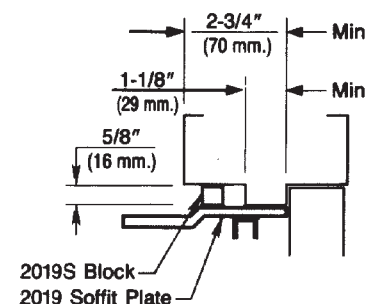
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.).

Follow Conversion Chart for metric dimensions.

Maximum width hinges for this template are 5" (127mm)

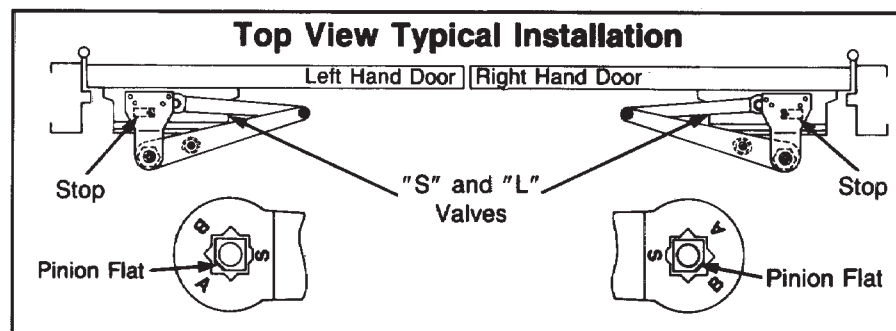


Wide Stop Frame



Narrow Stop Frame

in.	mm.	in.	mm.	in.	mm.	in.	mm.
		2	50.8	7-3/8	187	9-1/16	230.2
3/8	9.5	2-1/16	52.4	7-5/8	194	9-1/8	232
7/16	11.1	2-3/4	69.9	7-3/4	197	9-3/8	238
1/2	12.7	4	101.6	8	203	9-5/8	244
3/4	19.1	5-3/4	146	8-3/8	213	10-1/8	257
1-3/8	34.9	6-3/8	162	8-5/8	219	10-3/8	264
1-1/2	38.1	6-3/4	171	9	229	11-1/8	283
1-5/8	41	7	177.8				



Fastener	Frame	Door	Drill
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
1/4-20 machine screw	metal	none	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**CLP-1600(BC) Series CloserPlus®**  
**CPS-1600 (BC) Series CloserPlus Spring™ Arm**  
**Parallel Arm Application With or Without 1688 Drop Plate**  
**Arm Function: Stop Only or Stop & Hold Open Arm ("T" Suffix)**  
**Power Sizes 1-6, 3BC, 4BC**

**Norton**

ASSA ABLOY

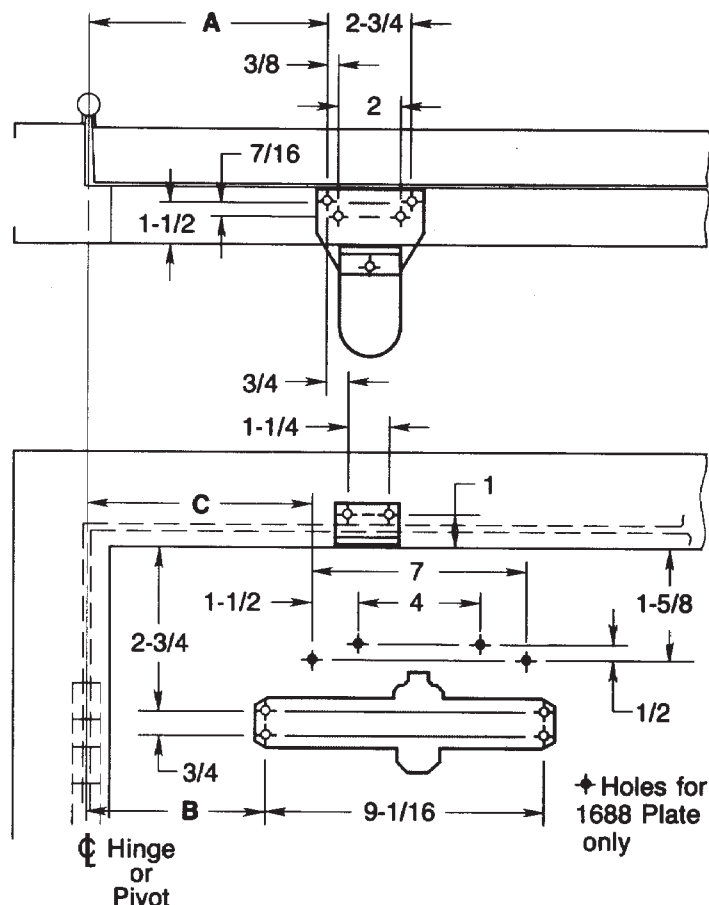
www.nortondoorcontrols.com

TEMPLATE NUMBER

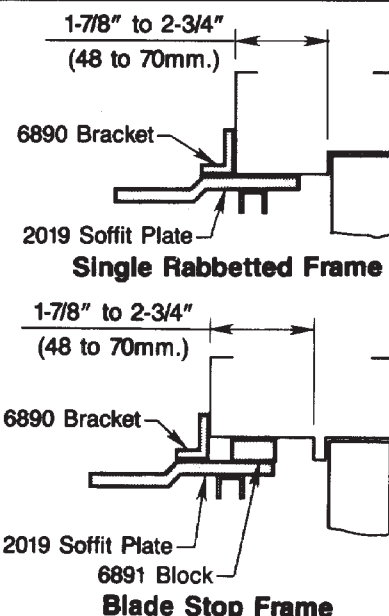
**7316-2302**

REV

**2**



Door Opening ★	DIM. A	DIM. B	DIM. C
85°	11-1/8	9-1/8	10-1/8
90°	10-3/8	8-3/8	9-3/8
95°	9-5/8	7-5/8	8-5/8
100°	9	7	8
105°	8-3/8	6-3/8	7-3/8
110°	7-3/4	5-3/4	6-3/4



★ **Template dimensions are for hold-open/door stop within ±2° of charted door openings. Doors may overtravel up to 5° beyond the rest position.**

**Notes:**

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Hold Open Arm door closers are not permitted to be used on fire doors.

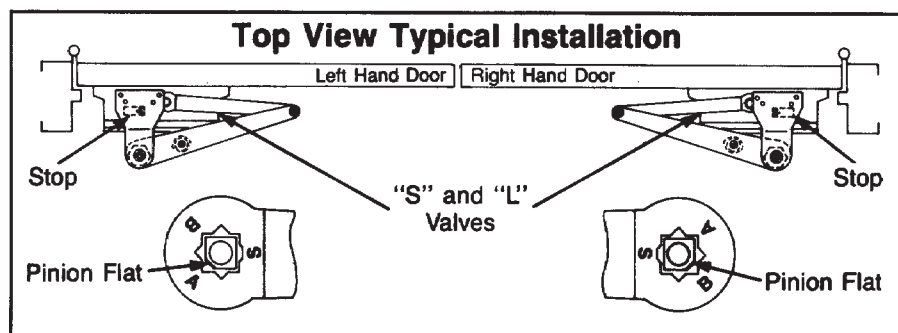
Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.).

Follow Conversion Chart for metric dimensions.

Maximum width hinges for this template are 5" (127mm)

in.	mm.	in.	mm.	in.	mm.	in.	mm.
3/8	9.5	2	50.8	7-3/8	187	9-1/16	230.2
7/16	11.1	2-3/4	69.9	7-5/8	194	9-1/8	232
1/2	12.7	4	101.4	7-3/4	197	9-3/8	238
3/4	19.1	5-3/4	146	8	203	9-5/8	244
1	25	6-3/8	162	8-3/8	213	10-1/8	257
1-1/4	31.8	6-3/4	171	8-5/8	219	10-3/8	264
1-1/2	38.1	7	177.8	9	229	11-1/8	283
1-5/8	41						



Fastener	Frame	Door	Drill
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
1/4-20 machine screw	metal	none	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

CLP-1600(BC) Series CloserPlus®  
CPS-1600(BC) Series CloserPlus Spring™ Arm  
Parallel Arm Application with 6890 Reinforcing Bracket  
With or Without 6891 Spacer Block and 1688 Drop Plate  
Arm Function - Stop Only or Stop & Hold Open ("T" Suffix)  
Power Sizes 1-6, 3BC, or 4BC

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

7316-2304

REV

2

Door Opening ★	DIM. A	DIM. B	DIM. C
85°	11-1/4	9-1/8	10-1/8
90°	10-1/2	8-3/8	9-3/8
95°	9-3/4	7-5/8	8-5/8
100°	9-1/8	7	8
105°	8-1/2	6-3/8	7-3/8
110°	7-7/8	5-3/4	6-3/4

★ Template dimensions are for hold-open/door stop within  $\pm 2^\circ$  of charted door openings. Doors may overtravel up to  $5^\circ$  beyond the rest position.

**Notes:**

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

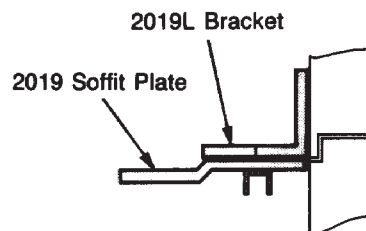
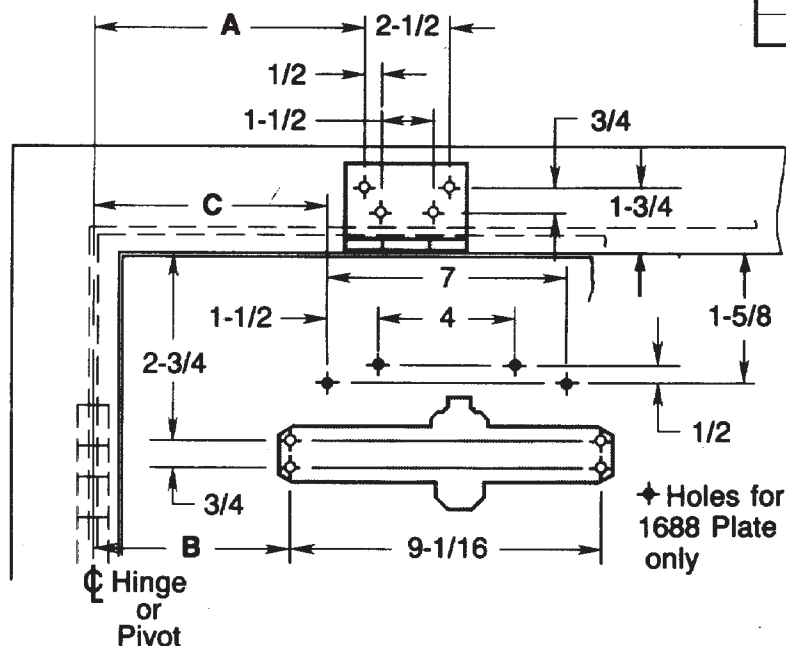
Hold Open Arm door closers are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

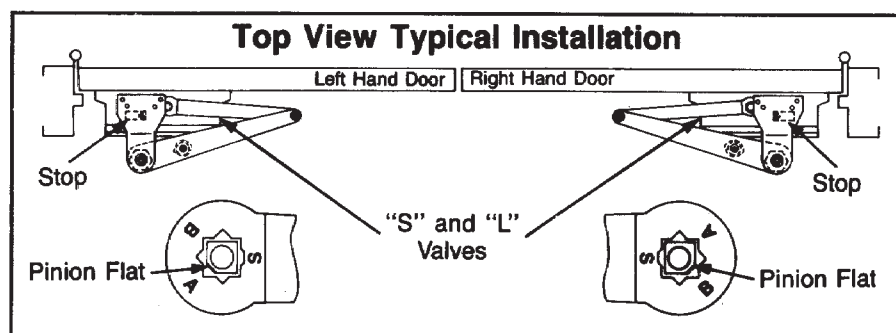
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.).

Follow Conversion Chart for metric dimensions.

Maximum width hinges for this template are 5" (127mm)



in.	mm.	in.	mm.	in.	mm.	in.	mm.
1/2	12.7	4	101.6	7-7/8	200	9-3/8	238
3/4	19.1	5-3/4	146	8	203	9-3/4	248
1-1/2	38.1	6-3/8	162	8-3/8	213	10-1/8	257
1-5/8	41	6-3/4	171	8-1/2	216	10-1/2	267
1-3/4	44	7	177.8	8-5/8	219	11-1/4	286
2-1/2	63.5	7-3/8	187	9-1/16	230.2		
2-3/4	69.9	7-5/8	194	9-1/8	232		



Fastener	Frame	Door	Drill
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
1/4-20 machine screw	metal	none	#7 (.201 dia.) or 5.10mm. drill 1/4"-20 tap
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**CLP-1600 (BC) Series CloserPlus®**  
**CPS-1600(BC) Series CloserPlus Spring™ Arm**  
**Parallel Arm Application with 2019L Flush Transom Bracket With or Without 1688 Drop Plate**  
**Arm Function - Stop Only or Stop & Hold Open Arm ("T" Suffix)**  
**Power Size: 1-6, 3BC, or 4BC**

**Norton**

ASSA ABLOY

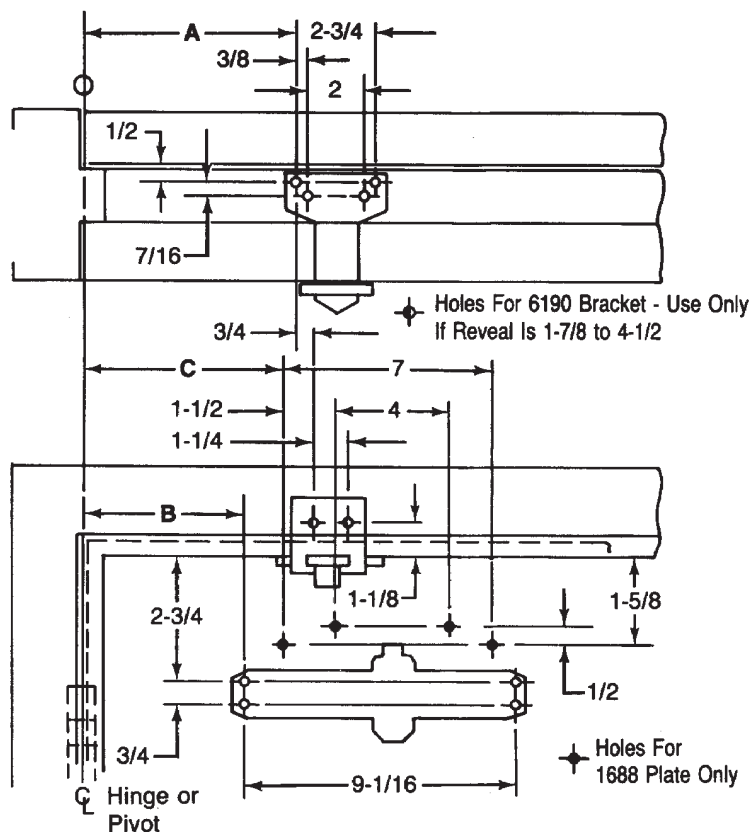
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TEMPLATE NUMBER

**7316-2306**

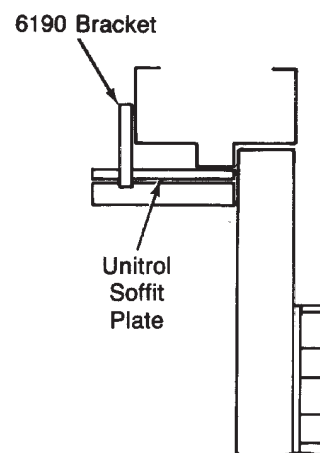
REV

**2**



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	10-1/2	8-5/8	9-5/8
90°	95°	9-3/4	8	9
95°	100°	9-1/4	7-1/2	8-1/2
100°	105°	8-7/8	7-1/8	8-1/8
105°	110°	8-1/2	6-3/4	7-3/4
110°	115°	8-1/8	6-3/8	7-3/8

★ Door must be free to swing 5° beyond hold-open position.



### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

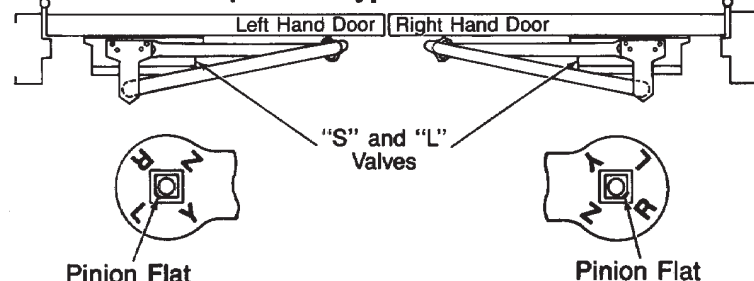
Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-3/4	70	8-1/8	206
3/8	9.5	4	101.5	8-1/2	215.5
7/16	11	4-1/2	114	8-5/8	219
1/2	13	6-3/8	162	8-7/8	225
3/4	19	6-3/4	171.5	9	228.5
1-1/8	28.5	7	178	9-1/16	230
1-1/4	31.5	7-1/8	181	9-1/4	235
1-1/2	38	7-3/8	187	9-5/8	244.5
1-5/8	41	7-1/2	190.5	9-3/4	247.5
1-7/8	47.5	7-3/4	196.5	10-1/2	266.5
2	51	8	203		

### Top View Typical Installation



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 28" to 32" (0.70-0.80m) Wide**  
**With Standard 6190 Bracket & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

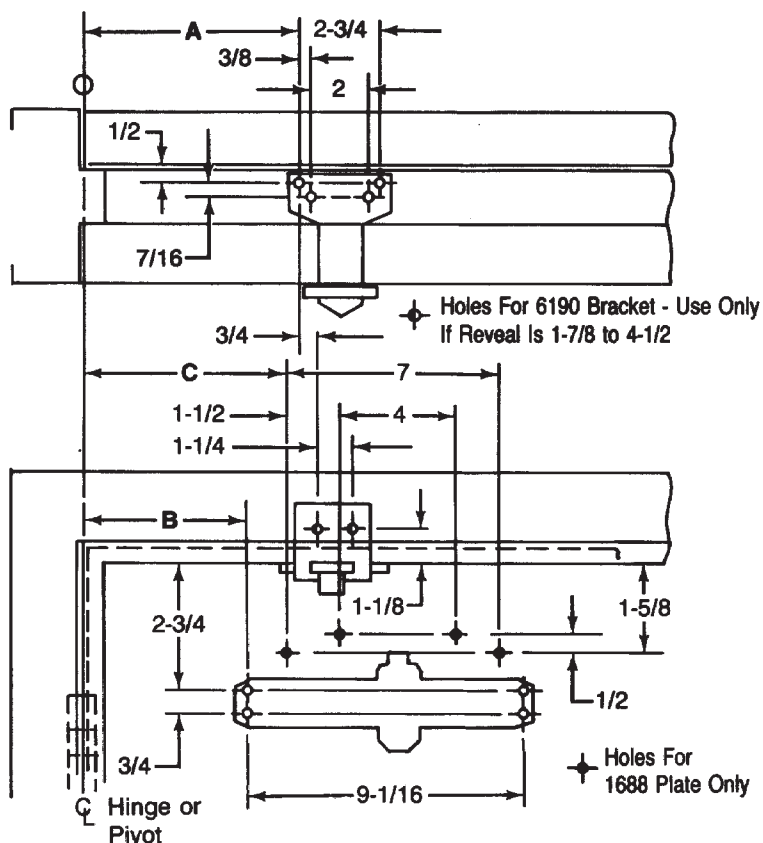
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TEMPLATE NUMBER

**7316-2354**

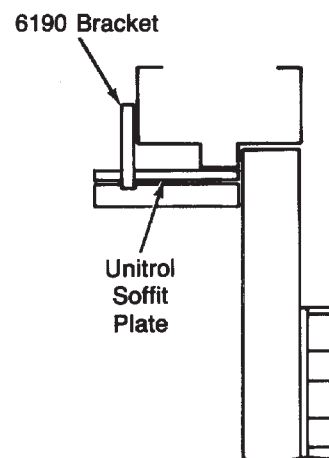
REV

**2**



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	12-5/8	11	12
90°	95°	12	10-3/8	11-3/8
95°	100°	11-3/8	9-3/4	10-3/4
100°	105°	10-7/8	9-1/4	10-1/4
105°	110°	10-3/8	8-3/4	9-3/4
110°	115°	10	8-3/8	9-3/8

★ Door must be free to swing 5° beyond hold-open position.



#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

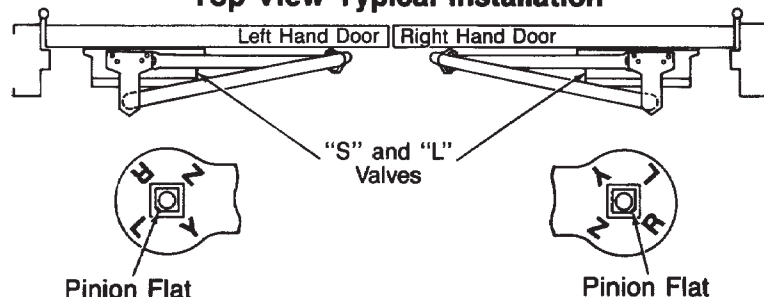
Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-3/4	70	10-1/4	260
3/8	9.5	4	101.5	10-3/8	263.5
7/16	11	4-1/2	114	10-3/4	273
1/2	13	7	178	10-7/8	276
3/4	19	8-3/8	212.5	11	279.5
1-1/8	28.5	8-3/4	222	11-3/8	288.5
1-1/4	31.5	9-1/16	230	12	304.5
1-1/2	38	9-1/4	235	12-5/8	320.5
1-5/8	41	9-3/8	238		
1-7/8	47.5	9-3/4	247.5		
2	51	10	254		

#### Top View Typical Installation



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. . 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 33" to 41" (0.85-1.0m) Wide**  
**With Standard 6190 Bracket & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

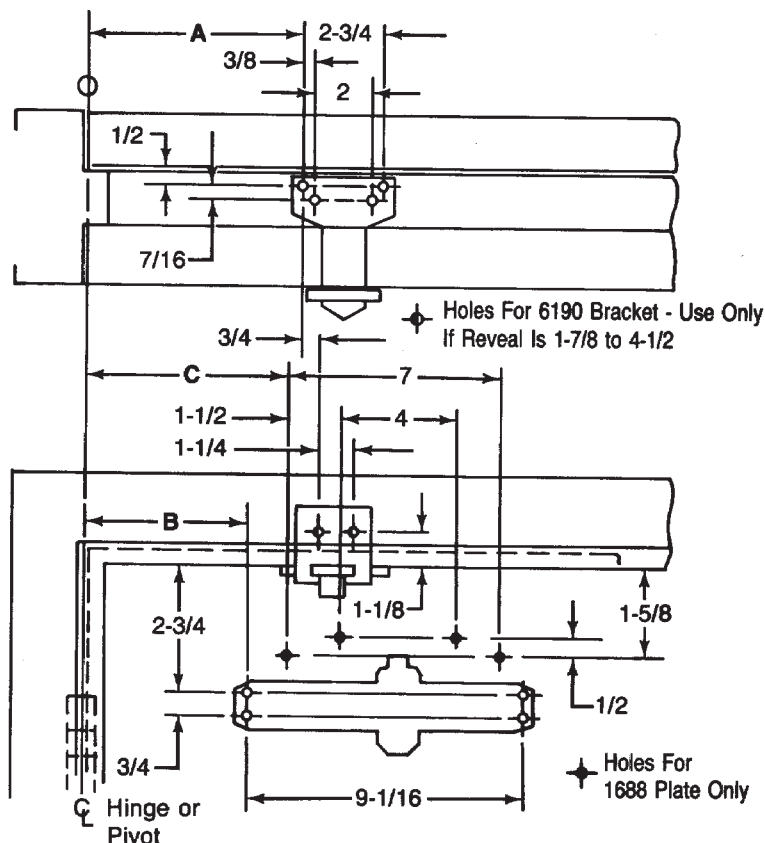
TEMPLATE NUMBER

**7316-2355**

REV

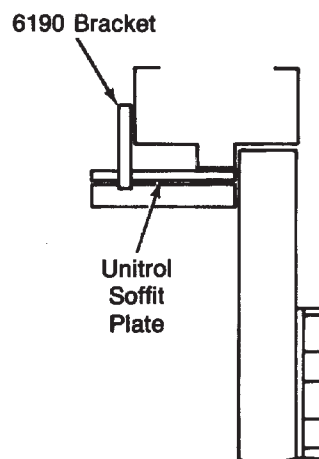
**2**





Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	15	13-1/4	14-1/4
90°	95°	14-1/4	12-1/2	13-1/2
95°	100°	13-5/8	11-7/8	12-7/8
100°	105°	13	11-1/4	12-1/4
105°	110°	12-1/2	10-3/4	11-3/4
110°	115°	12	10-1/4	11-1/4

★ Door must be free to swing 5° beyond hold-open position.



### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

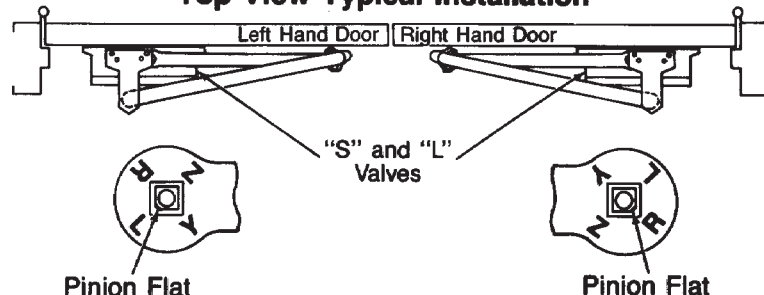
Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-3/4	70	12-1/4	311
3/8	9.5	4	101.5	12-1/2	317.5
7/16	11	4-1/2	114	12-7/8	327
1/2	13	7	178	13	330
3/4	19	9-1/16	230	13-1/4	336.5
1-1/8	28.5	10-1/4	260	13-1/2	342.5
1-1/4	31.5	10-3/4	273	13-5/8	346
1-1/2	38	11-1/4	285.5	14-1/4	361.5
1-5/8	41	11-3/4	298	15	380.5
1-7/8	47.5	11-7/8	301.5		
2	51	12	304.5		

### Top View Typical Installation



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. . 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 42" to 48" (1.05-1.02m) Wide**  
**With Standard 6190 Bracket & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

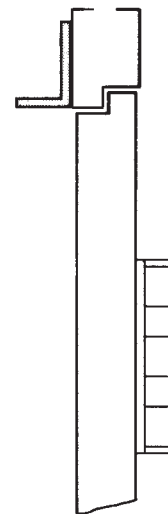
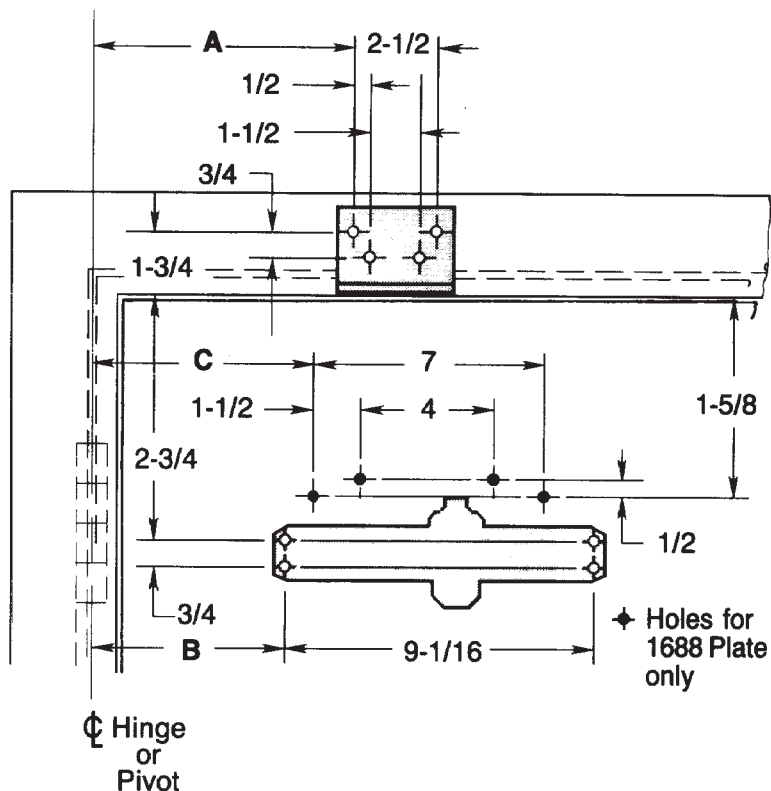
**7316-2356**

REV

**2**



★ Door must be free to swing 5° beyond hold-open position.



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	10-5/8	8-5/8	9-5/8
90°	95°	9-7/8	8	9
95°	100°	9-3/8	7-1/2	8-1/2
100°	105°	9	7-1/8	8-1/8
105°	110°	8-5/8	6-3/4	7-3/4
110°	115°	8-1/4	6-3/8	7-3/8

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

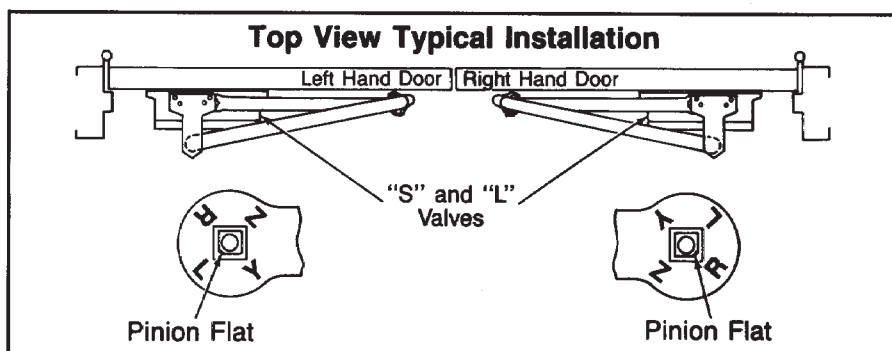
Models with a Hold Open arm suffix are not permitted to be used on fire doors.

Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

For metric dimensions follow Conversion Chart.

inches	mm.	inches	mm.	inches	mm.
1/2	13	6-3/4	171	8-1/2	216
3/4	19	7	178	8-5/8	219
1-1/2	38	7-1/8	181	9	228.5
1-5/8	41	7-3/8	187	9-1/16	230
1-3/4	44.5	7-1/2	191	9-3/8	238
2-1/2	63.5	7-3/4	197	9-5/8	244
2-3/4	70	8	203	9-7/8	251
4	101.5	8-1/8	206	10-5/8	270
6-3/8	162	8-1/4	209.5		



Fastener	Door or Frame	Drill
SNB	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 28" to 32" (0.70-0.80m) Wide**  
**With 2022 Flush Transom Bracket & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

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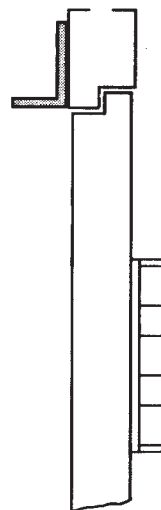
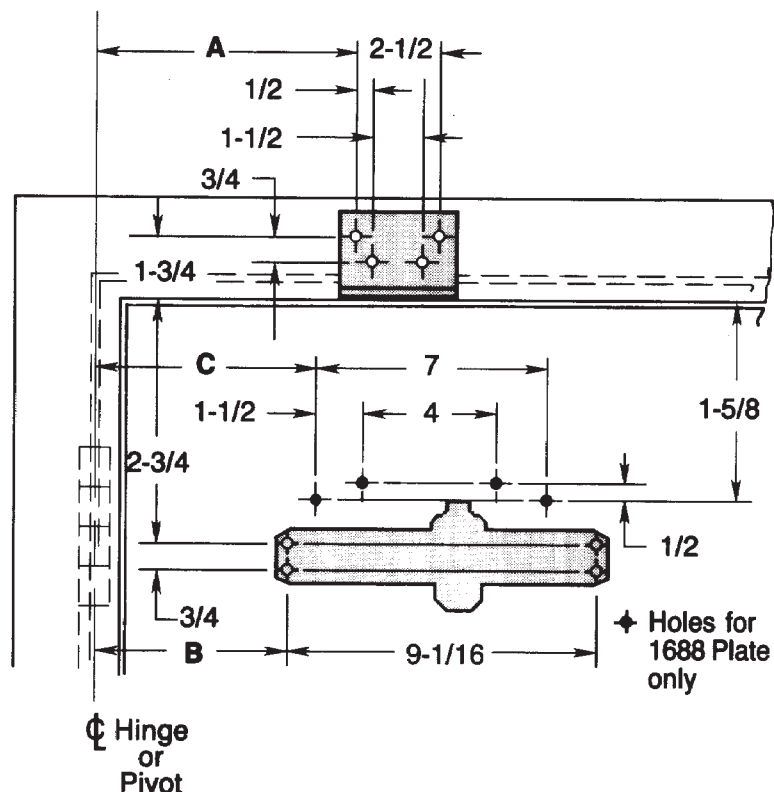
TEMPLATE NUMBER

**7316-2360**

REV

**2**

★ Door must be free to swing 5° beyond hold-open position.



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	12-3/4	11	12
90°	95°	12-1/8	10-3/8	11-3/8
95°	100°	11-1/2	9-3/4	10-3/4
100°	105°	11	9-1/4	10-1/4
105°	110°	10-1/2	8-3/4	9-3/4
110°	115°	10-1/8	8-3/8	9-3/8

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

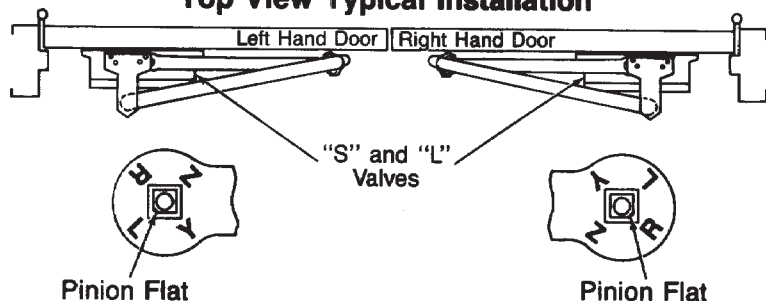
Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

For metric dimensions follow Conversion Chart.

inches	mm.	inches	mm.	inches	mm.
1/2	13	8-3/8	213	10-1/2	267
3/4	19	8-3/4	222	10-3/4	273
1-1/2	38	9-1/16	230	11	279
1-5/8	41	9-1/4	235	11-3/8	289
1-3/4	44.5	9-3/8	238	11-1/2	292
2-1/2	63.5	9-3/4	248	12	305
2-3/4	70	10-1/8	257	12-1/8	308
4	101.5	10-1/4	260	12-3/4	324
7	178	10-3/8	263.5		

#### Top View Typical Installation



Fastener	Door or Frame	Drill
SNB	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 33" to 41" (0.85-1.0m) Wide**  
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**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

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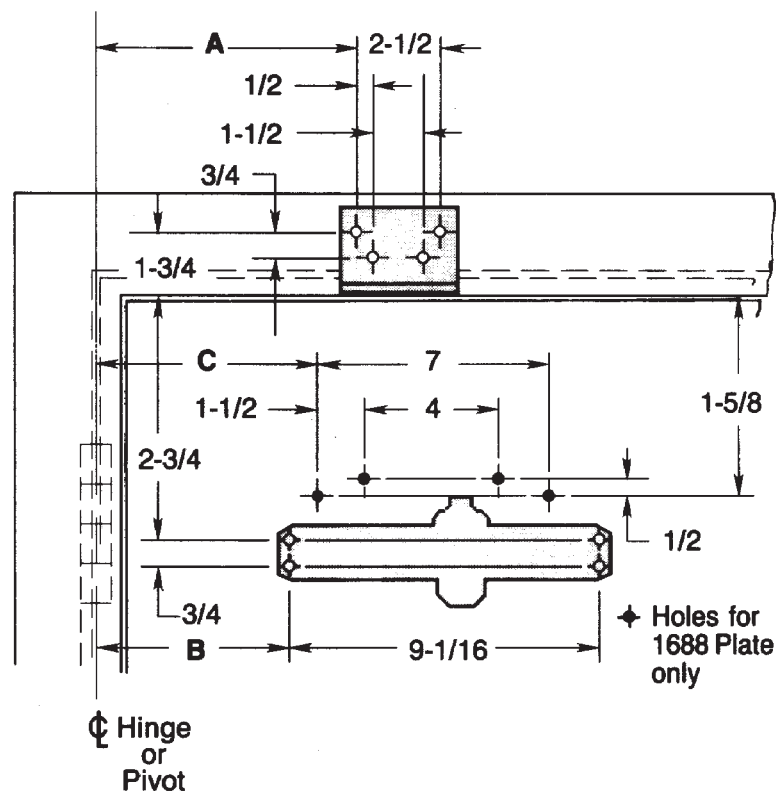
TEMPLATE NUMBER

**7316-2361**

REV

**2**

★ Door must be free to swing 5° beyond hold-open position.



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	15-1/8	13-1/4	14-1/4
90°	95°	14-3/8	12-1/2	13-1/2
95°	100°	13-3/4	11-7/8	12-7/8
100°	105°	13-1/8	11-1/4	12-1/4
105°	110°	12-5/8	10-3/4	11-3/4
110°	115°	12-1/8	10-1/4	11-1/4

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

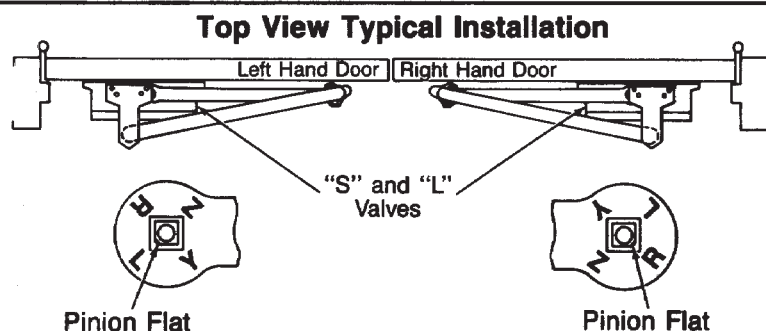
Models with a Hold Open arm suffix are not permitted to be used on fire doors.

Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

For metric dimensions follow Conversion Chart.

inches	mm.	inches	mm.	inches	mm.
1/2	13	9-1/16	230	12-7/8	327
3/4	19	10-1/4	260	13-1/8	333
1-1/2	38	10-3/4	273	13-1/4	337
1-5/8	41	11-1/4	286	13-1/2	343
1-3/4	44.5	11-3/4	298	13-3/4	349
2-1/2	63.5	11-7/8	302	14-1/4	362
2-3/4	70	12-1/8	308	14-3/8	365
4	101.5	12-1/2	318	15-1/8	384
7	178	12-5/8	321		



Fastener	Door or Frame	Drill
SNB	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
	aluminum or wood	3/8" (9.50mm.) thru

UNI-1600 or UNI-1600H Series Unitrol Door Closers  
Parallel Arm Application for Doors 42" to 48" (1.05-1.20m) Wide  
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Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

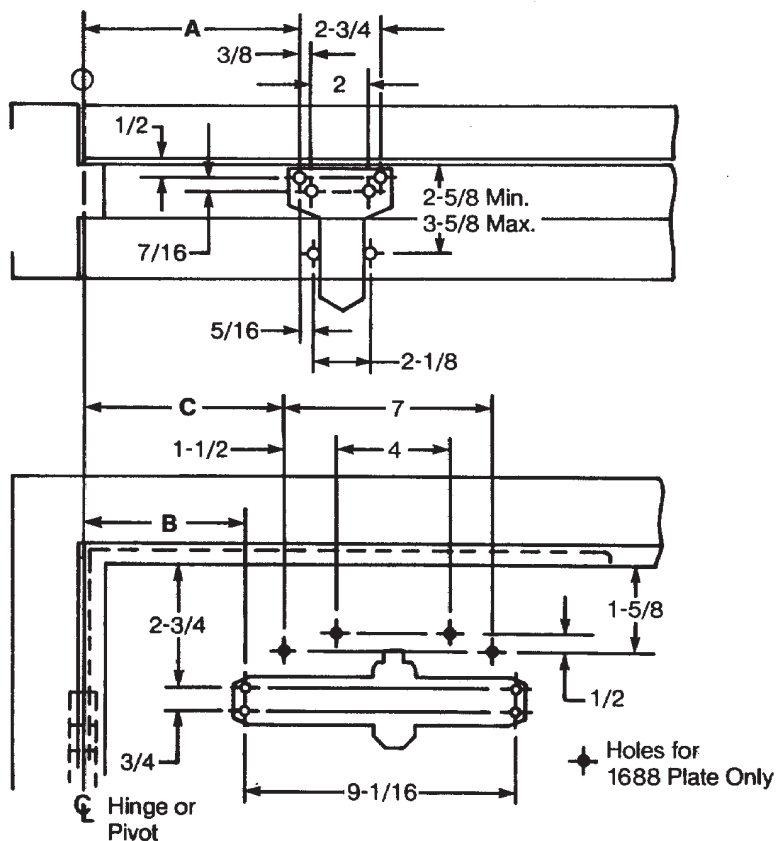
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TEMPLATE NUMBER

7316-2362

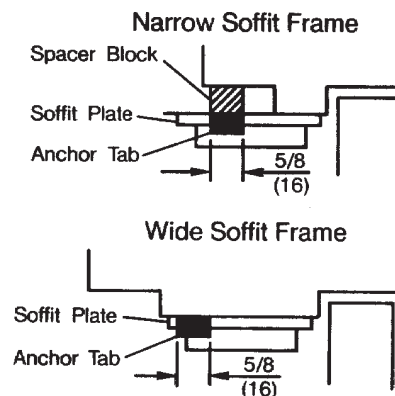
REV

2



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	10-1/2	8-5/8	9-5/8
90°	95°	9-3/4	8	9
95°	100°	9-1/4	7-1/2	8-1/2
100°	105°	8-7/8	7-1/8	8-1/8
105°	110°	8-1/2	6-3/4	7-3/4
110°	115°	8-1/8	6-3/8	7-3/8

★ Door must be free to swing 5° beyond hold-open position.



### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

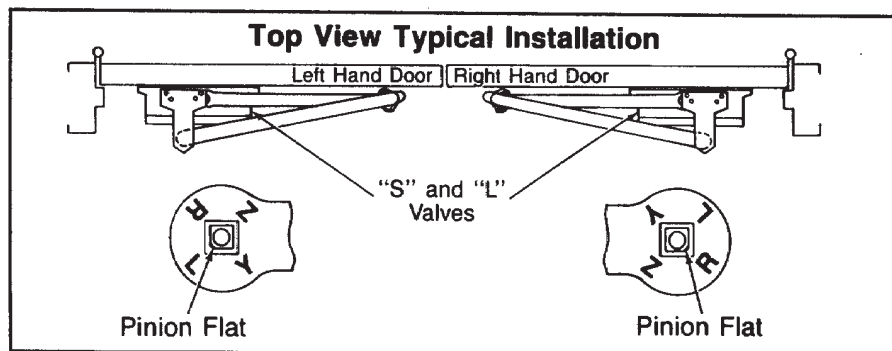
Models with a Hold Open arm suffix are not permitted to be used on fire doors.

Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-3/4	70	8-1/8	206
3/8	9.5	4	101.5	8-1/2	215.5
7/16	11	4-1/2	114	8-5/8	219
1/2	13	6-3/8	162	8-7/8	225
3/4	19	6-3/4	171.5	9	228.5
1-1/8	28.5	7	178	9-1/16	230
1-1/4	31.5	7-1/8	181	9-1/4	235
1-1/2	38	7-3/8	187	9-5/8	244.5
1-5/8	41	7-1/2	190.5	9-3/4	247.5
1-7/8	47.5	7-3/4	196.5	10-1/2	266.5
2	51	8	203		



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 28" to 32" (0.70-0.80m) Wide**  
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**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

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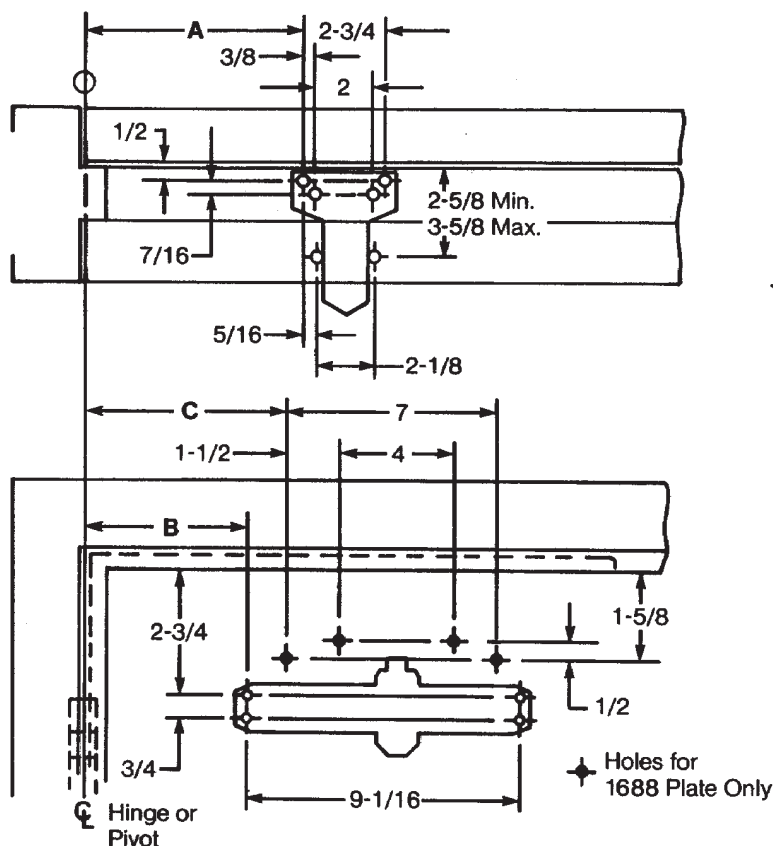
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TEMPLATE NUMBER

**7316-2366**

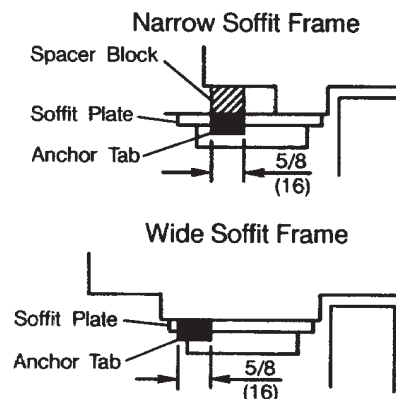
REV

**2**



Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	12-5/8	11	12
90°	95°	12	10-3/8	11-3/8
95°	100°	11-3/8	9-3/4	10-3/4
100°	105°	10-7/8	9-1/4	10-1/4
105°	110°	10-3/8	8-3/4	9-3/4
110°	115°	10	8-3/8	9-3/8

★ Door must be free to swing 5° beyond hold-open position.



### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

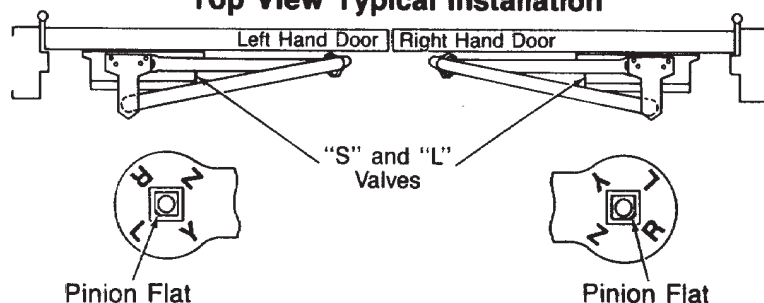
Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-3/4	70	10-1/4	260
3/8	9.5	4	101.5	10-3/8	263.5
7/16	11	4-1/2	114	10-3/4	273
1/2	13	7	178	10-7/8	276
3/4	19	8-3/8	212.5	11	279.5
1-1/8	28.5	8-3/4	222	11-3/8	288.5
1-1/4	31.5	9-1/16	230	12	304.5
1-1/2	38	9-1/4	235	12-5/8	320.5
1-5/8	41	9-3/8	238		
1-7/8	47.5	9-3/4	247.5		
2	51	10	254		

### Top View Typical Installation



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. . 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 33" to 41" (0.86-1.0m) Wide**  
**With 6191 Reinforcing Kit & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

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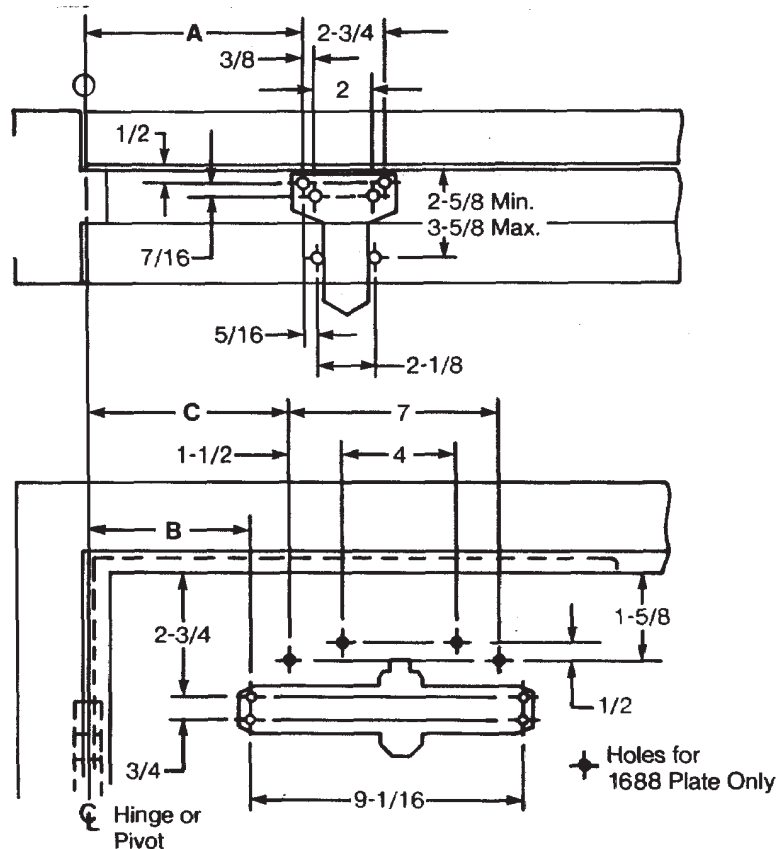
TEMPLATE NUMBER

**7316-2367**

REV

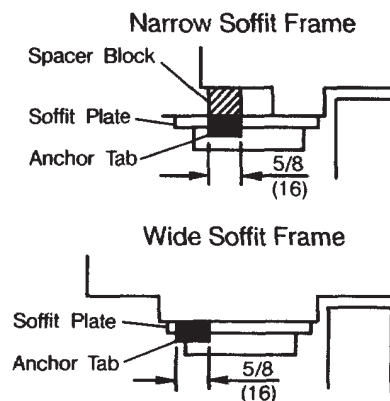
**2**





Opening		Dim. A	Dim. B	Dim. C
Hold Open ★	Stop			
85°	90°	15	13-1/4	14-1/4
90°	95°	14-1/4	12-1/2	13-1/2
95°	100°	13-5/8	11-7/8	12-7/8
100°	105°	13	11-1/4	12-1/4
105°	110°	12-1/2	10-3/4	11-3/4
110°	115°	12	10-1/4	11-1/4

★ Door must be free to swing 5° beyond hold-open position.



### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

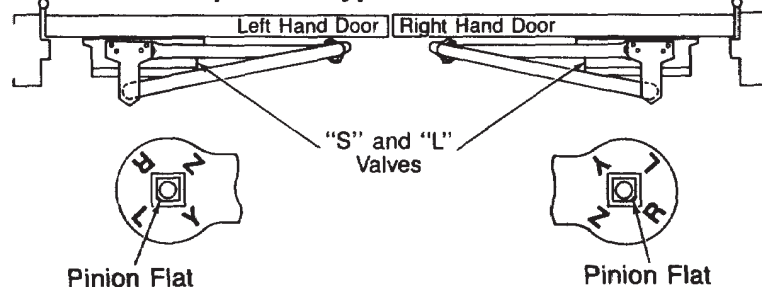
Sex bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
		2-3/4	70	12-1/4	311
3/8	9.5	4	101.5	12-1/2	317.5
7/16	11	4-1/2	114	12-7/8	327
1/2	13	7	178	13	330
3/4	19	9-1/16	230	13-1/4	336.5
1-1/8	28.5	10-1/4	260	13-1/2	342.5
1-1/4	31.5	10-3/4	273	13-5/8	346
1-1/2	38	11-1/4	285.5	14-1/4	361.5
1-5/8	41	11-3/4	298	15	380.5
1-7/8	47.5	11-7/8	301.5		
2	51	12	304.5		

### Top View Typical Installation



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. . 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-1600 or UNI-1600H Series Unitrol Door Closers**  
**Parallel Arm Application for Doors 42" to 48" (1.05-1.20m) Wide**  
**With 6191 Reinforcing Kit & With or Without 1688 Drop Plate**  
**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**  
**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

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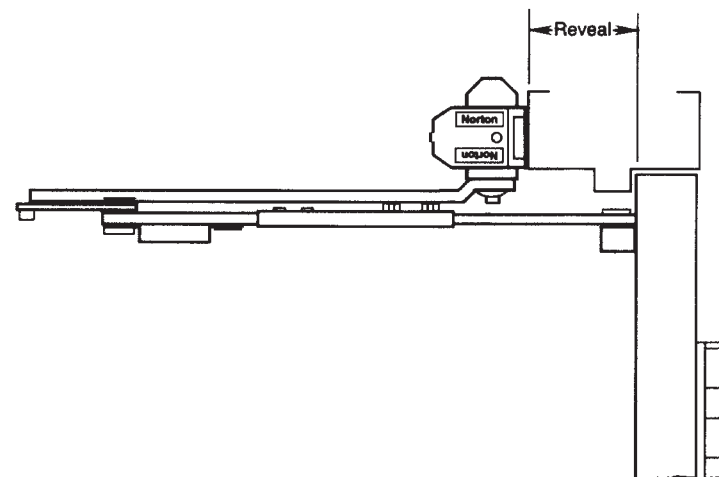
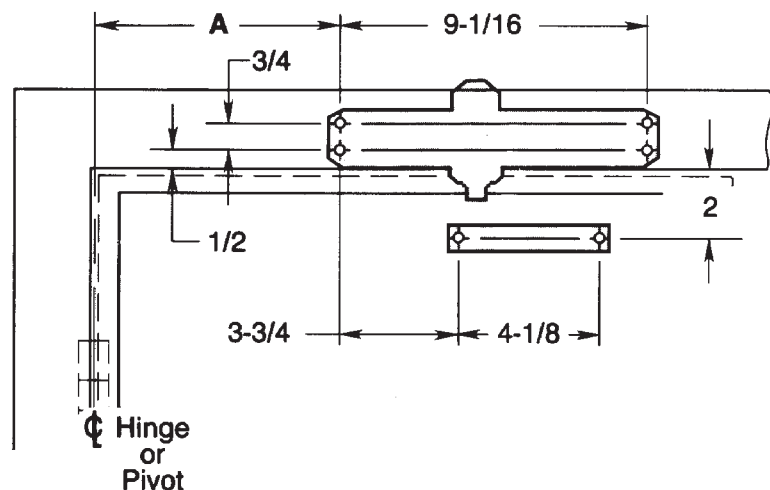
TEMPLATE NUMBER

**7316-2368**

REV

**2**





Opening		Dim. A	inches		mm.	
Hold Open ★	Stop					
85°	90°	9-1/8	1/2	13	6-3/4	171.5
90°	95°	8-3/8	3/4	19	7-3/8	187
95°	100°	7-3/4	2	51	7-3/4	196.5
100°	105°	7-3/8	3-3/4	95	8-3/8	212.5
105°	110°	6-3/4	4-1/8	104.5	9-1/16	230
110°	115°	6-1/2	6-1/2	165	9-1/8	232

★ Door must be free to swing 5° beyond hold-open position.

**Notes:**

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

See conversion chart for metric dimensions.

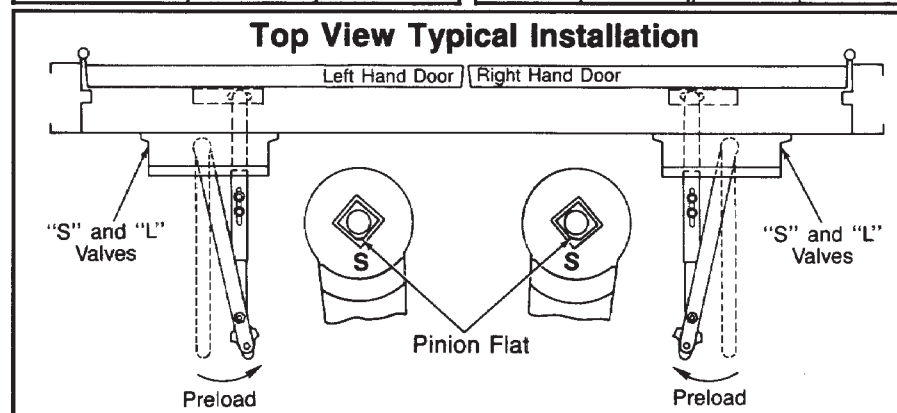
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201) or 5.10mm. drill. . . 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**UNI-J1600 or UNI-J1600H Series Unitrol Door Closers**

**Top Jamb Application**

**Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop**

**Individually Sized Units 3 and 4 & Multi-size Unit 1-6**

**Norton**

ASSA ABLOY

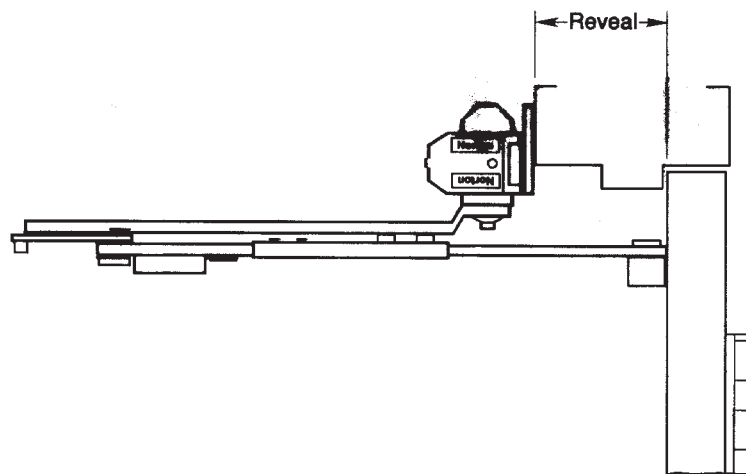
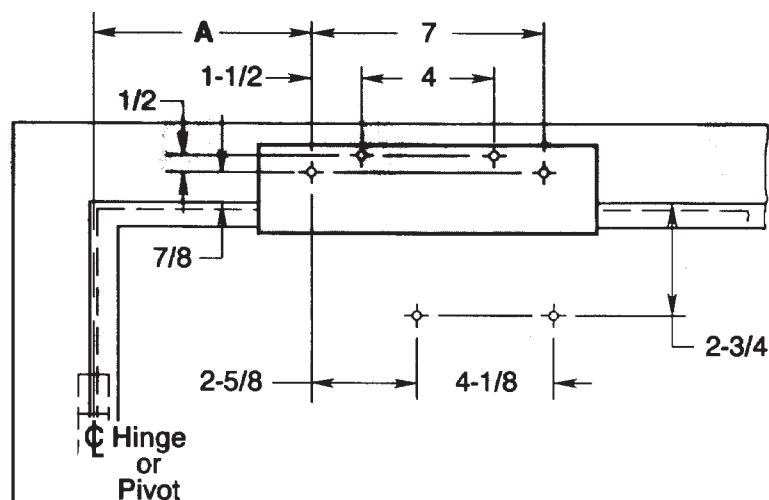
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TEMPLATE NUMBER

**7316-2402**

REV

**2**



Opening		Dim. A	inches		mm.	
Hold Open ★	Stop					
85°	90°	10-1/8	1/2	13	7	178
90°	95°	9-3/8	7/8	22	7-1/2	190.5
95°	100°	8-3/4	1-1/2	38	7-3/4	196.5
100°	105°	8-3/8	2-5/8	66.5	8-3/8	212.5
105°	110°	7-3/4	2-3/4	70	8-3/4	222
110°	115°	7-1/2	4	101.5	9-3/8	238
			4-1/8	104.5	10-1/8	257

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

See conversion chart for metric dimensions.

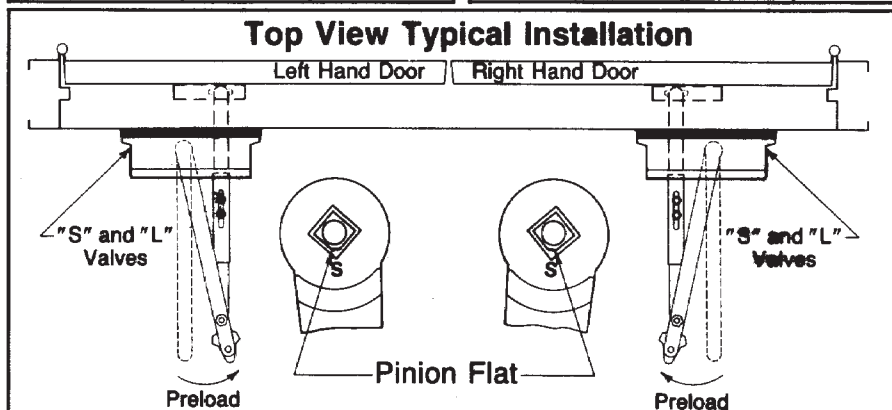
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Models with a Hold Open arm suffix are not permitted to be used on fire doors.

Sex-bolts may be required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).



Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201) or 5.10mm. drill. . . 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	7/32" (5.5mm)
SNB	none	hollow-metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

UNI-J1600 or UNI-J1600H Series Unitrol Door Closers  
Top Jamb Application With 1687 Drop Plate  
Non Hold Open or Hold Open Arm - All Arms With Spring Cushioned Stop  
Individually Sized Units 3 and 4 & Multi-size Unit 1-6

**Norton**

ASSA ABLOY

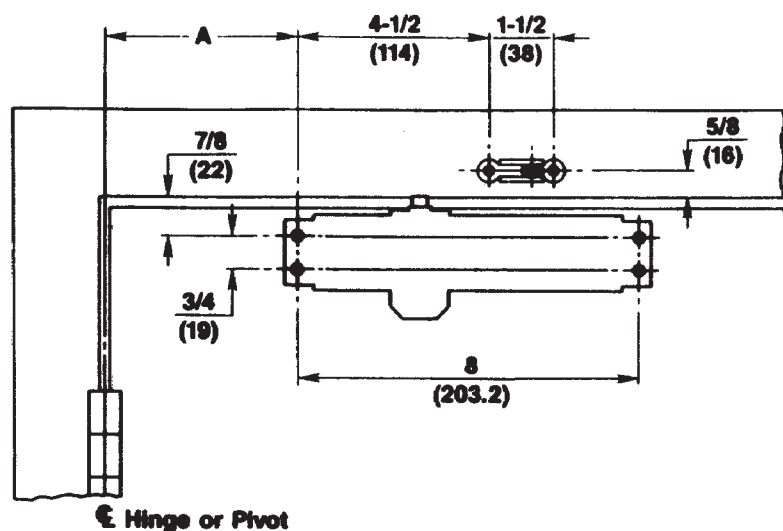
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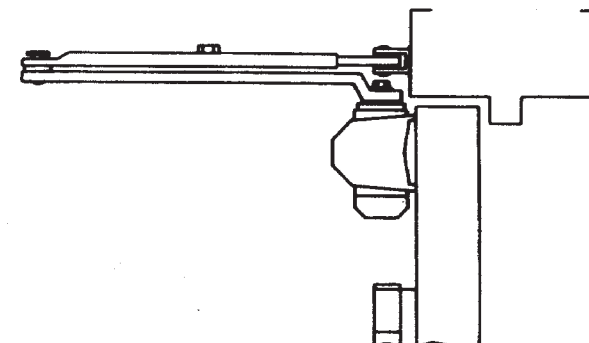
7316-2404

REV

2



Opening	Dim. A
To 100°	7-1/2 (191)
101° to 180°	4-1/4 (108)



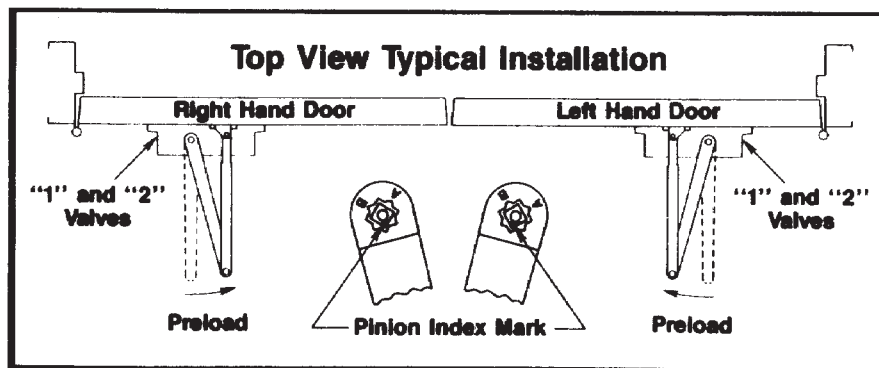
#### Notes:

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.



- Do not scale drawing.
- Right hand door shown.
- Dimensions are:  
inches  
(millimeters)

PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (9.50mm) deep, door Face opposite to closer

## 1700BC Series Door Closers Door and Frame Preparation Template Regular Arm Application With Non Hold Open Arm

**Norton**

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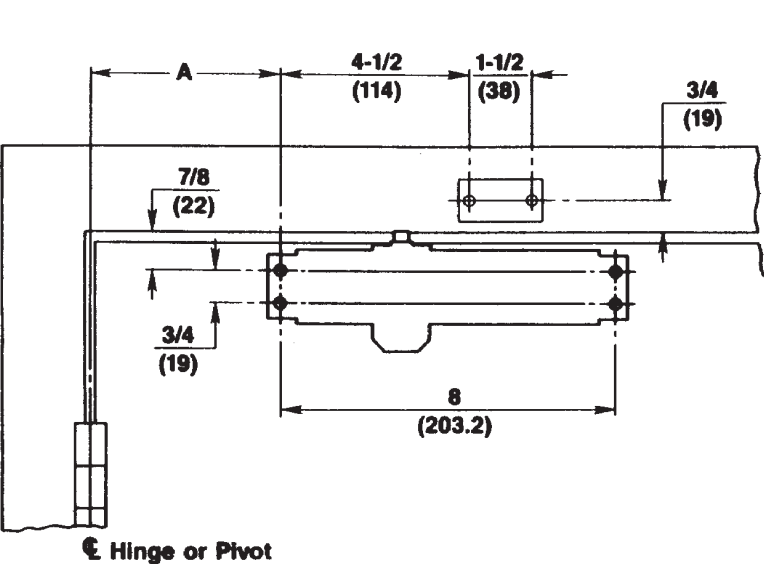
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

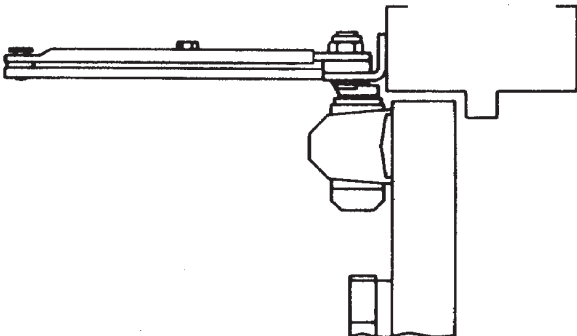
7317-0001

DATE

01-09



Opening	Dim.A
To 100°	7-1/2 (191)
101° to 180°	4-1/4 (108)



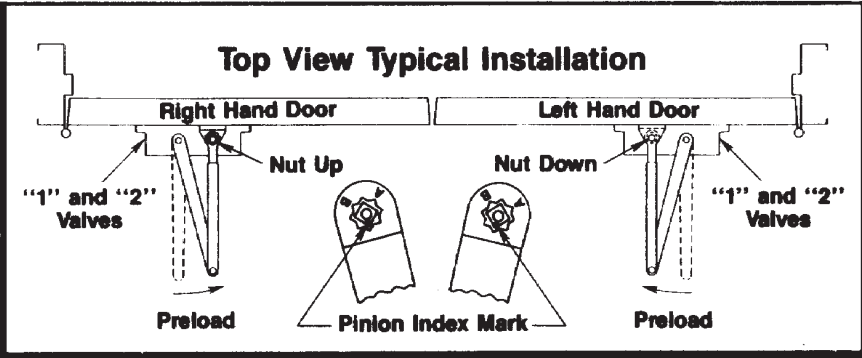
**Notes:**

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.



- Do not scale drawing.
- Right hand door shown.
- Dimensions are:  
inches  
(millimeters)

PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/ 32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

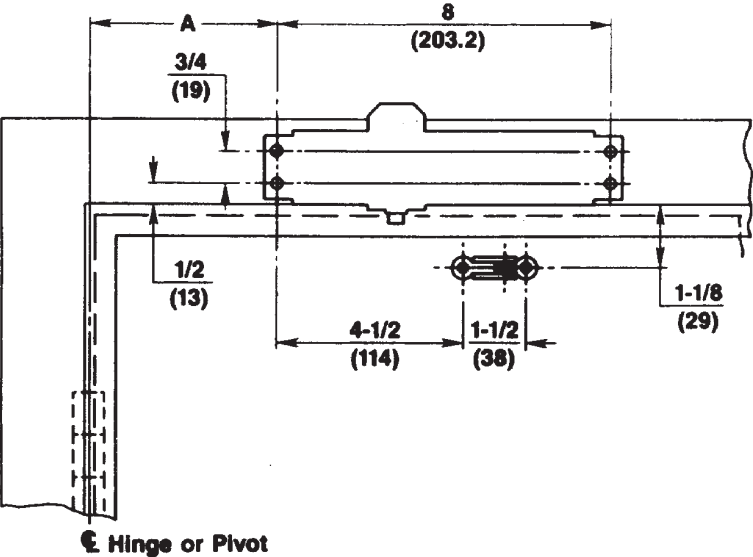
1700BC-H Series Door Closers  
Door and Frame Preparation Template  
Regular Arm Application With Hold Open Arm

Norton

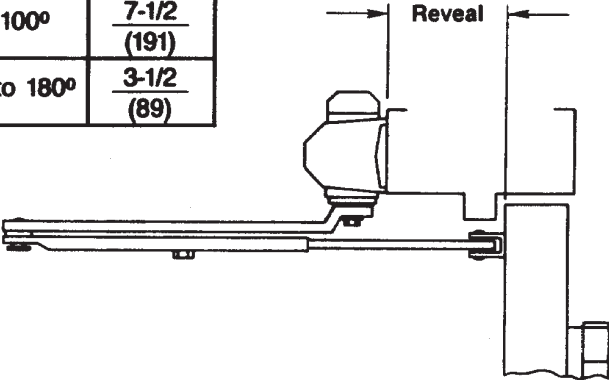
ASSA ABLOY

www.nortondoortcontrols.com

TEMPLATE NUMBER	DATE
7317-0002	01-09



Opening	Dim.A
To 100°	7-1/2 (191)
101° to 180°	3-1/2 (89)



REVEAL RANGE
1700BC Series 0" to 4-7/8" (0) to (123)
J1700BC Series 4-7/8" to 6-7/8" (123) to (174)

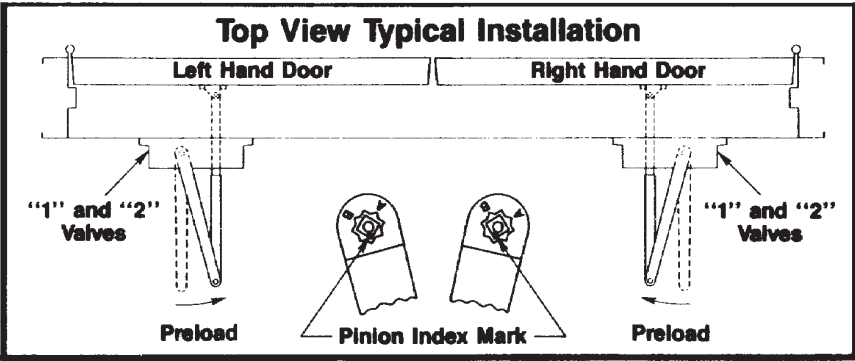
**Notes:**

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.



- Do not scale drawing.
- Left hand door shown.
- Dimensions are:  
inches  
(millimeters)

PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/ 32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

1700BC or J1700BC Series Door Closers  
Door and Frame Preparation Template  
Top Jamb Application With Non Hold Open Arm

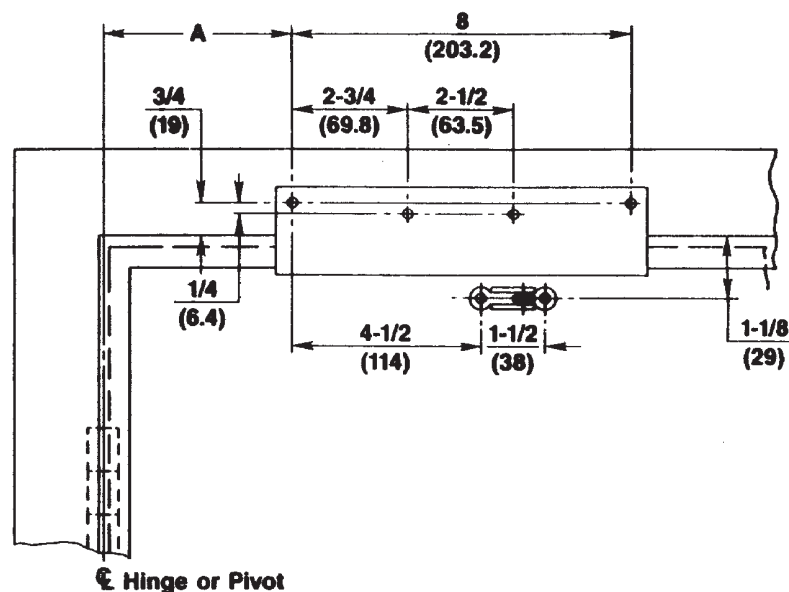
Norton

ASSA ABLOY

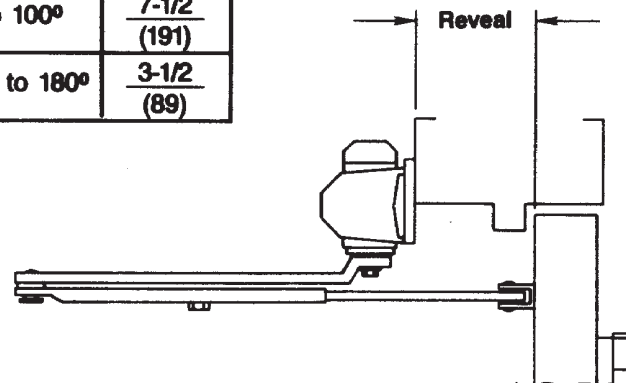
www.nortondoорcontrols.com

TEMPLATE NUMBER  
7317-0051

DATE  
01-09



Opening	Dim. A
To 100°	7-1/2 (191)
101° to 180°	3-1/2 (89)



REVEAL RANGE	
1700BC Series	0" to 4-7/8" (0) to (123)
J1700BC Series	4-7/8" to 6-7/8" (123) to (174)

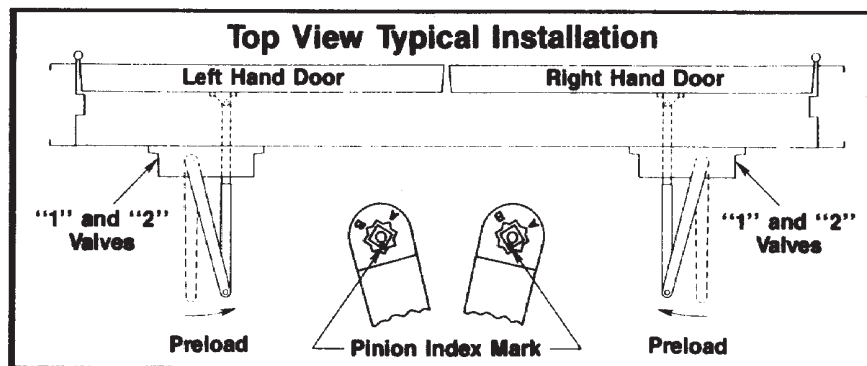
#### Notes:

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.



- Do not scale drawing.
- Left hand door shown.
- Dimensions are:  
inches  
(millimeters)

PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7 (.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (See Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

## 1700BC or J1700BC Series Door Closers Door and Frame Preparation Template Top Jamb Drop Application With Non Hold Open Arm With 1746 or 1757 Drop Plate

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

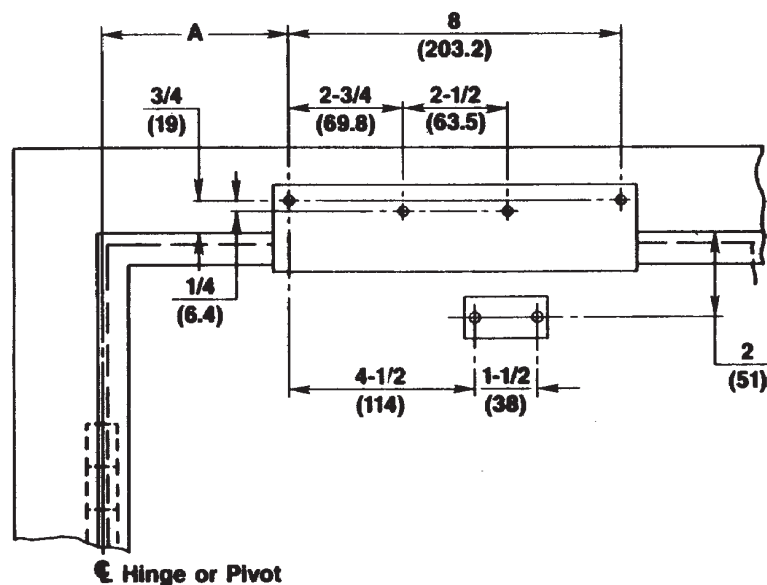
TEMPLATE NUMBER

7317-0056

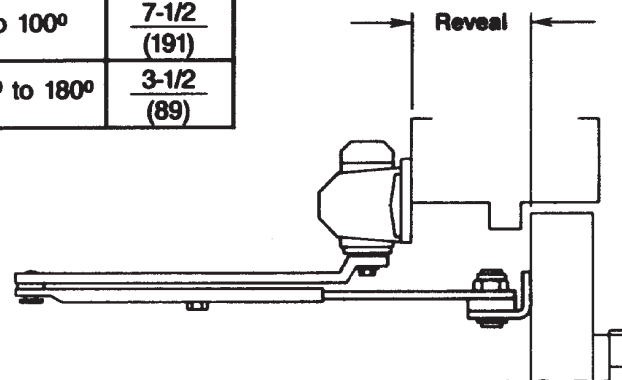
DATE

01-09





Opening	Dim.A
To 100°	7-1/2 (191)
101° to 180°	3-1/2 (89)



REVEAL RANGE	
1700BC-H Series	0" to 4-7/8" (0) to (123)
J1700BC-H Series	4-7/8" to 6-7/8" (123) to (174)

#### Notes:

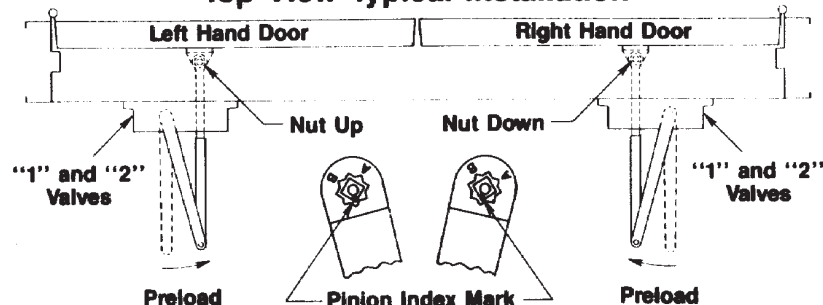
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

#### Top View Typical Installation



- Do not scale drawing.
- Left hand door shown.
- Dimensions are:  
inches  
(millimeters)

#### PREPARATION FOR FASTENERS

TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

## 1700BC-H or J1700BC-H Series Door Closers Door and Frame Preparation Template Top Jamb Drop Application With Hold Open Arm With 1746 or 1757 Drop Plate

**Norton**

ASSA ABLOY

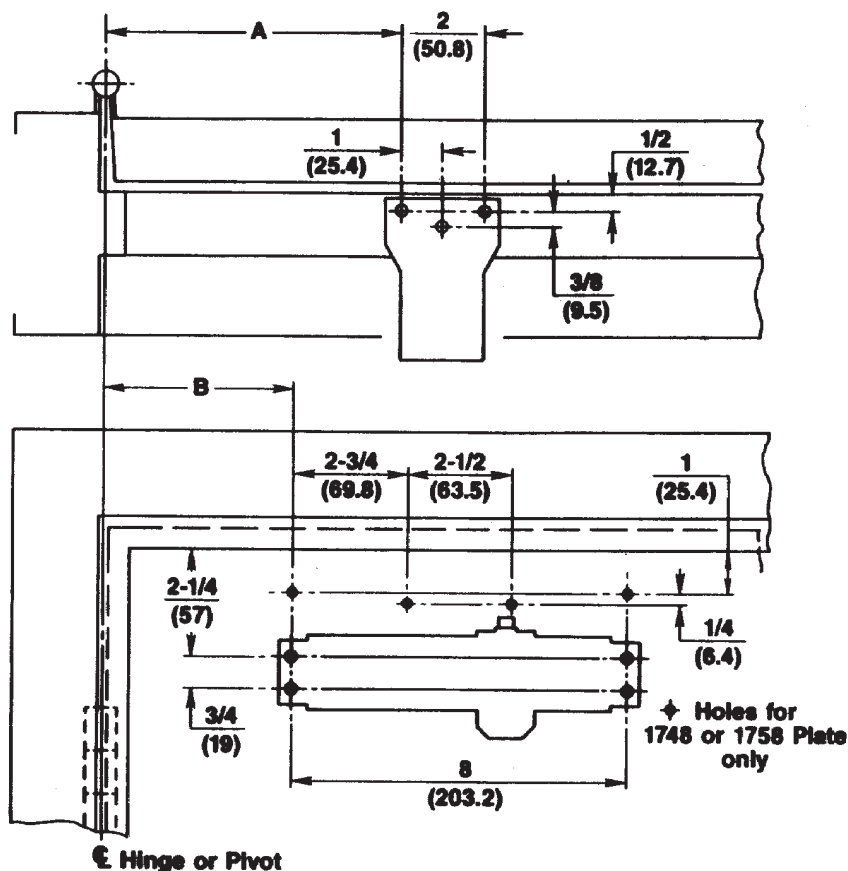
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

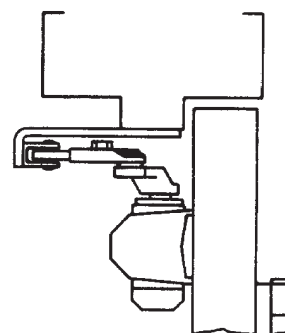
7317-0057

DATE

01-09



Opening	Dim. A	Dim. B
To 100°	9-7/8 (251)	7-1/4 (184)
101° to 180°	7-1/8 (181)	4-1/4 (108)



#### Notes:

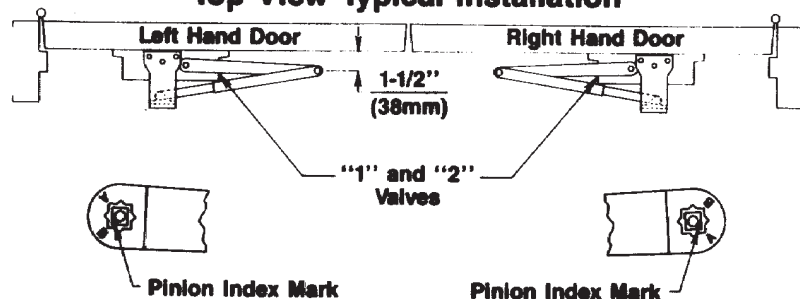
Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

#### Top View Typical Installation



- Do not scale drawing.
- Left hand door shown.
- Dimensions are:  
inches  
(millimeters)

#### PREPARATION FOR FASTENERS

TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

### 1700BC Series Door Closers Door and Frame Preparation Template Parallel Arm Application With Non Hold Open Arm With or Without 1748 or 1758 Drop Plate

**Norton**

ASSA ABLOY

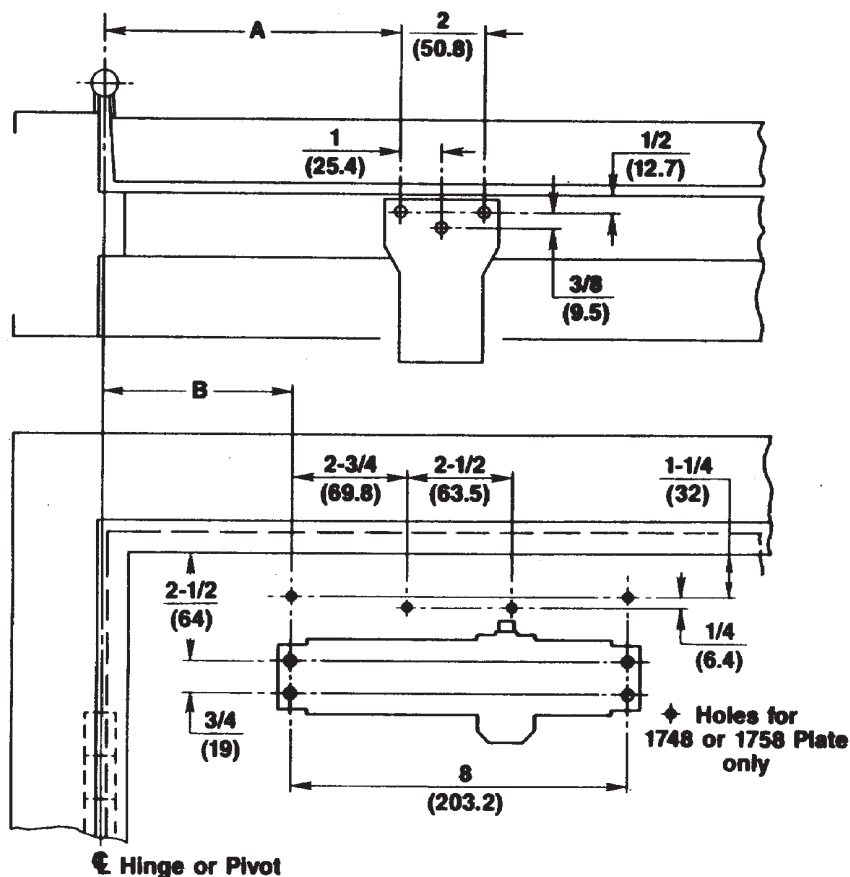
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

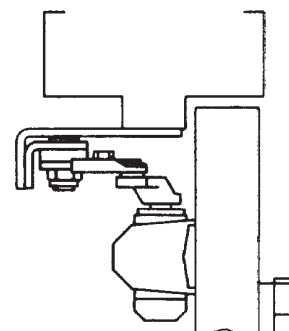
7317-0101

DATE

01-09



Opening	Dim.A	Dim B
To 100°	9-7/8 (251)	7-1/4 (184)
101° to 180°	7-1/8 (181)	4-1/4 (108)



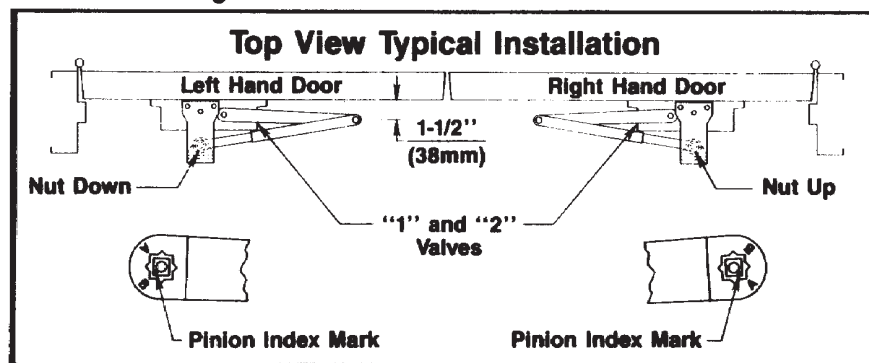
#### Notes:

Door swing may be limited by door, frame, wall or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.



- Do not scale drawing.
- Left hand door shown.
- Dimensions are:  
inches  
(millimeters)

PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill — 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru ... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru ...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru ... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

## 1700BC-H Series Door Closers Door and Frame Preparation Template Parallel Arm Application With Hold Open Arm With or Without 1748 or 1758 Drop Plate

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

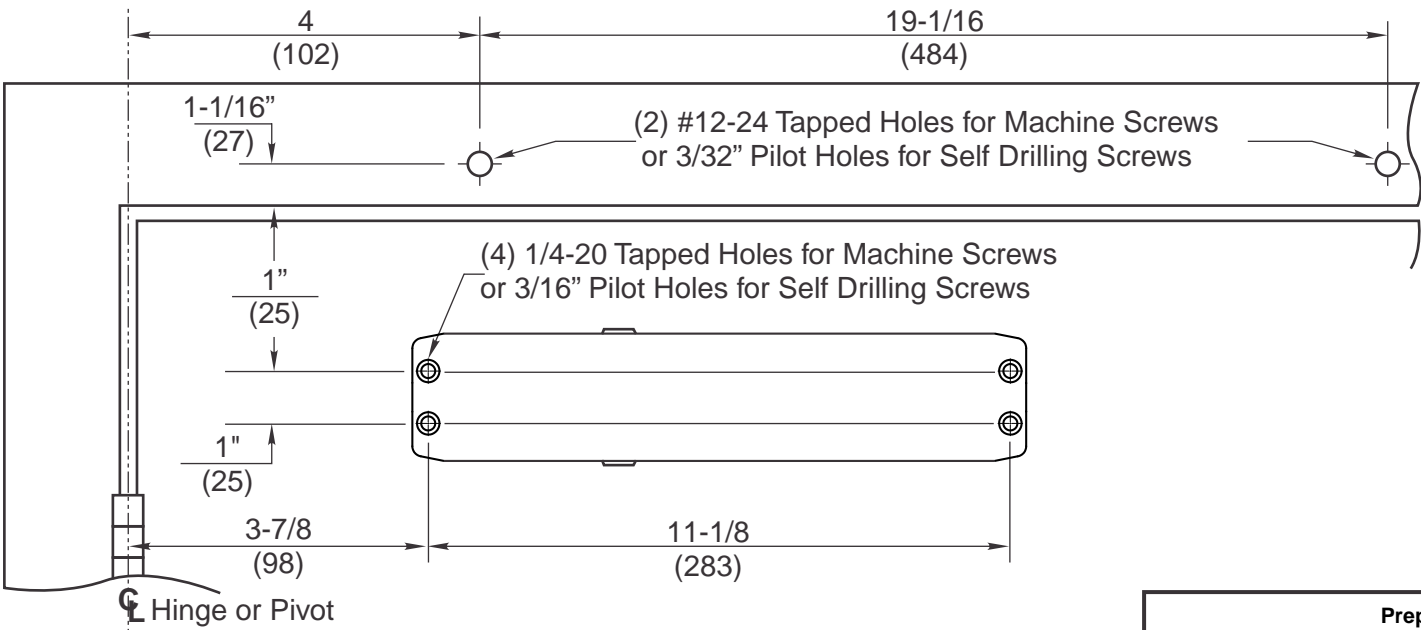
TEMPLATE NUMBER

7317-0102

DATE

01-09

Pull Side Application



- Right hand door shown
- Do not scale drawing
- Dimensions are given in inches (mm)
- Minimum thickness recommended for reinforcements in hollow-metal door and frames .1046" (2.6mm) unless otherwise noted.

Maximum door opening with or without hold-open is 140°.

Preparation for Fasteners				
Fasteners		Door or Frame		Drill-Sizes
Standard	1/4" Self-Drilling Screw (Closer Body Only)	Closer	Aluminum Metal or Wood	3/16" (4.30 mm) pilot hole required
	# 12-14 Self-Drilling Screw (Track Only)	Track		3/32" (2.38 mm) pilot hole required
	1/4" - 20 machine screw	Closer	Metal	Drill: #7 (.201" dia.) Tap: 1/4" - 20
	#12-24 machine screw	Track		Drill: 4.4mm or #16 (.172") Tap: #12 - 24
Optional	Sleeve nuts and bolts	Closer Body Only	Hollow Metal	9/32" (7 mm) through; 3/8" (9.5 mm) door face opposite to closer
		Closer Body Only	Aluminum or Wood	3/8" (9.5 mm) through
	Through-bolts and grommet-nuts	Closer Body	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

2800ST Series  
Multi-Size Slide Track Door Closers  
Pull Side Application

Norton

ASSA ABLOY

www.nortondoorcontrols.com

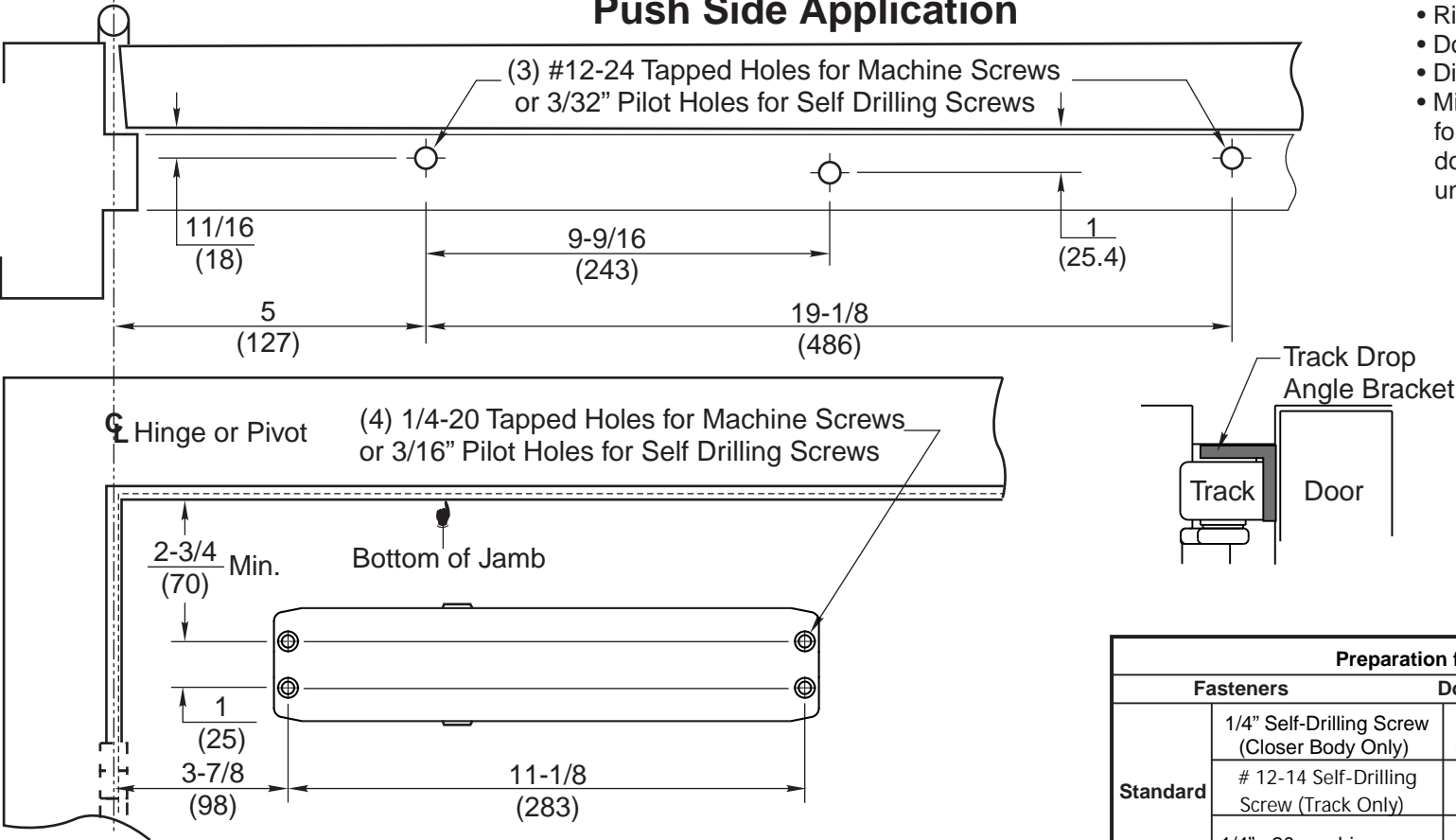
TEMPLATE NUMBER

7328-0008

DATE

10-15

Push Side Application



- Right hand door shown
- Do not scale drawing
- Dimensions are given in inches (mm)
- Minimum thickness recommended for reinforcements in hollow-metal door and frames .1046" (2.6mm) unless otherwise noted.

Maximum door opening with or without hold-open is 110°.  
NOTE: Door opening to 130° can be achieved by removing Cushion Stop assembly and an auxiliary door stop (by others) is required. Consult factory for details.

Preparation for Fasteners				
Fasteners		Door or Frame		Drill-Sizes
Standard	1/4" Self-Drilling Screw (Closer Body Only)	Closer	Aluminum	3/16" (4.30 mm) pilot hole required
	# 12-14 Self-Drilling Screw (Track Only)	Track	Metal or Wood	3/32" (2.38 mm) pilot hole required
	1/4" - 20 machine screw	Closer	Metal	Drill: #7 (.201" dia.) Tap: 1/4" - 20
	#12-24 machine screw	Track		Drill: 4.4mm or #16 (.172") Tap: #12 - 24
Optional	Sleeve nuts and bolts	Closer Body Only	Hollow Metal	9/32" (7 mm) through; 3/8" (9.5 mm) door face opposite to closer
		Closer Body Only	Aluminum or Wood	3/8" (9.5 mm) through
	Through-bolts and grommet-nuts	Closer Body	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

P2800ST(H) Series  
Multi-Size Slide Track Door Closers  
Push Side Application

Norton

ASSA ABLOY

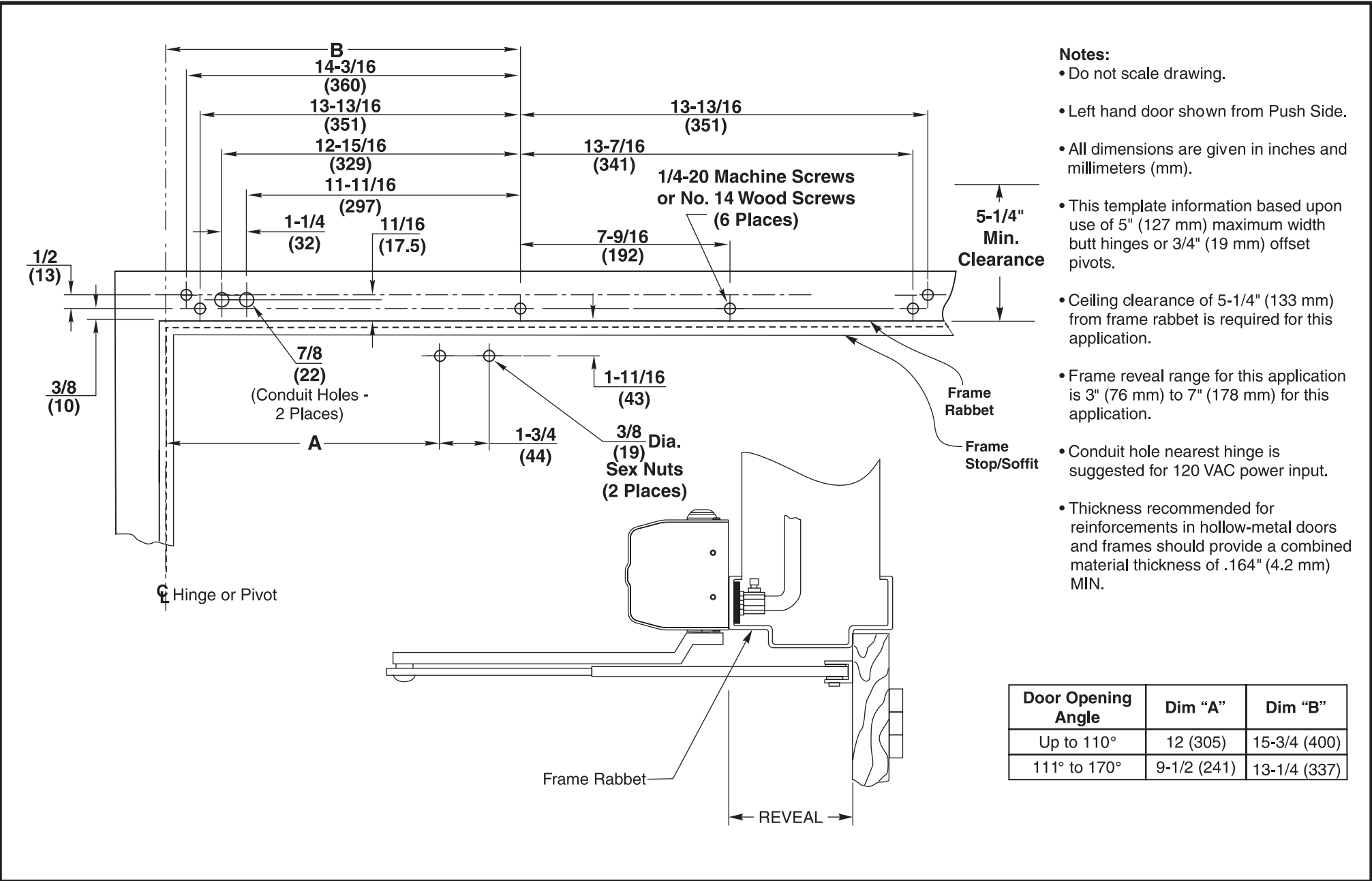
www.nortondoorcontrols.com

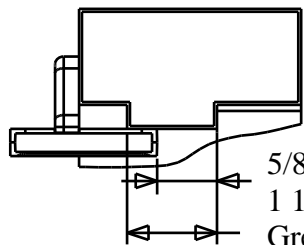




Door Opening Angle	Dim A
Up to 110°	15-1/2 (394)
111° to 180°	13-1/4 (337)

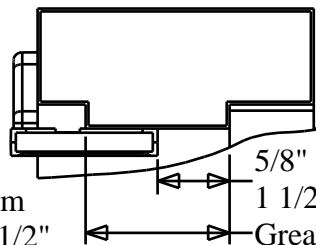
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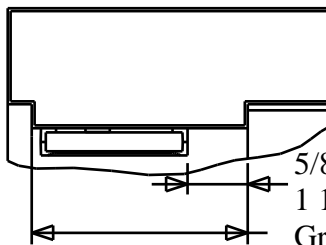
5/8" Minimum  
1 1/2" Maximum  
Greater than 1 1/2"

FOLD



5/8" Minimum  
1 1/2" Maximum  
Greater than 1 1/2"

FOLD



5/8" Minimum  
1 1/2" Maximum  
Greater than 1 1/2"

FOLD

FOLD

FOLD

Door Stop sizes greater  
than 1 1/2" width  
Use this Fold Line  
Fold Aligns with Top of Door



FOLD



FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD



FOLD



FOLD

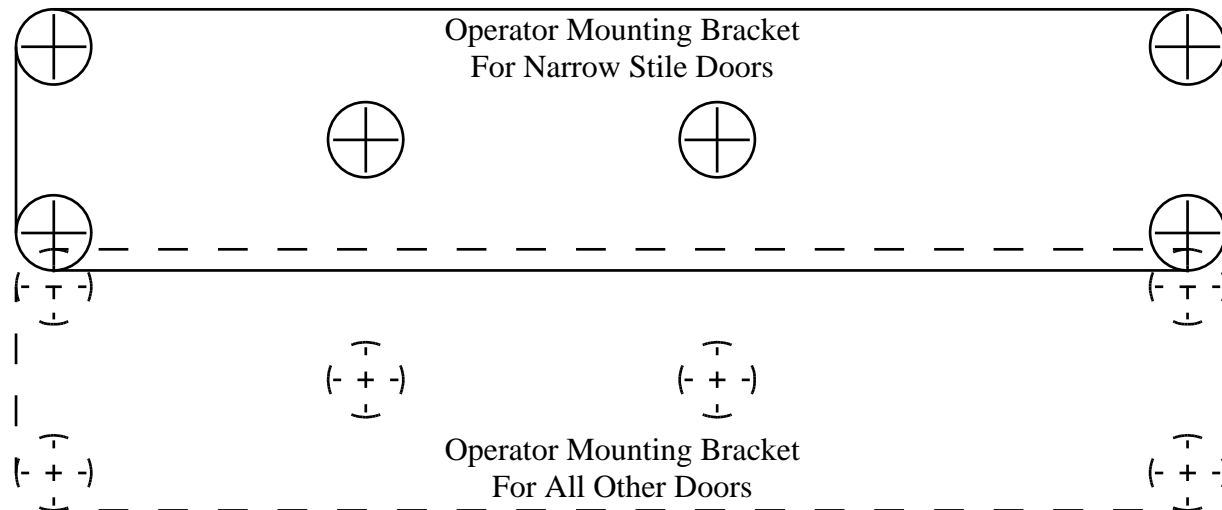
FOLD

## LEFT HAND TEMPLATE - PUSH MOUNT

Operator Mounting Bracket  
For Narrow Stile Doors

Operator Mounting Bracket  
For All Other Doors

Centerline of Door Hinge or Pivot  
NOT Edge of Door



This device does not work with Swing Clear hinges  
or Balanced Doors  
Minimum Reveal - 1 9/16"  
Minimum Top Rail - 2"  
Stop Width - Reveal minus 1"  
Frame Face - No Minimum

### PROGRAMMING ADAEZ

1. PRESS SELECT and ENTER until 4 LEDs flash green
  2. CLOSE door PRESS ENTER
  3. OPEN door PRESS ENTER
  4. CLOSE door PRESS ENTER
  5. PRESS and HOLD ENTER until LEDs go out.
- ADAEZ IS NOW PROGRAMMED

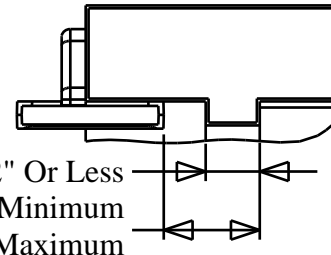
### PROGRAMMING TRANSMITTER

1. PRESS and HOLD LEARN until 4 LEDs flash green.
2. PUSH the RF activation switch LEDs shall flash green.

### RESETTING THE CONTROLLER

1. PRESS and HOLD ENTER
2. PRESS and RELEASE RESET

All other Door Stop sizes  
Use this Fold Line  
Fold Aligns with Top of Door



1 1/2" Or Less  
5/8" Minimum  
1 1/2" Maximum

Door Arm Pivot Shoe Centerline  
For Butt Hung or Offset Pivot Doors

Door Arm Pivot Shoe Centerline  
For Center Pivot Doors

Technical Support 877-232-3987

www.adaez.com

Installation and Programming Videos Are Online

10 INCHES - REFERENCE

0803-Rev 4

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

Door Stop sizes greater than 1 1/2" width  
Use this Fold Line  
Fold Aligns with Top of Door

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

5/8" Minimum  
1 1/2" Maximum  
Greater than 1 1/2"

5/8" Minimum  
1 1/2" Maximum  
Greater than 1 1/2"

5/8" Minimum  
1 1/2" Maximum  
Greater than 1 1/2"

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

FOLD

Door Arm Pivot Shoe Centerline  
For Center Pivot Doors

Door Arm Pivot Shoe Centerline  
For Butt Hung or Offset Pivot Doors

1 1/2" Or Less  
5/8" Minimum  
1 1/2" Maximum

Operator Mounting Bracket  
For Narrow Stile Doors

Operator Mounting Bracket  
For All Other Doors

PROGRAMMING ADAEZ

1. PRESS SELECT and ENTER until 4 LEDs flash green  
2. CLOSE door PRESS ENTER  
3. OPEN door PRESS ENTER  
4. CLOSE door PRESS ENTER  
5. PRESS and HOLD ENTER until LEDs go out.  
ADAEZ IS NOW PROGRAMMED

PROGRAMMING TRANSMITTER

1. PRESS and HOLD LEARN until 4 LEDs flash green.  
2. PUSH the RF activation switch LEDs shall flash green.

RESETTING THE CONTROLLER

1. PRESS and HOLD ENTER  
2. PRESS and RELEASE RESET

This device does not work with Swing Clear hinges or Balanced Doors  
Minimum Reveal - 1 9/16"  
Minimum Top Rail - 2"  
Stop Width - Reveal minus 1"  
Frame Face - No Minimum

Technical Support 877-232-3987  
www.adaez.com  
Installation and Programming Videos Are Online

10 INCHES - REFERENCE

0803-Rev 4

# DOOR SHOE OUTLINE



## ADAEZ - PULL SIDE MOUNT LEFT HAND ZERO INCH REVEAL REQUIRED

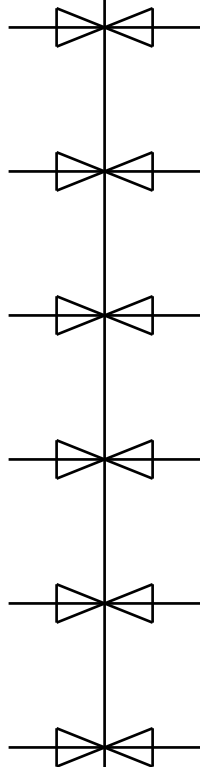
ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME



Centerline of Door Shoe

This device does not work with Swing Clear hinges  
or Balanced Doors  
0" Reveal Required

Outline of Operator Mounting Bracket



### PROGRAMMING ADAEZ

1. **PRESS SELECT** and **ENTER** until 4 LEDs flash green
2. **CLOSE** door **PRESS ENTER**
3. **OPEN** door **PRESS ENTER**
4. **CLOSE** door **PRESS ENTER**
5. **PRESS** and **HOLD ENTER** until LEDs go out.  
**ADAEZ IS NOW PROGRAMMED**

### PROGRAMMING TRANSMITTER

1. **PRESS** and **HOLD LEARN** until 4 LEDs flash green.
2. **PUSH** the RF activation switch LEDs shall flash green.

### RESETTING THE CONTROLLER

1. **PRESS** and **HOLD ENTER**
2. **PRESS** and **RELEASE RESET**

Centerline of Door Hinge or Pivot  
NOT Edge of Door



12" REFERENCE

Technical Support 877-232-3987

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

Installation and Programming Videos Are Online



**ADAEZ - PULL SIDE MOUNT  
RIGHT HAND  
ZERO INCH REVEAL REQUIRED**

**DOOR SHOE OUTLINE**



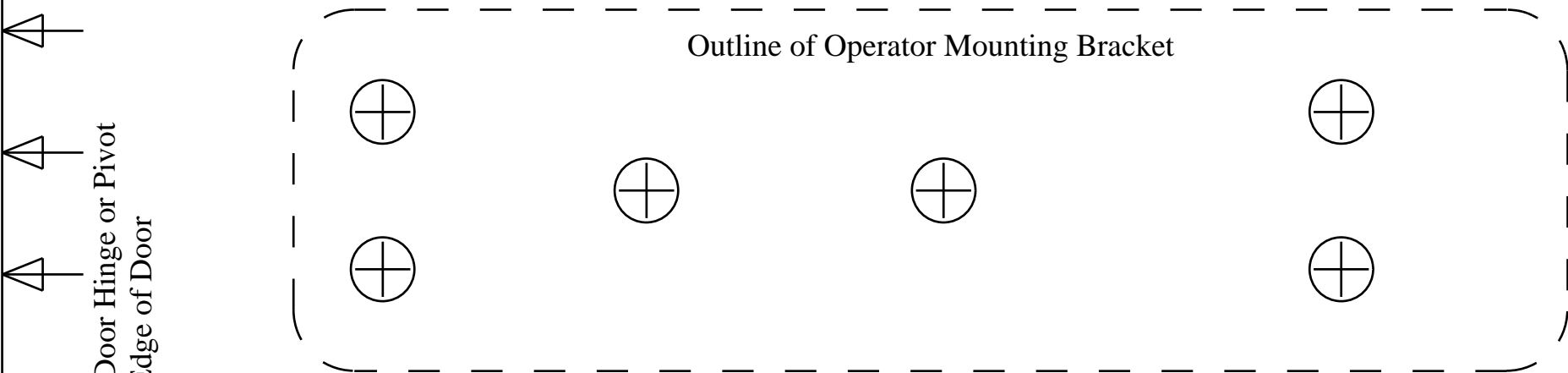
ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME

ALIGN WITH BOTTOM OF FRAME



Outline of Operator Mounting Bracket

**PROGRAMMING ADAEZ**

- 1. **PRESS SELECT** and **ENTER** until 4 LEDs flash green
- 2. **CLOSE** door **PRESS ENTER**
- 3. **OPEN** door **PRESS ENTER**
- 4. **CLOSE** door **PRESS ENTER**
- 5. **PRESS** and **HOLD ENTER** until LEDs go out.  
**ADAEZ IS NOW PROGRAMMED**

**PROGRAMMING TRANSMITTER**

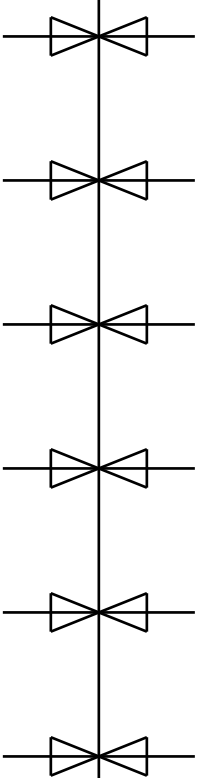
- 1. **PRESS** and **HOLD LEARN** until 4 LEDs flash green.
- 2. **PUSH** the RF activation switch LEDs shall flash green.

**RESETTING THE CONTROLLER**

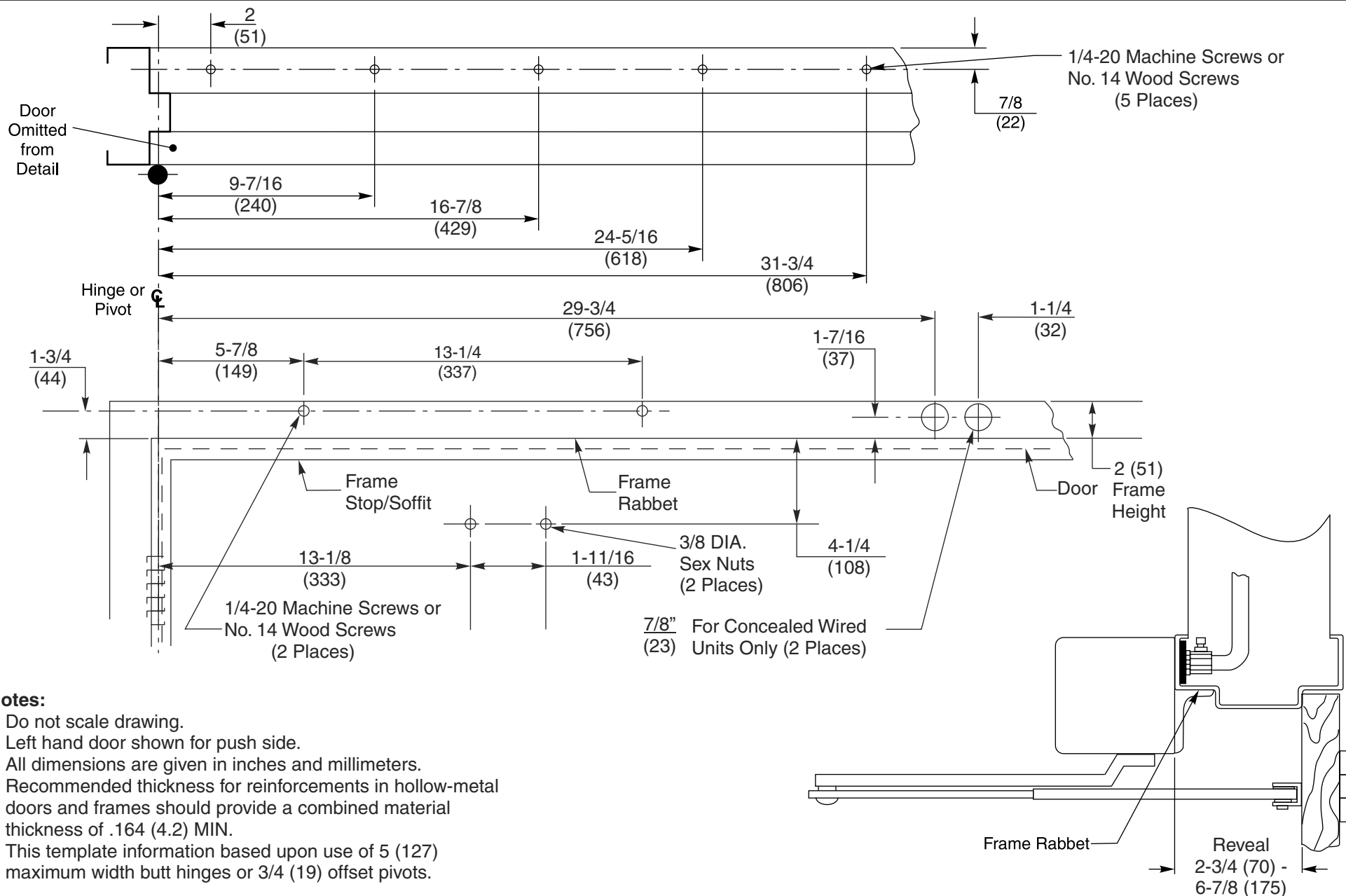
- 1. **PRESS** and **HOLD ENTER**
- 2. **PRESS** and **RELEASE RESET**

This device does not work with Swing Clear hinges  
or Balanced Doors  
0" Reveal Required

DOOR SHOE OUTLINE



12" REFERENCE



#### Notes:

- Do not scale drawing.
- Left hand door shown for push side.
- All dimensions are given in inches and millimeters.
- Recommended thickness for reinforcements in hollow-metal doors and frames should provide a combined material thickness of .164 (4.2) MIN.
- This template information based upon use of 5 (127) maximum width butt hinges or 3/4 (19) offset pivots.

### 6020 Series Lower Energy Operator Up to 110° Door Opening Drop Application for Stop (Push) Side of Door Installation Units With a Suffix "D"; With or Without RF Suffix

1-877-974-2255

**Norton**

**ASSA ABLOY**

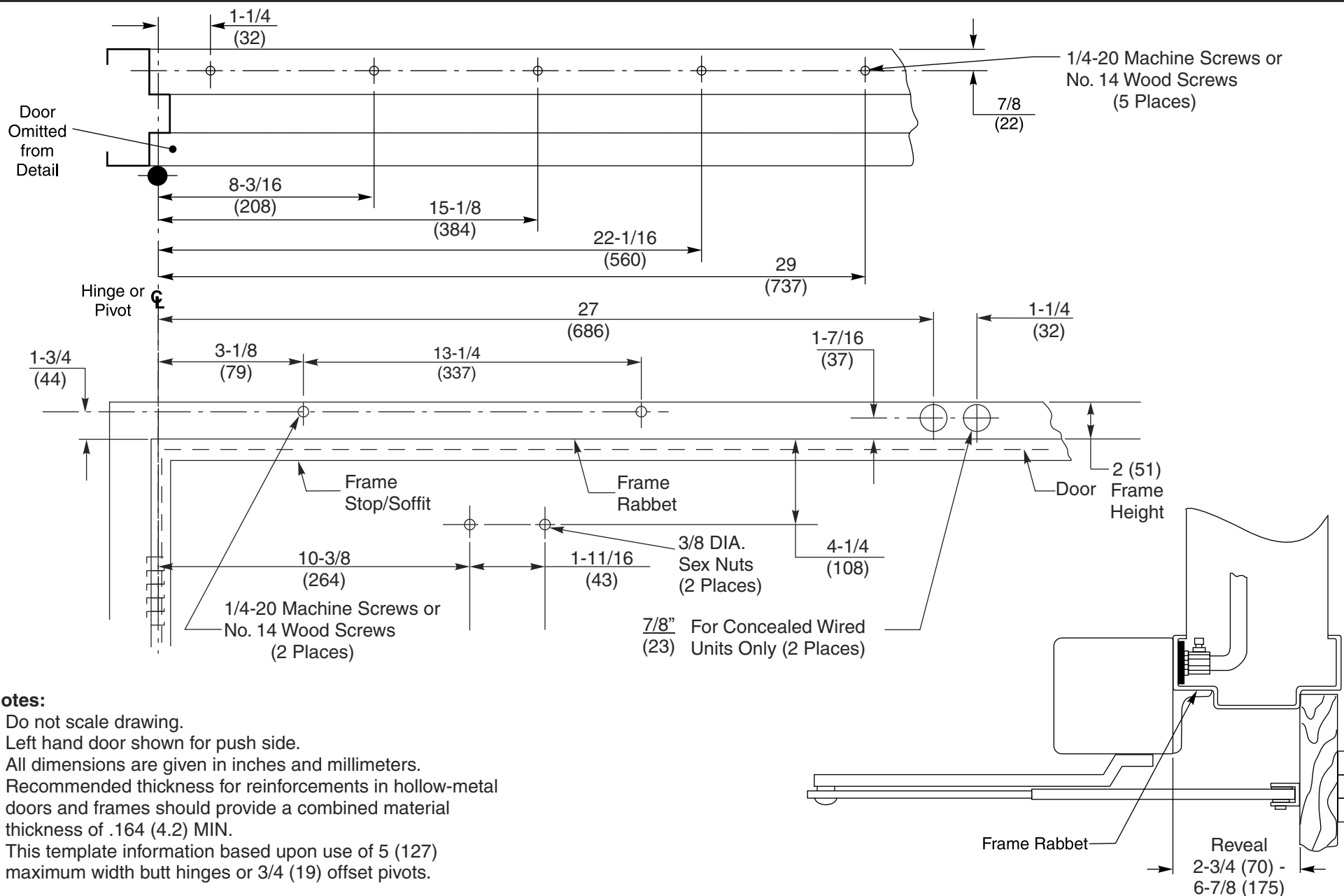
www.nortondoorcontrols.com

TEMPLATE NUMBER

**80-7360-1001-020**

DATE

**02-13**



**6030 Series Lower Energy Operator  
110° to 180° Door Opening**

**Drop Application for Stop (Push) Side of Door Installation  
Units With a Suffix "D"; With or Without RF Suffix**

1-877-974-2255

**Norton**

**ASSA ABLOY**

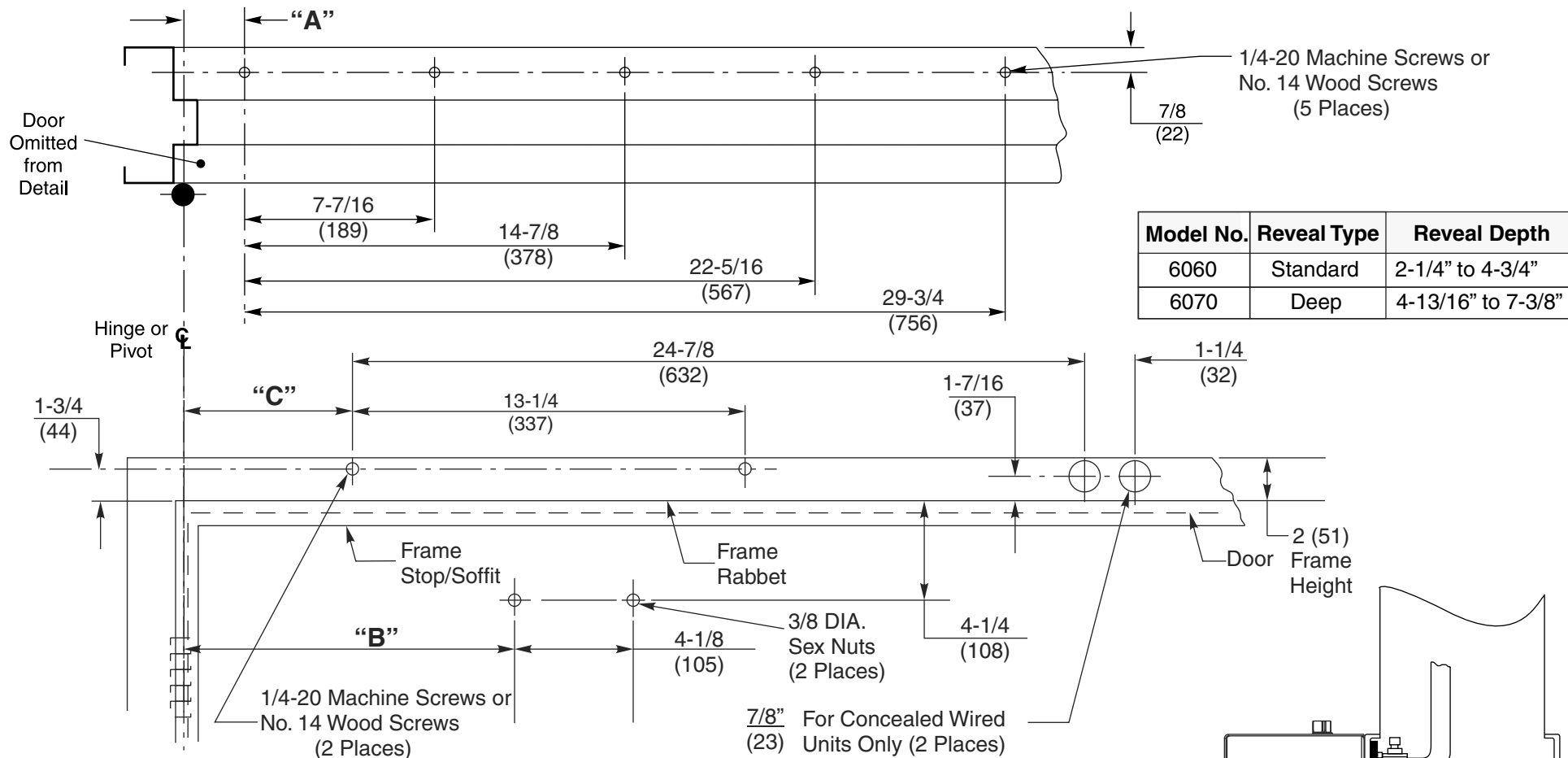
www.nortondoorcontrols.com

TEMPLATE NUMBER

**80-7360-1002-020**

DATE

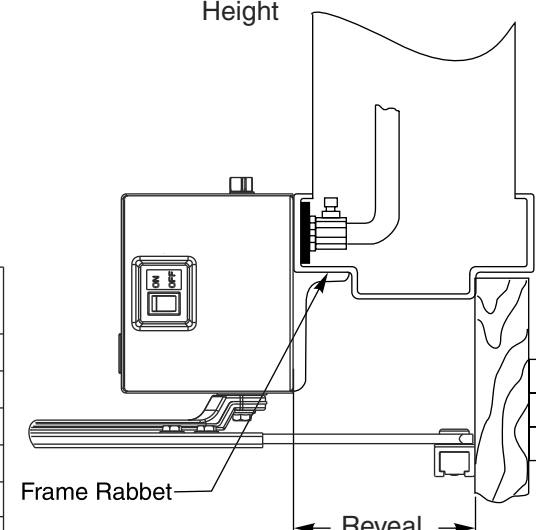
**02-13**



#### Notes:

- Do not scale drawing.
- Left hand door shown for push side.
- All dimensions are given in inches and millimeters.
- Recommended thickness for reinforcements in hollow-metal doors and frames should provide a combined material thickness of .164 (4.2) MIN.
- This template information based upon use of 5 (127) maximum width butt hinges or 3/4 (19) offset pivots.

Door Opening Angle	Dim "A"	Dim "B"	Dim "C"
85°	4-1/4 (108)	13-1/4 (337)	8-1/8 (206)
90°	3-5/8 (92)	12-5/8 (321)	7-1/2 (191)
95°	3 (76)	12 (305)	6-7/8 (175)
100°	2-1/2 (64)	11-1/2 (292)	6-3/8 (162)
105°	2-1/8 (54)	11-1/8 (283)	6 (152)
110°	1-3/4 (44)	10-3/4 (273)	5-5/8 (143)



### 6060/6070 Series Lower Energy Operator 85° to 110° Door Opening

Drop Application for Stop (Push) Side of Door Installation  
Units With a Suffix "D"; With or Without RF Suffix

1-877-974-2255

**Norton**

**ASSA ABLOY**

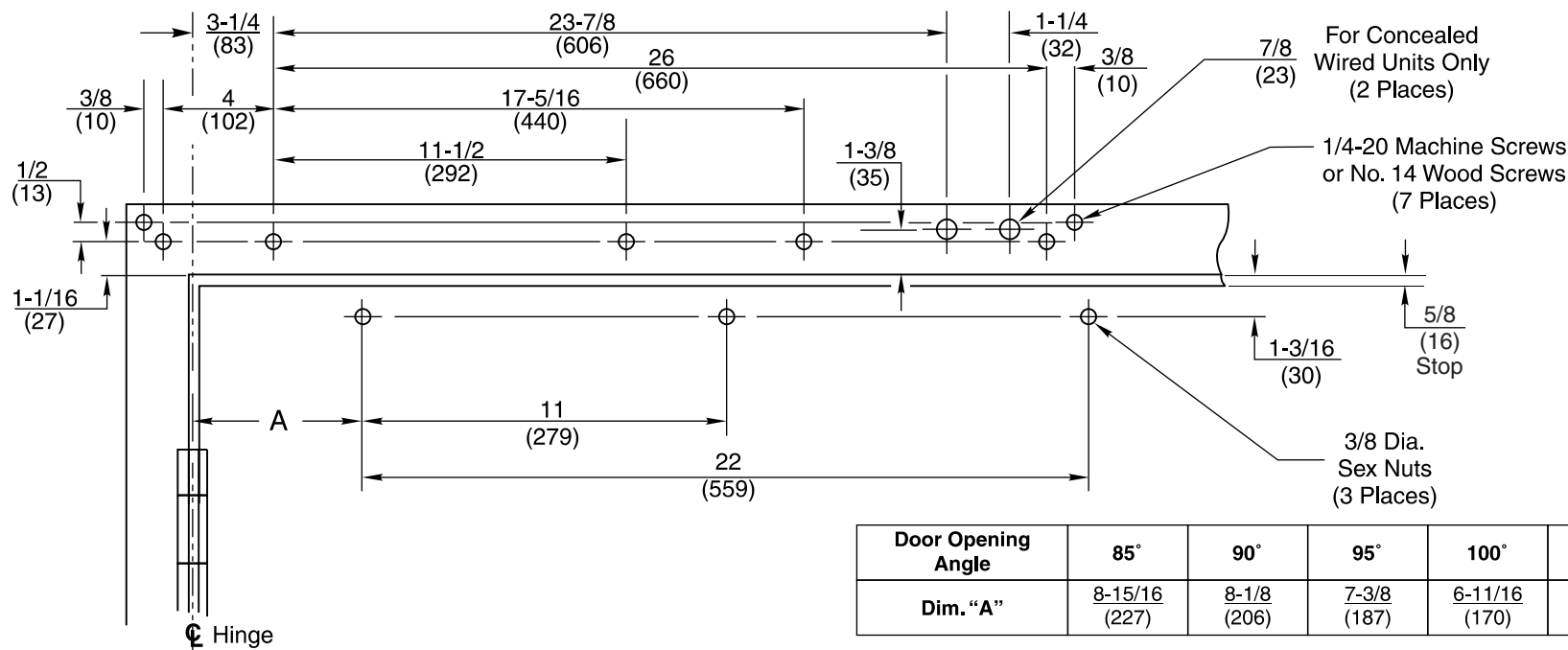
www.nortondoorcontrols.com

TEMPLATE NUMBER

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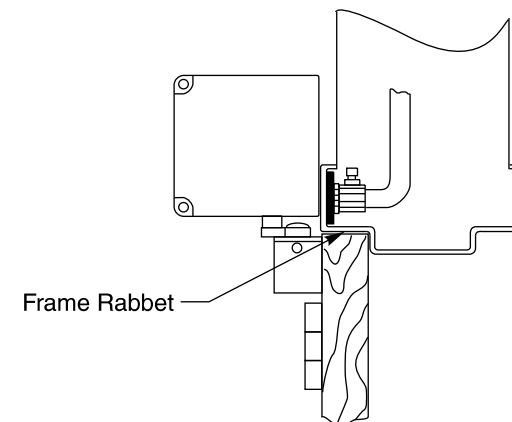
DATE

**02-13**



Notes:

- Do not scale drawing.
- Right hand door shown from Pull Side.
- All dimensions are given in inches and millimeters (mm).
- Thickness recommended for reinforcements in hollow-metal doors and frames should provide a combined material thickness of .164" (4.2mm) MIN.
- Template information based upon use of 5" (127mm) maximum width butt hinges. This template not for use with offset pivots.
- Maximum frame reveal is 1/8" (3mm) for this application.
- Ceiling clearance of 4-7/8" (124mm) from Frame Rabbet is required for this application.
- Conduit hole farthest from hinge is suggested for 120 VAC power input.



**6910 Series PowerMatic® LOW ENERGY POWER OPERATOR**  
**Rigid Arm and Slide Track – Power Control to 110°**  
**Hinge (Pull) Side of Door Installation (Handed Units)**  
**With or Without RF1 Suffix**

**Norton**

ASSA ABLOY

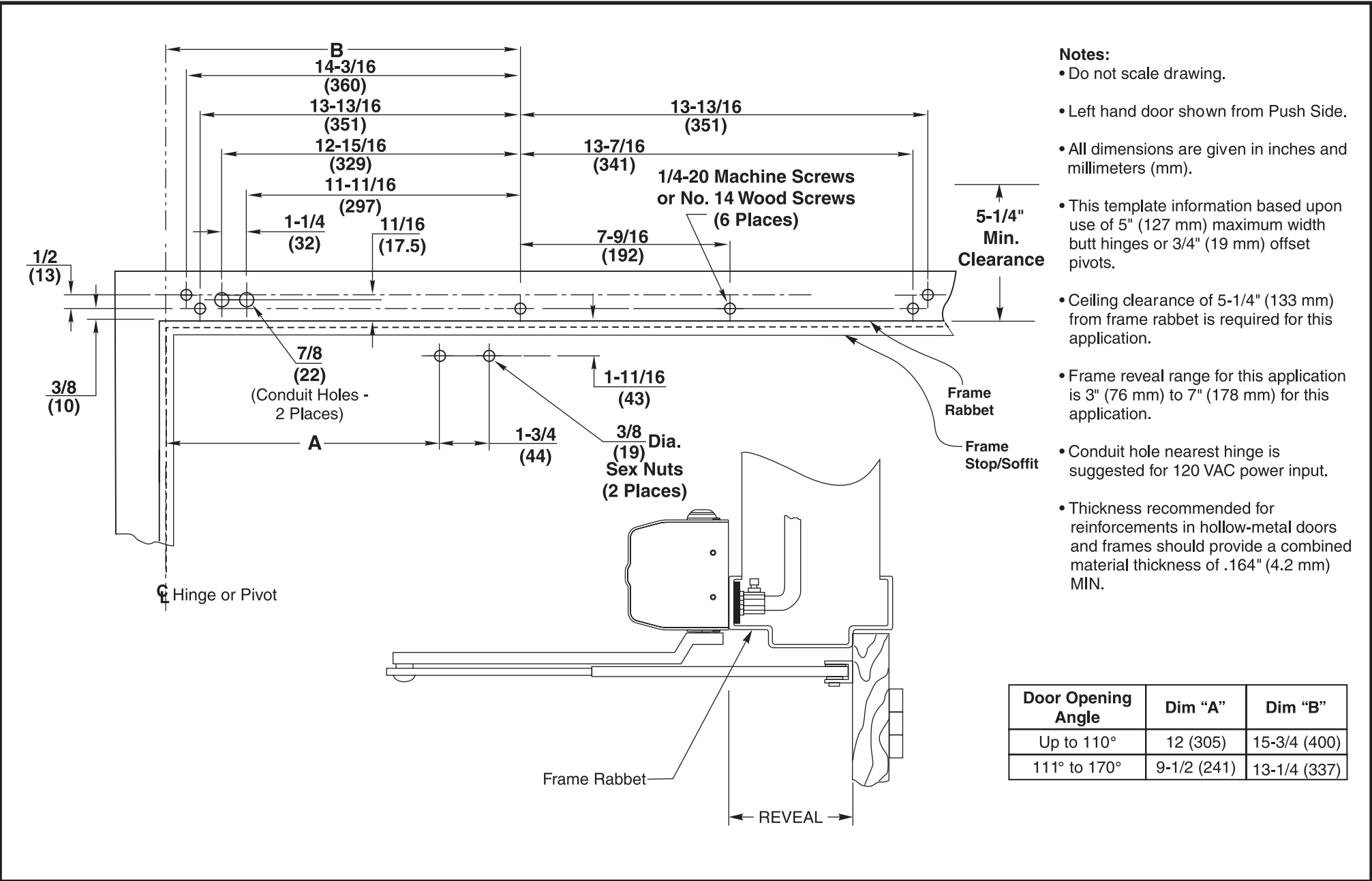
www.nortondoorcontrols.com

TEMPLATE NUMBER

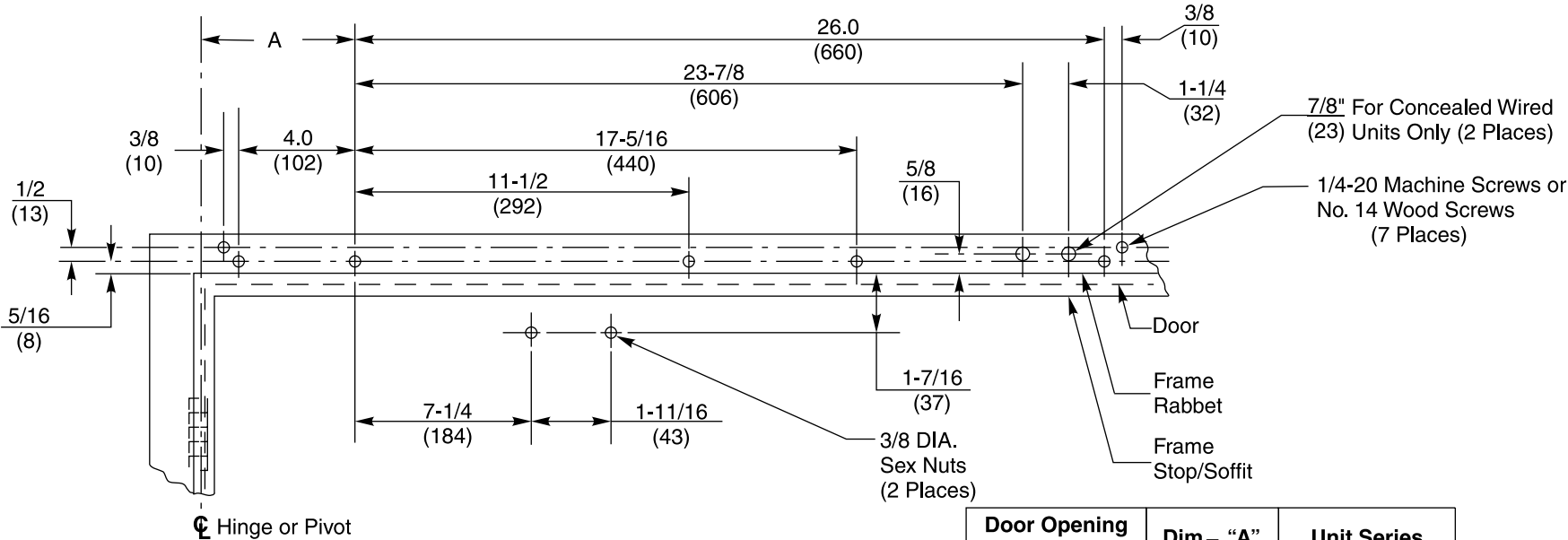
**7369-0010**

DATE

**01-09**



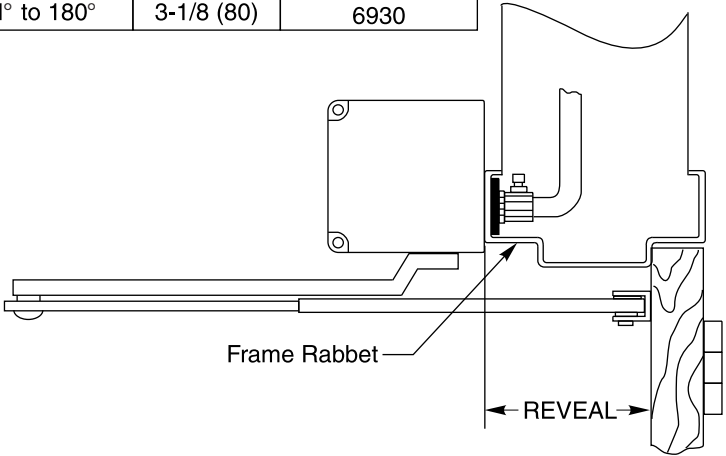




**Notes:**

- Do not scale drawing.
- Left hand door shown from push side.
- All dimensions are given in inches and millimeters (mm).
- Thickness recommended for reinforcements in hollow-metal doors and frames should provide a combined material thickness of .164" (4.2) MIN.
- This template information based upon use of 5" (127mm) maximum width butt hinges or 3/4" (19mm) offset pivots.
- Ceiling clearance of 4-1/8" (105mm) from Frame Rabbet is required for this application.
- Maximum frame reveal is 6-7/8" (175mm) for this application.
- Conduit hole farthest from hinge is suggested for 120 VAC power input.

Door Opening Angle	Dim – "A"	Unit Series
Up to 110°	5-7/8 (150)	6920
111° to 180°	3-1/8 (80)	6930



6920 or 6930 Series PowerMatic® LOW ENERGY POWER OPERATOR

Standard Duty Double Lever Arm – Power Control to 110°; Manual Operation 111° to 180°

Stop (Push) Side of Door Installation (Handed Units)

With or Without RF1 Suffix

Norton

ASSA ABLOY

www.nortondoorcontrols.com

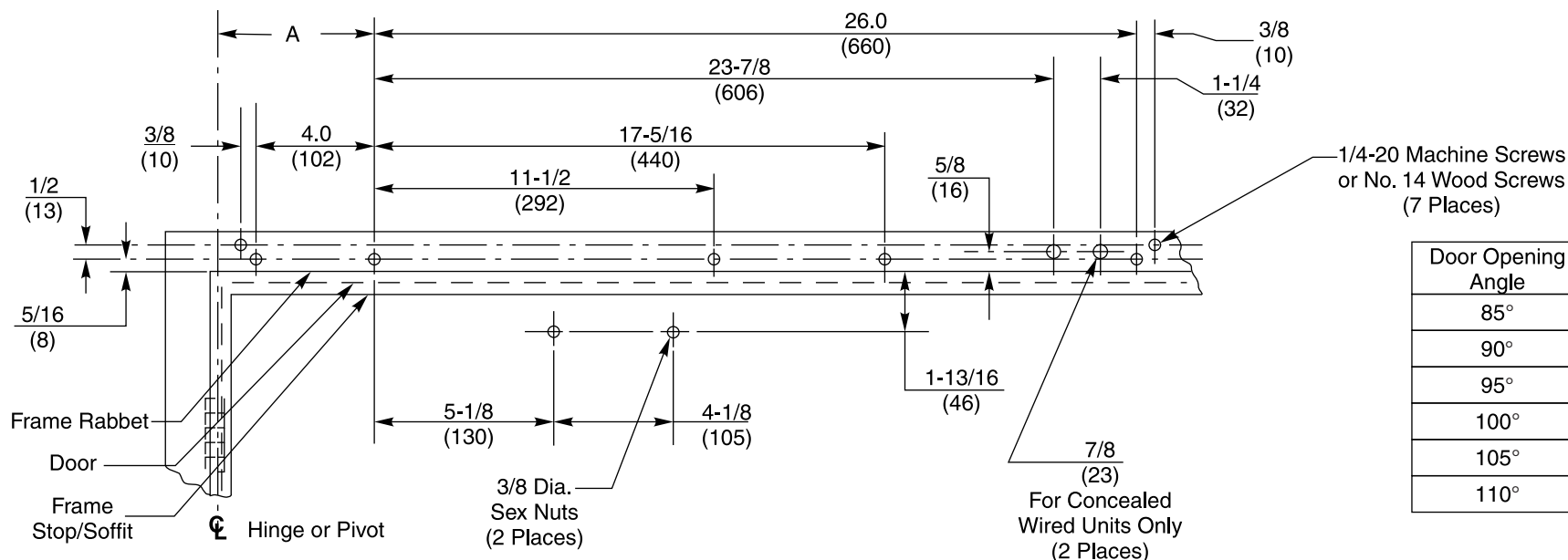
TEMPLATE NUMBER

7369-0020

DATE

01-09





Door Opening Angle	Dim. "A"
85°	8-1/8" (206)
90°	7-1/2" (191)
95°	6-7/8" (175)
100°	6-3/8" (162)
105°	6-0" (152)
110°	5-5/8" (143)

#### Notes:

Do not scale drawing.

Left hand door shown from Push Side.

All dimensions are given in inches and millimeters (mm).

Thickness recommended for reinforcements in hollow-metal doors and frames should provide a combined material thickness of .164" (4.2 mm) MIN.

This template information based upon use of 5" (127mm) maximum width butt hinges or 3/4" (19mm) offset pivots.

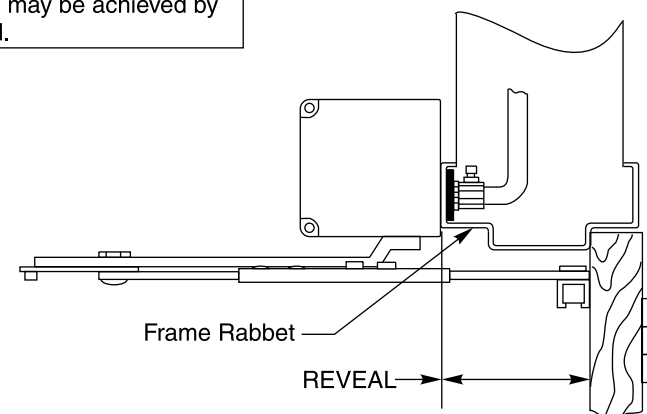
Ceiling clearance of 4-1/8" (105 mm) from frame rabbet is required for this application.

Maximum frame reveal is 7-3/8" (188) for this application.

Conduit hole farthest from hinge is suggested for 120 VAC power input.

Series	Reveal Range
6960	2-1/4" (57) to 4-3/4" (121)*
6970	4-13/16" (122) to 7-3/8" (188)

\* Reveals less than 2-1/4" (57) may be achieved by field cutting the adjusting rod.



## 6960 or 6970 Series PowerMatic® LOW ENERGY POWER OPERATOR Heavy Duty Shock Absorbing Double Lever Arm – Power Control to 110° Stop (Push) Side of Door Installation (Handed Units) With or Without RF1 Suffix

**Norton**

ASSA ABLOY

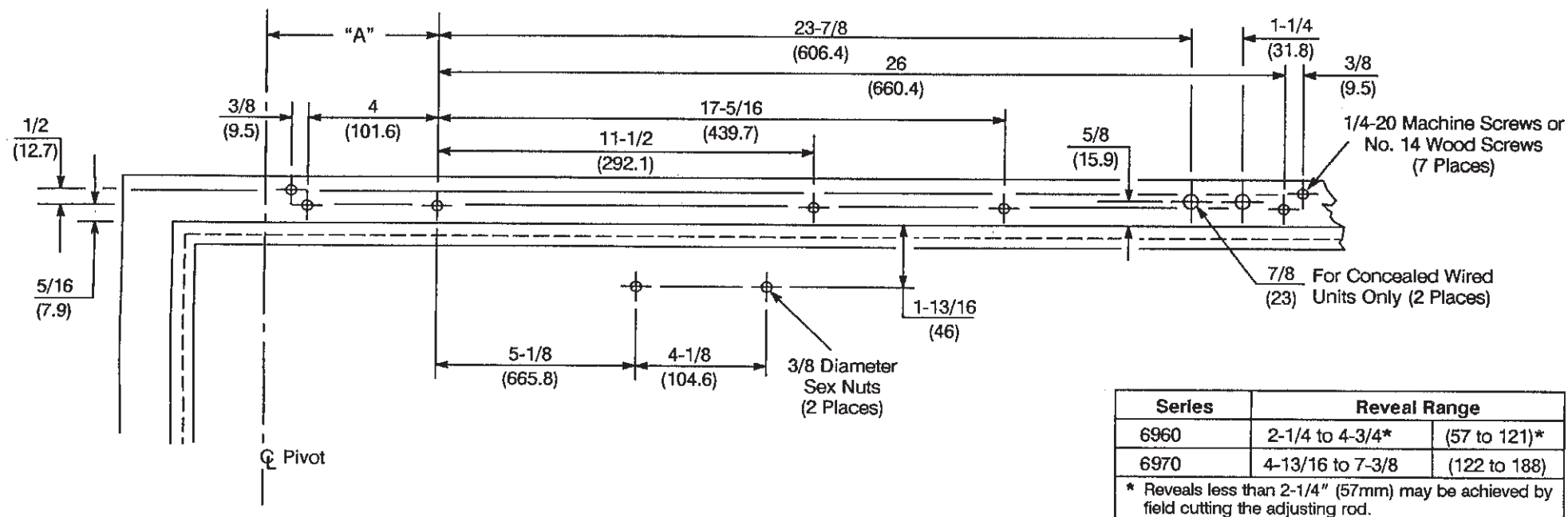
www.nortondoorcontrols.com

TEMPLATE NUMBER

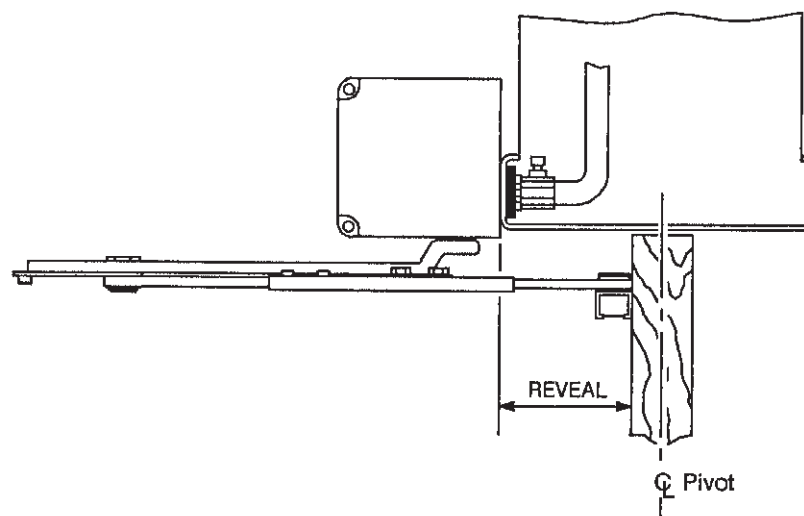
**7369-0060**

DATE

**01-09**



- Do not scale drawing.
- Left hand door shown.
- All dimensions are shown in inches (mm).
- Thickness recommended for reinforcements in hollow metal doors and frames should provide a combined material thickness of .1644" (4.2mm) minimum.
- Template information based upon use of center pivot.
- Maximum frame reveal 7-3/8" (187mm) for this application.
- Conduit hole farthest from hinge is suggested for 120 Volt AC power input.



DOOR OPENING ANGLE	Dimension "A"	
	inches (mm)	
85°	8-3/4 (222)	
90°	8-1/8 (206)	
95°	7-5/8 (194)	
100°	7-1/8 (181)	
105°	6-3/4 (171)	
110°	6-3/8 (162)	

**6960/6970 Series**  
**With or Without Suffix "RF1"**  
**Heavy Duty Shock Absorbing Double Lever Arm - Powered Control 85° to 110°**  
**Center Pivoted Door with Stop (Push) Side of Door Installation**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER

**7369-0062**

DATE

**03-10**

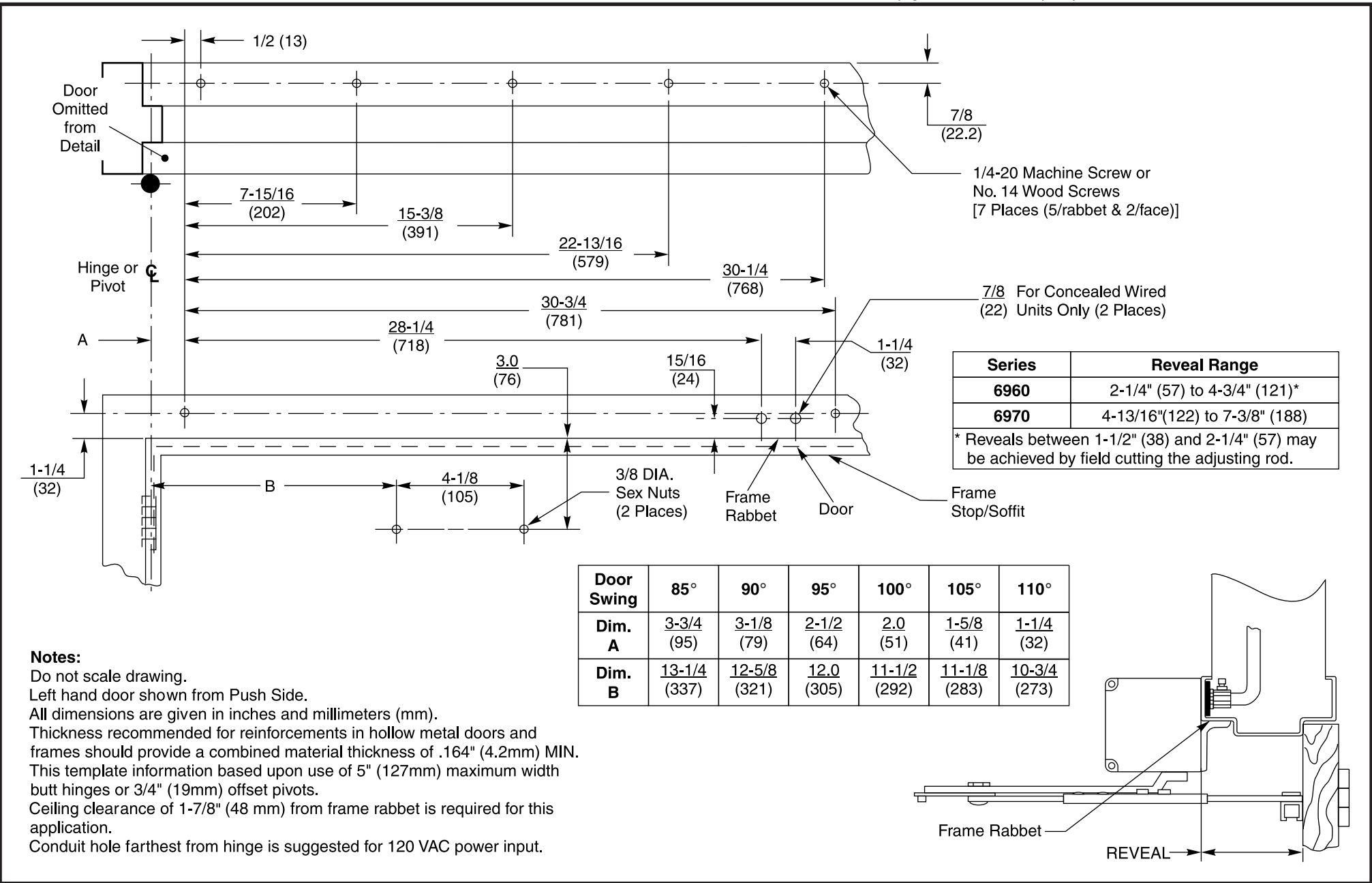


Do not scale drawing.  
Left hand door shown from push side.  
**All dimensions are given in inches and millimeters (mm).**  
Thickness recommended for reinforcements in hollow-metal doors and frames should provide a combined material thickness of .164" (4.2 mm) MIN.  
This template information based upon use of 5" (127mm) maximum width butt hinges or 3/4" (19mm) offset pivots.  
Frame reveal range for this application is 1-1/2" (38) to 6-7/8" (175mm).  
Ceiling clearance of \*1-7/8" (48mm) from Frame Rabbet for this application.  
Conduit hole farthest from hinge is suggested for 120 VAC power input.

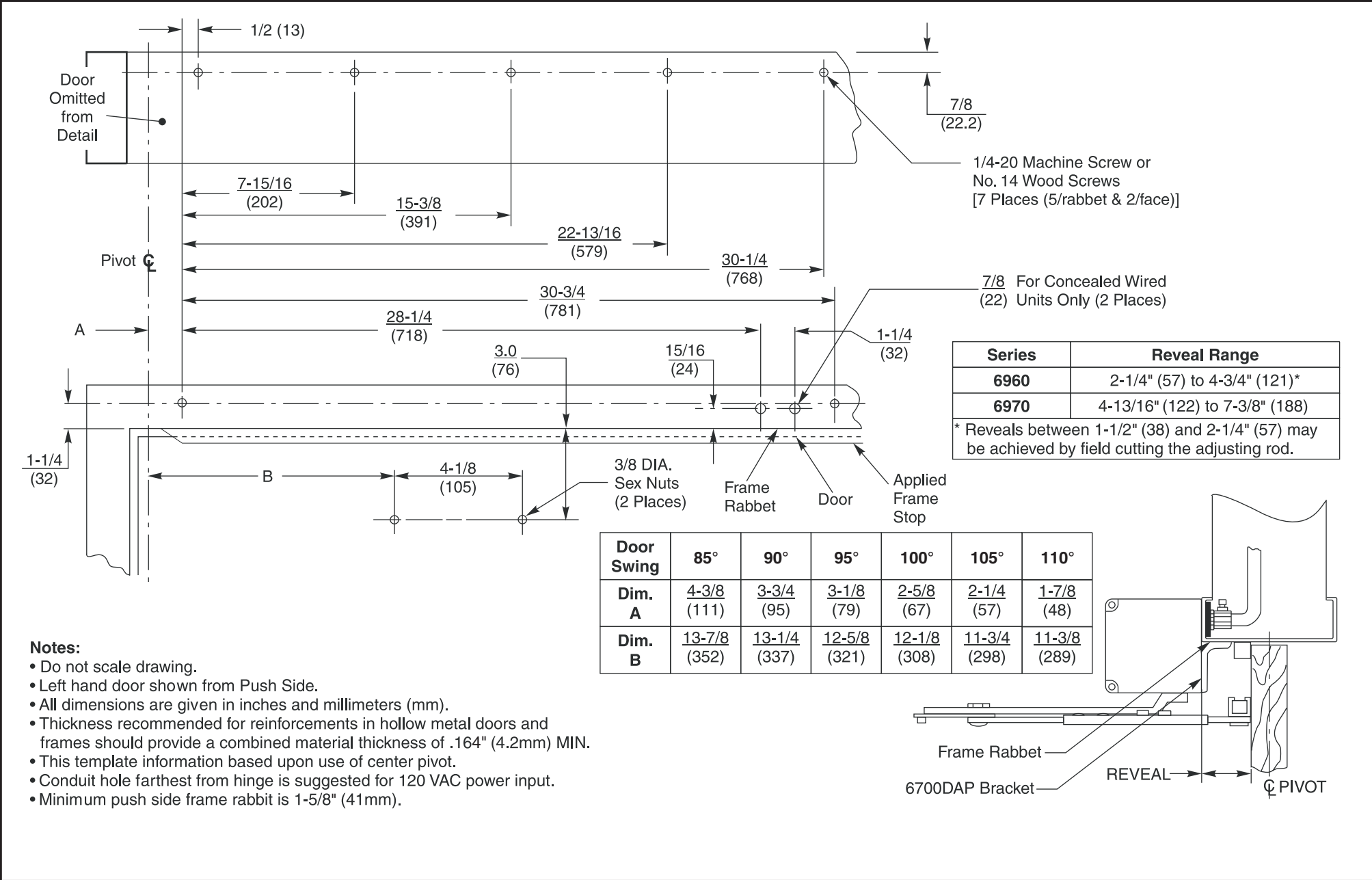
**6930 Series PowerMatic® LOW ENERGY POWER OPERATOR**  
**Standard Duty Double Lever Arm – Power Control to 110°; Manual Operation 111° to 180°**  
**Drop Application for Stop (Push) Side of Door Installation (Handed Units)**  
**Units With a Suffix "D"; With or Without RF1 Suffix**

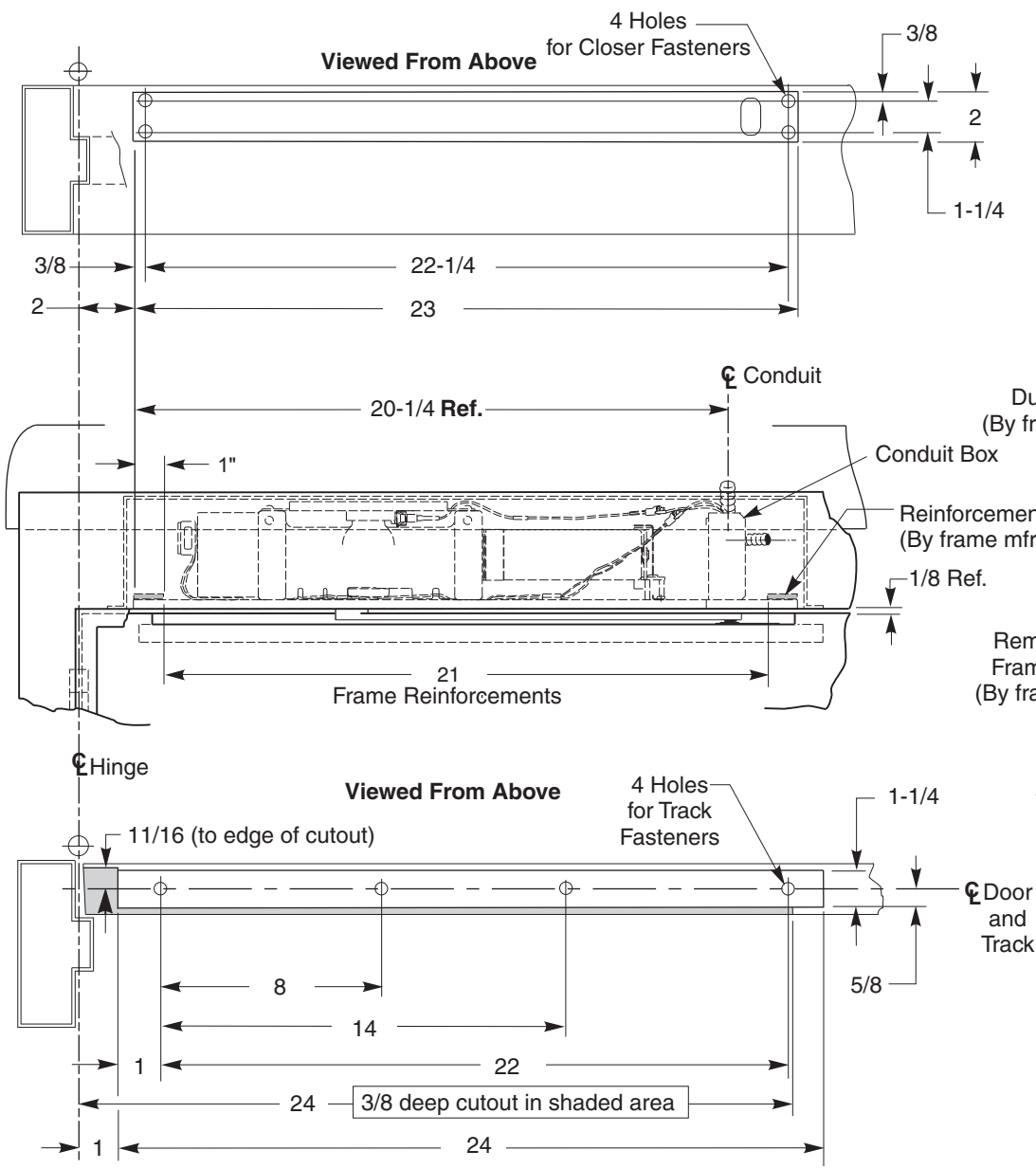


01-09

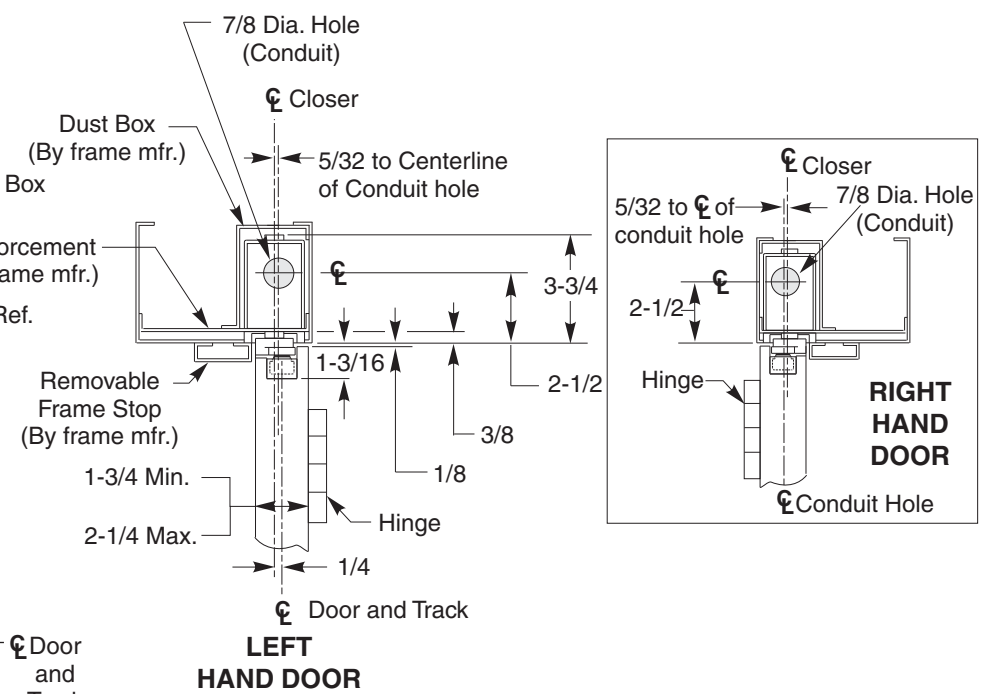








- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.



Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) Drill 1/4-20 tap
#14 wood screw	wood door	7/32" Drill

FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

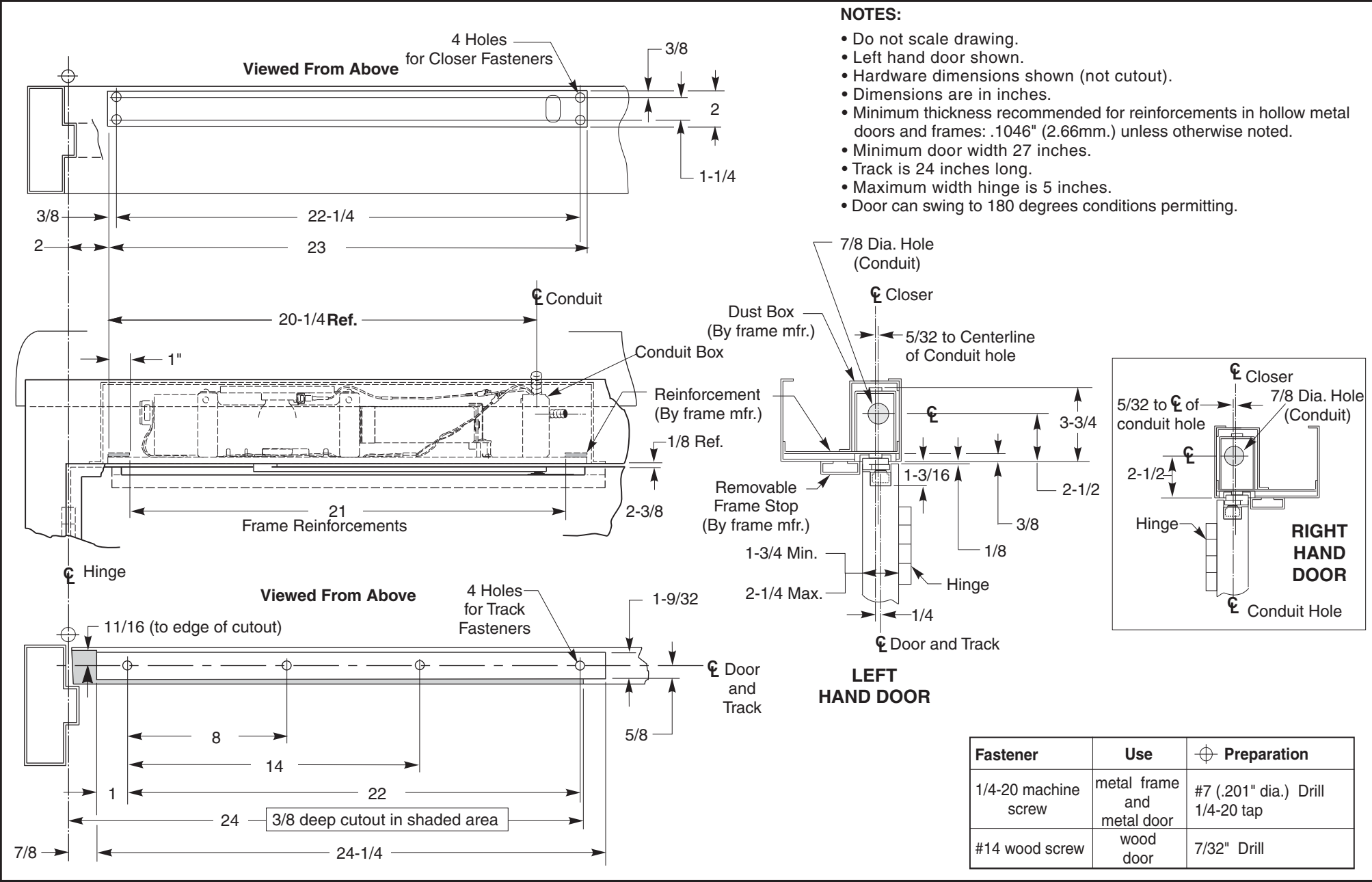
7290MPS Series Combination Door Closer-Holder and Releasing Device  
Overhead Concealed Closer with Rigid Slide Arm  
Door Closer Assembly Mounted in Hollow Metal Frame  
For Use on Doors Hung on 5" Wide Butt Hinges (max.)

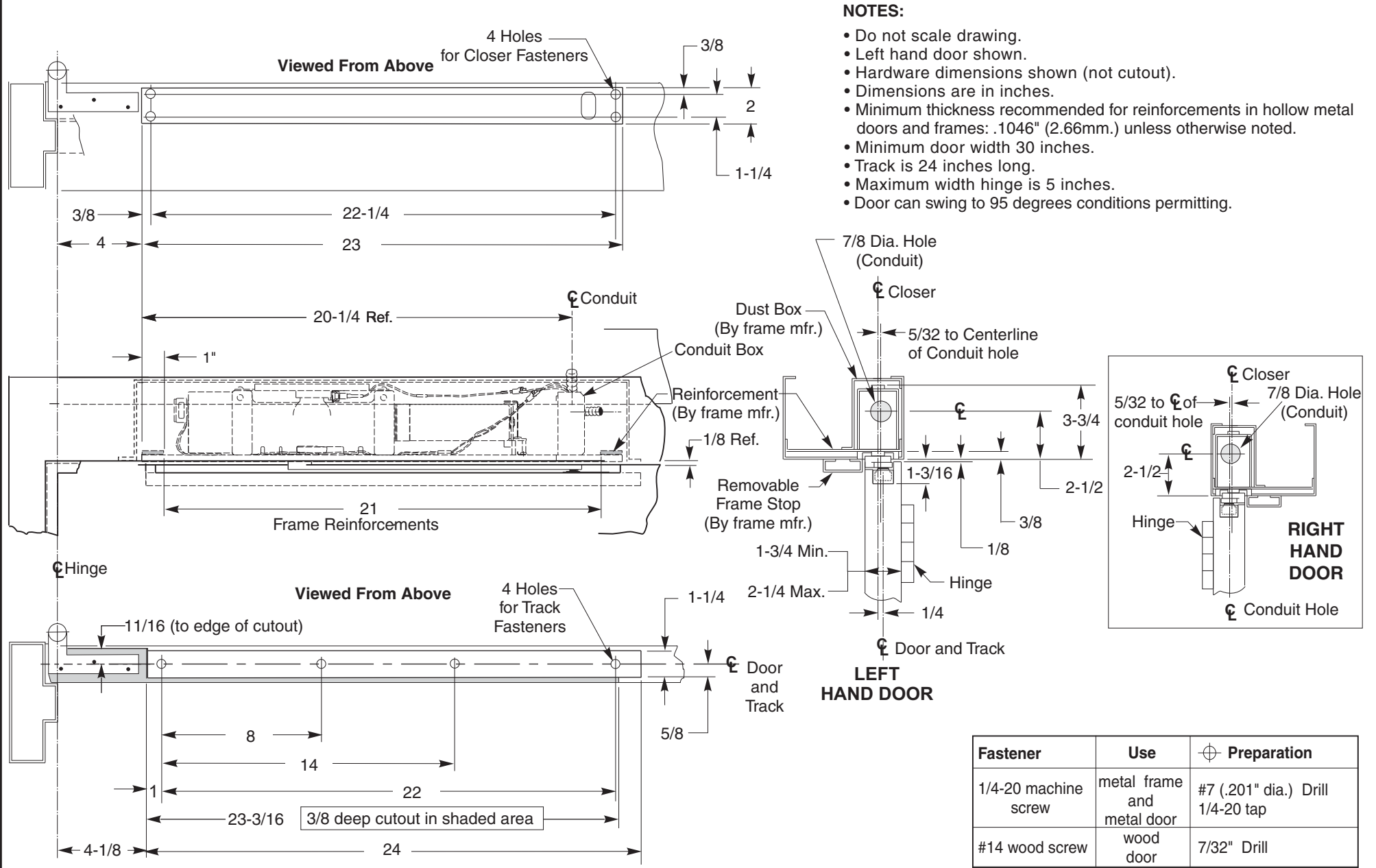
**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

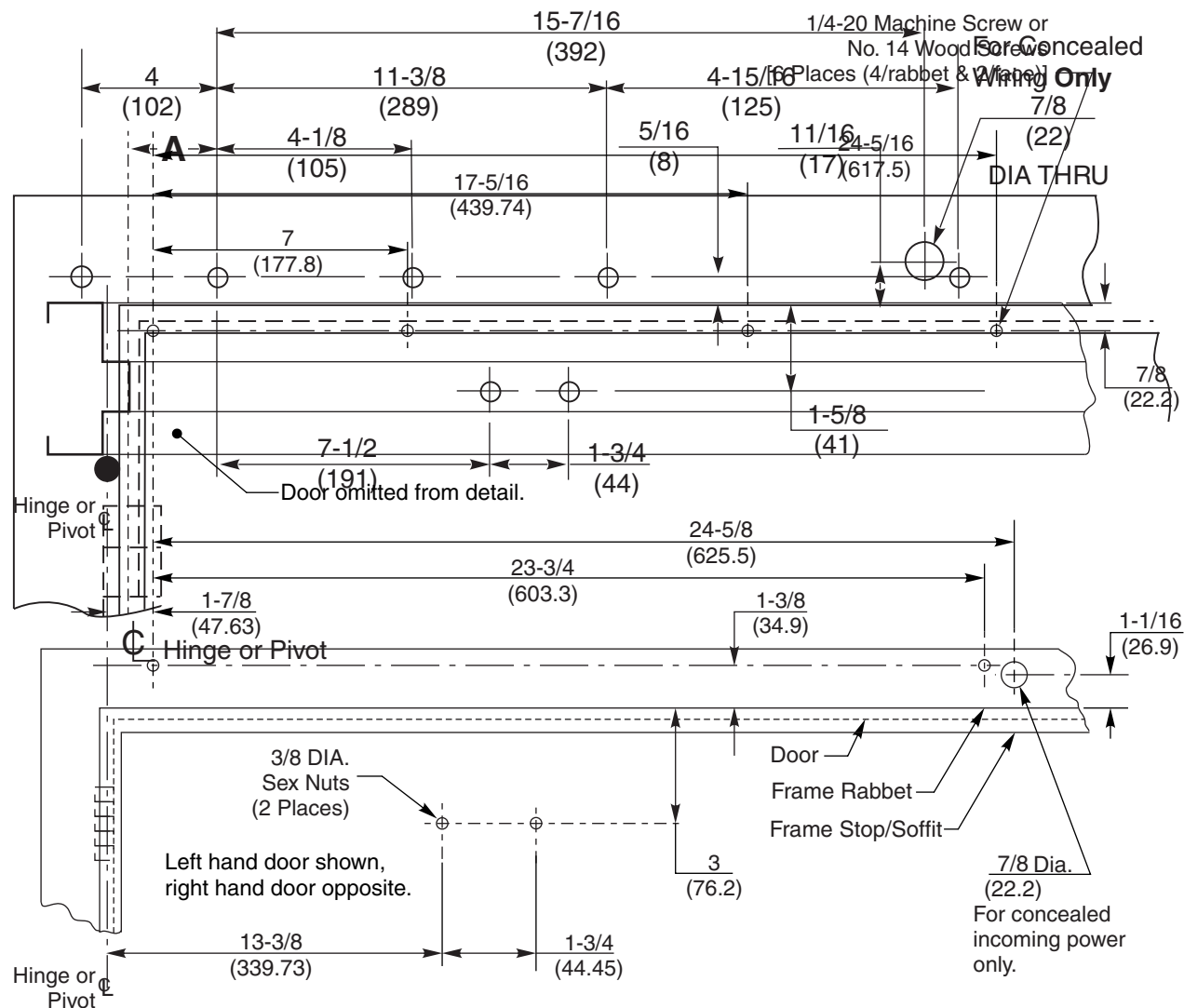
TEMPLATE NUMBER	DATE
7372-1290	06-09





- Do not scale drawing.
- Left hand door shown. Same dimensions apply for right hand door, measured from centerline of hinge or pivot.
- Template information based upon use of **4-1/2"** hinges or **3/4"** offset pivots.
- Dimensions are shown in inches and millimeters (mm).
- Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Sex-nuts are required for wood or plastic faced fire-door installations.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
- Minimum ceiling clearance for closer unit is 2" (50.8).
- Maximum hinge side frame reveal is 7" (180).

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer



Model	Degree of Open	Reveal
712X SZ 722X	100° Max	2-3/4" - 7" (69.9 - 177.8)

Combination Door Closer-Holder and Releasing Device with Multi Point Selective Hold Open  
Double Lever Closer Arm Drop Application 100° Max Opening.  
Stop (Push) Side of Door Installation

**1-877-974-2255**



ASSA ABLOY

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

5 TEMPLATE NUMBER

**7372-1371**

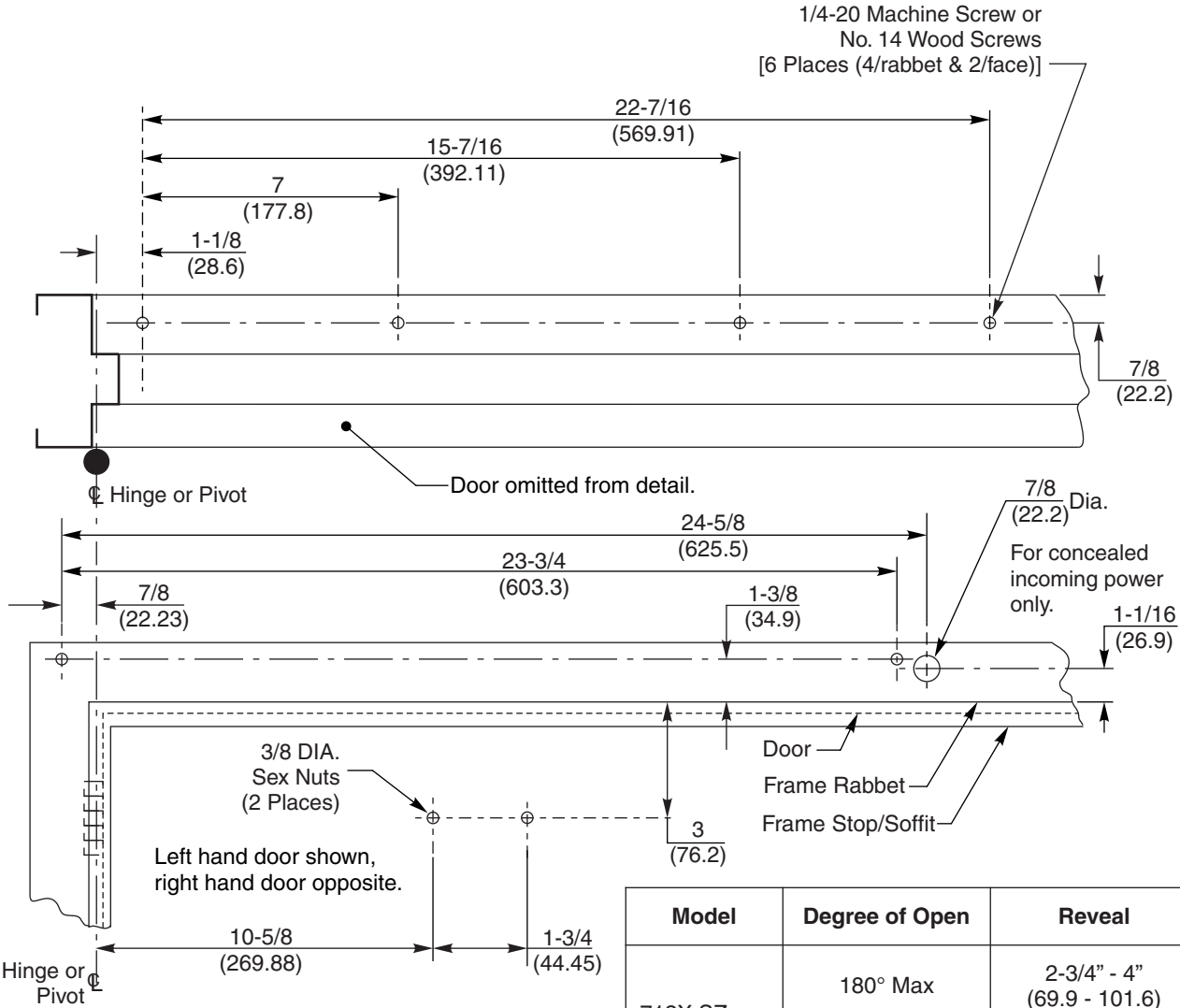
DATE \_\_\_\_\_

07/12

**Notes:**

- Do not scale drawing.
- Left hand door shown. Same dimensions apply for right hand door, measured from centerline of hinge or pivot.
- Template information based upon use of **4-1/2"** hinges or **3/4"** offset pivots.
- Dimensions are shown in inches and millimeters (mm).
- Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Sex-nuts are required for wood or plastic faced fire-door installations.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
- Minimum ceiling clearance for closer unit is 2" (50.8).
- Maximum hinge side frame reveal, *see chart lower right*.

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer



Model	Degree of Open	Reveal
712X SZ 722X	180° Max	2-3/4" - 4" (69.9 - 101.6)
	165° Max	4" - 7" (101.6 - 177.8)
713X SZ 723X	180° Max	4" - 7" (101.6 - 177.8)

**Norton Series 7100SZ or 7200**  
Combination Door Closer-Holder and Releasing Device with Multi Point Selective Hold Open  
Double Lever Closer Arm Drop Application; 180° Max. Opening.  
Stop (Push) Side of Door Installation

1-877-974-2255

**Norton**

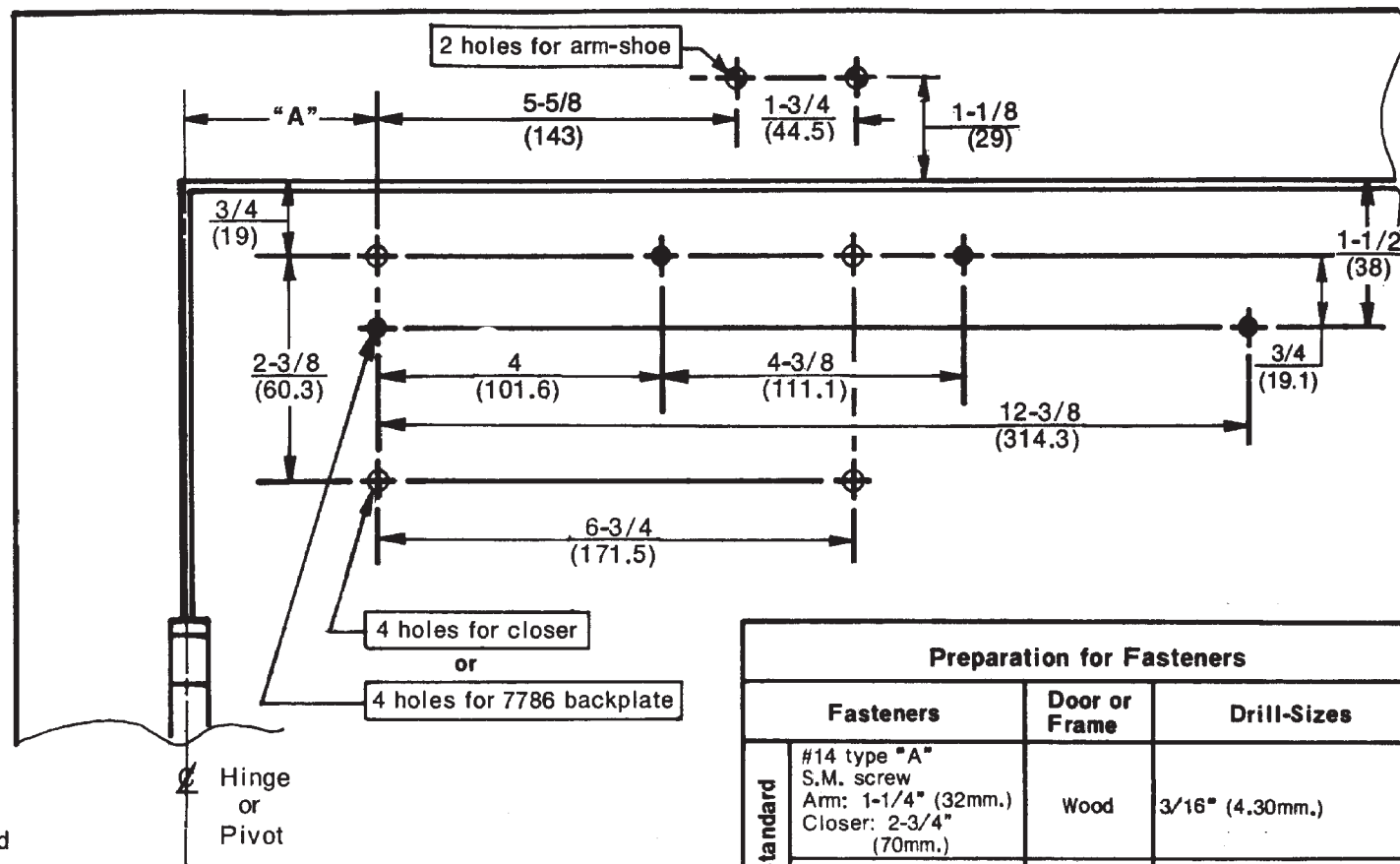
ASSA ABLOY

www.nortondoortcontrols.com

TEMPLATE NUMBER **7372-1372** DATE **07/12**



Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



Do not scale drawing

Right hand door shown  
Dimensions are in  $\frac{\text{inches}}{\text{mm.}}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**7500, 7700, 7700COU, 7700TEL  
7500H, 7700H, and 7700HOSP Series Door Closers  
With or Without 7786 Backplate  
Regular Arm Installation With Non Hold Open or Hold Open Arm**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

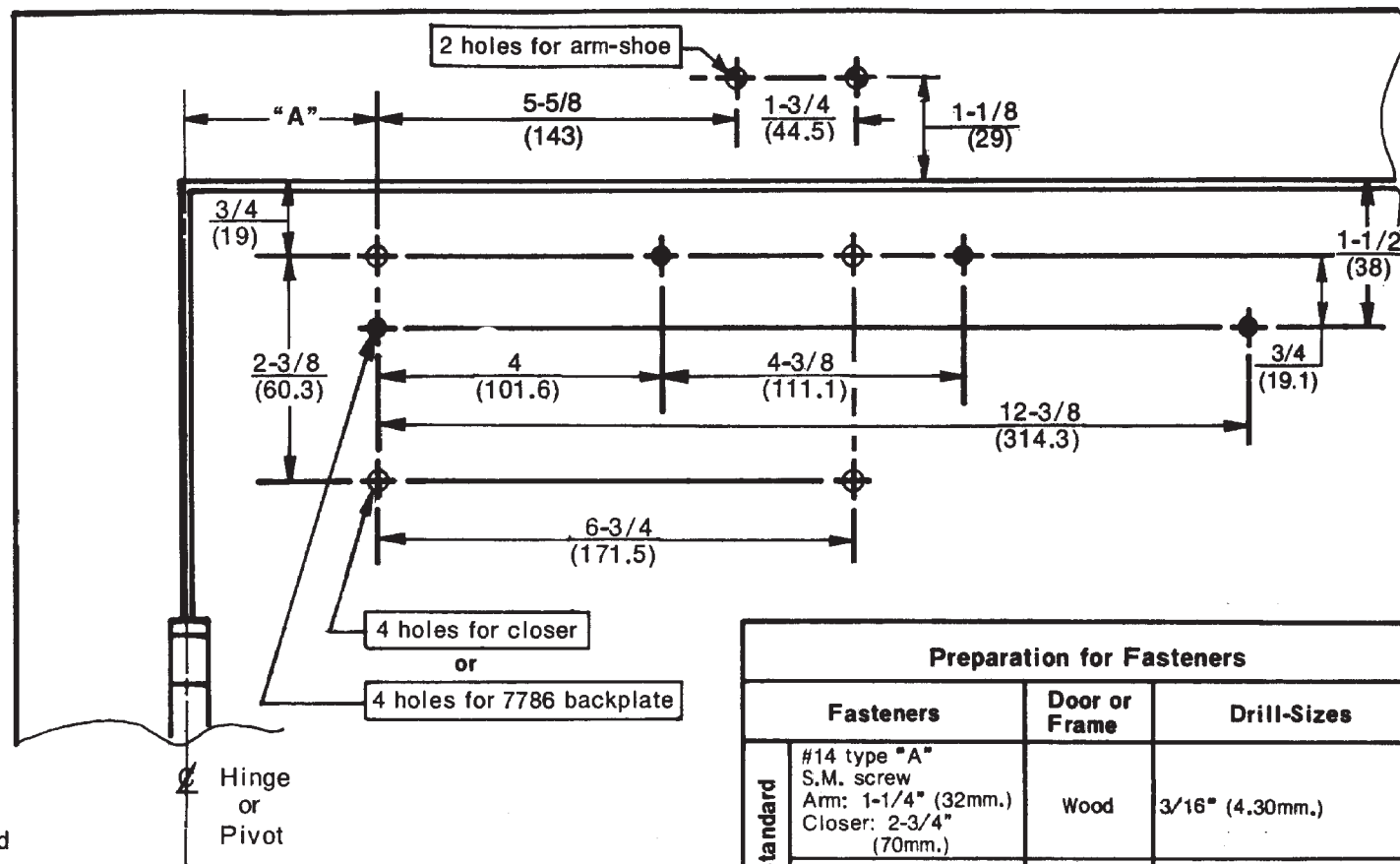
TEMPLATE NUMBER

**7377-0101**

DATE

**07-08**

Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



Do not scale drawing  
Right hand door shown  
Dimensions are in  $\frac{\text{inches}}{\text{mm.}}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**7500, 7700, 7700COU, 7700TEL  
7500H, 7700H, and 7700HOSP Series Door Closers  
With or Without 7786 Backplate  
Regular Arm Installation With Non Hold Open or Hold Open Arm**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

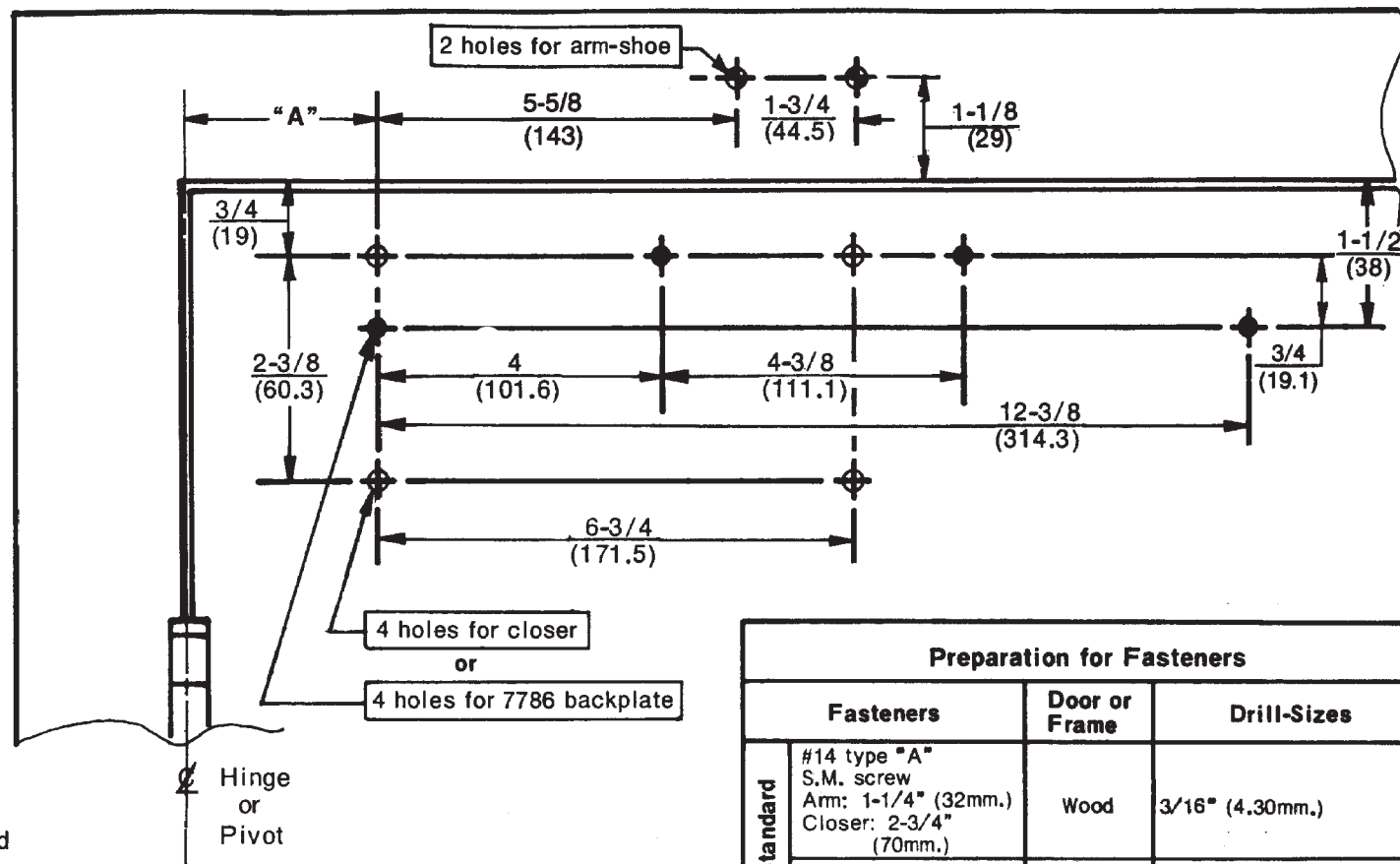
TEMPLATE NUMBER

**7377-0101**

DATE

**07-08**

Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



Do not scale drawing  
Right hand door shown  
Dimensions are in  $\frac{\text{inches}}{\text{mm.}}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**7500, 7700, 7700COU, 7700TEL  
7500H, 7700H, and 7700HOSP Series Door Closers  
With or Without 7786 Backplate  
Regular Arm Installation With Non Hold Open or Hold Open Arm**

**Norton**

ASSA ABLOY

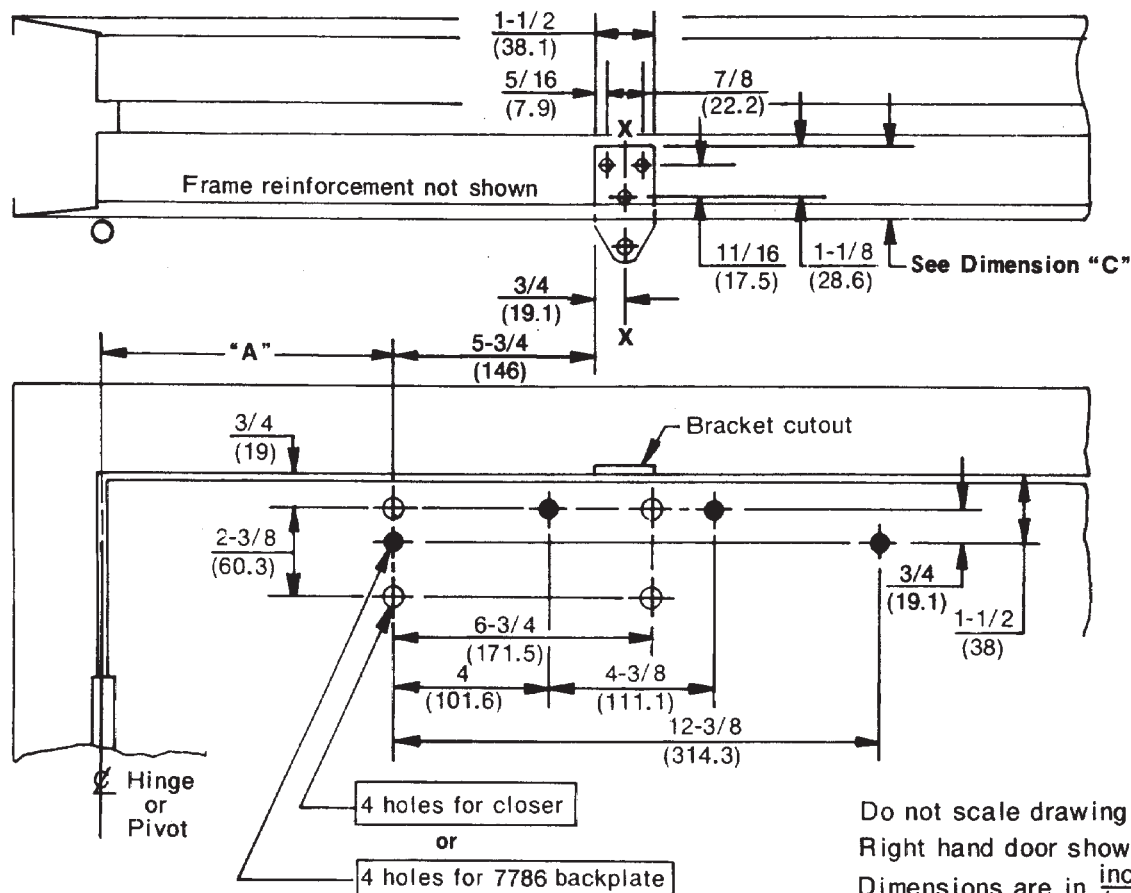
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7377-0101**

DATE

**07-08**



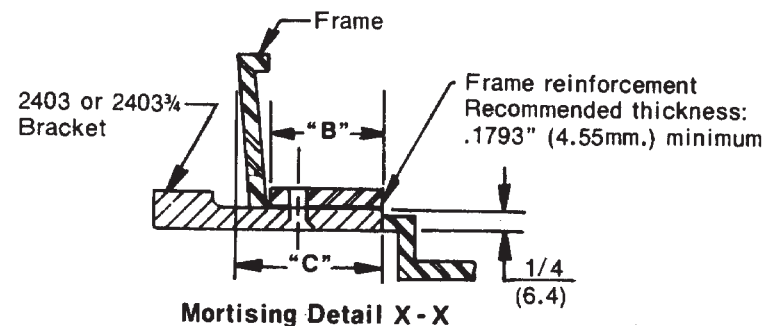
Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Bracket	Dimension "B"				Dimension "C"	
	Maximum		Minimum		Maximum	
	inches	mm.	inches	mm.	inches	mm.
2403	2	51	1-1/2	38	2-1/4	57
2403 3/4	2-3/4	70			3	76

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**7500, 7700, 7700COU and 7700TEL Series Door Closers**  
**With 2403 or 2403-3/4 Bracket**  
**With or Without 7786 Backplate**  
**Regular Arm Installation With Non Hold Open Arm**

**Norton**

ASSA ABLOY

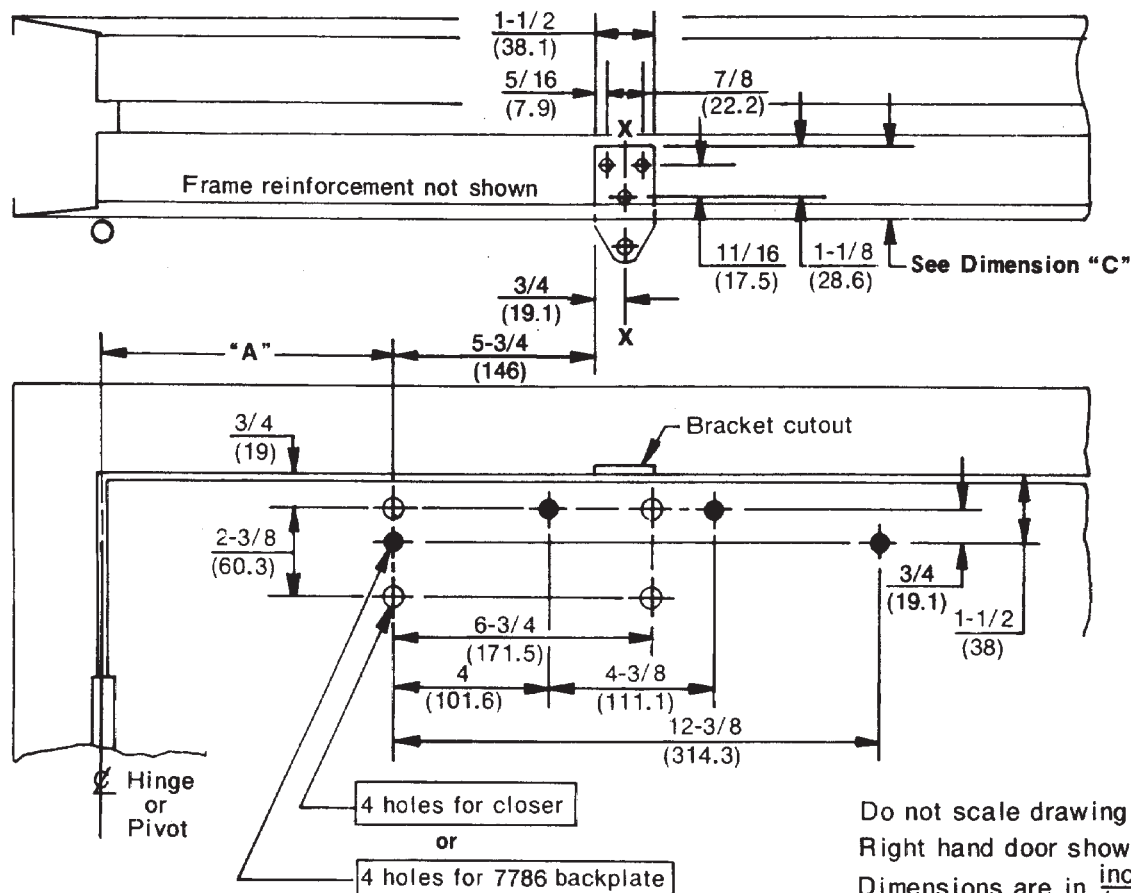
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7377-0103**

DATE

**07-08**



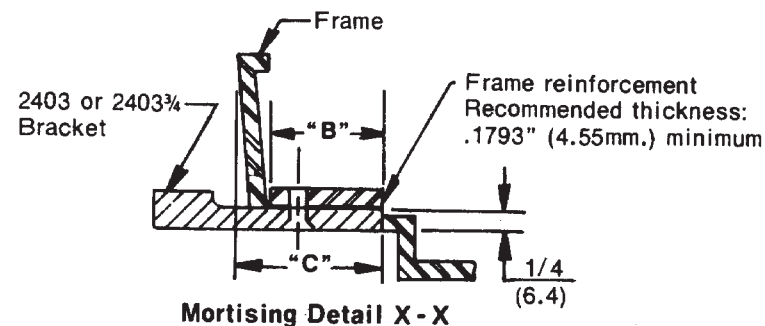
Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Bracket	Dimension "B"				Dimension "C"	
	Maximum		Minimum		Maximum	
	inches	mm.	inches	mm.	inches	mm.
2403	2	51	1-1/2	38	2-1/4	57
2403 3/4	2-3/4	70			3	76

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw	Wood	3/16" (4.30mm.)
	Arm: 1-1/4" (32mm.)	Aluminum	7/32" (5.50mm.)
	Closer: 2-3/4" (70mm.)		
Optional	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**7500, 7700, 7700COU and 7700TEL Series Door Closers**  
**With 2403 or 2403-3/4 Bracket**  
**With or Without 7786 Backplate**  
**Regular Arm Installation With Non Hold Open Arm**

**Norton**

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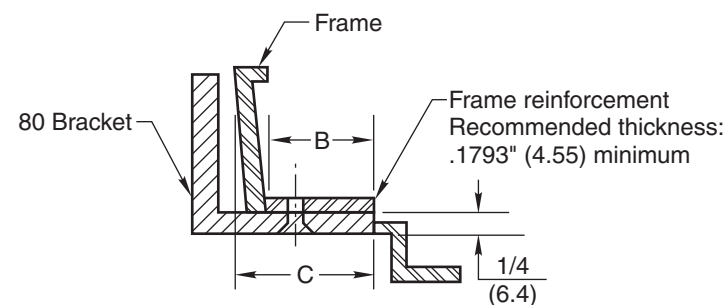
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TEMPLATE NUMBER

**7377-0103**

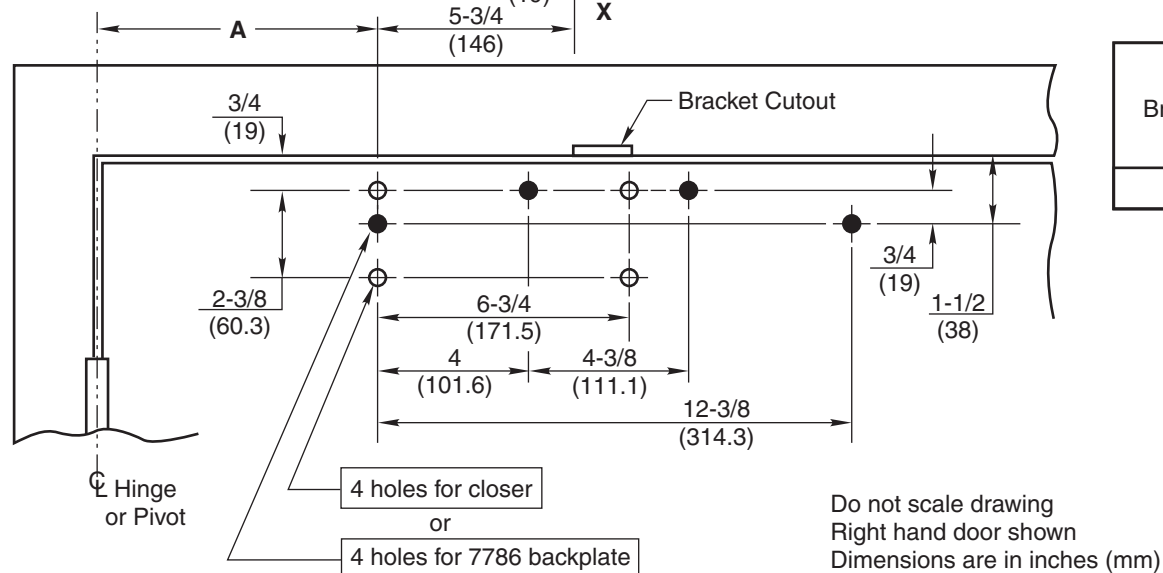
DATE

**07-08**



### Mortising Detail X-X

Bracket	Dimension "B"				Dimension "C"	
	Maximum		Minimum		Maximum	
	inches	mm	inches	mm	inches	mm
80	2	51	1-1/2	38	2-1/4	57



Opening	Dimension "A"	
	inches	mm
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm) Closer: 2-3/4 (70mm)	Wood	3/16" (4.30mm)
		Aluminum	7/32" (5.50mm)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm) through; 3/8" (9.50mm) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.500mm) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm) through; 3/8" (9.50mm) dia. x 3/8" (9.50mm) deep on door or transom-face opposite to closer

**7500H, 7700H, and 7700HOSP Series Door Closers  
With 80 Bracket  
With or Without 7786 Backplate  
Regular Arm Installation With Hold Open Arm**



ASSA ABLOY

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

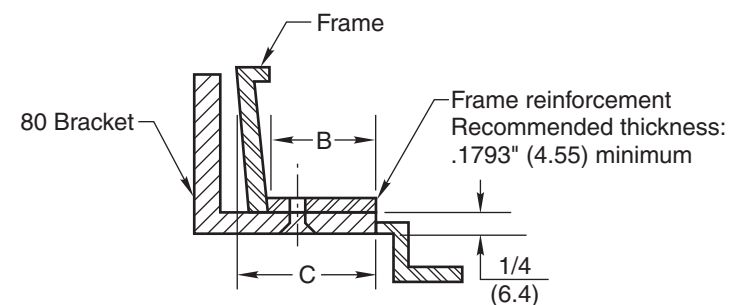
TEMPLATE NUMBER

**7377-0107**

DATE \_\_\_\_\_

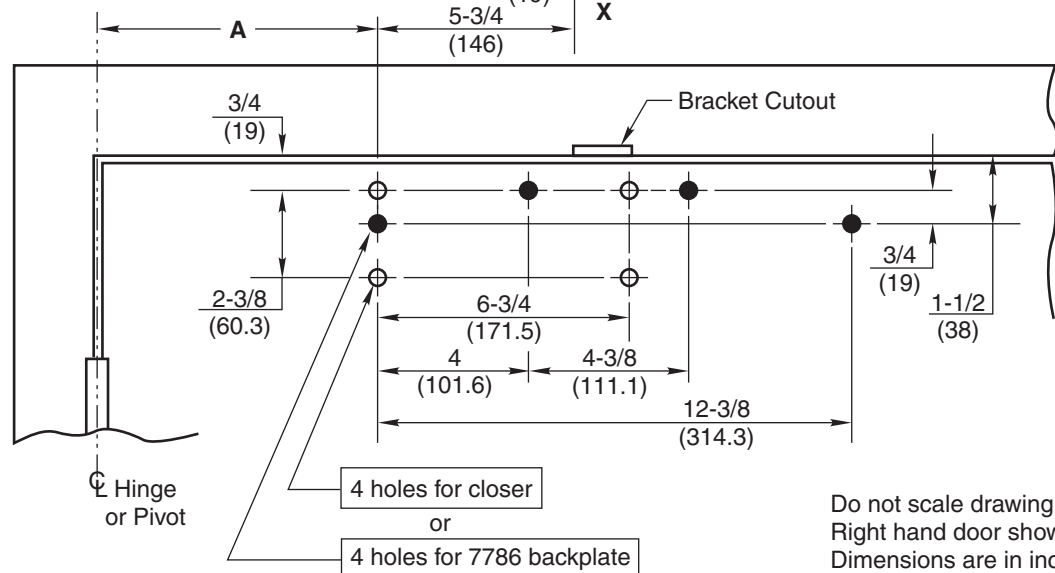
07-08





### Mortising Detail X-X

Bracket	Dimension "B"				Dimension "C"	
	Maximum		Minimum		Maximum	
	inches	mm	inches	mm	inches	mm
80	2	51	1-1/2	38	2-1/4	57



Do not scale drawing  
Right hand door shown  
Dimensions are in inches (mm)

Opening	Dimension "A"	
	inches	mm
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105

Caution: Door swing may be limited by door, frame, wall, or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm) Closer: 2-3/4 (70mm)	Wood	3/16" (4.30mm)
		Aluminum	7/32" (5.50mm)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm) through; 3/8" (9.50mm) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.500mm) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm) through; 3/8" (9.50mm) dia. x 3/8" (9.50mm) deep on door or transom-face opposite to closer

**7500H, 7700H, and 7700HOSP Series Door Closers  
With 80 Bracket  
With or Without 7786 Backplate  
Regular Arm Installation With Hold Open Arm**



ASSA ABLOY

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

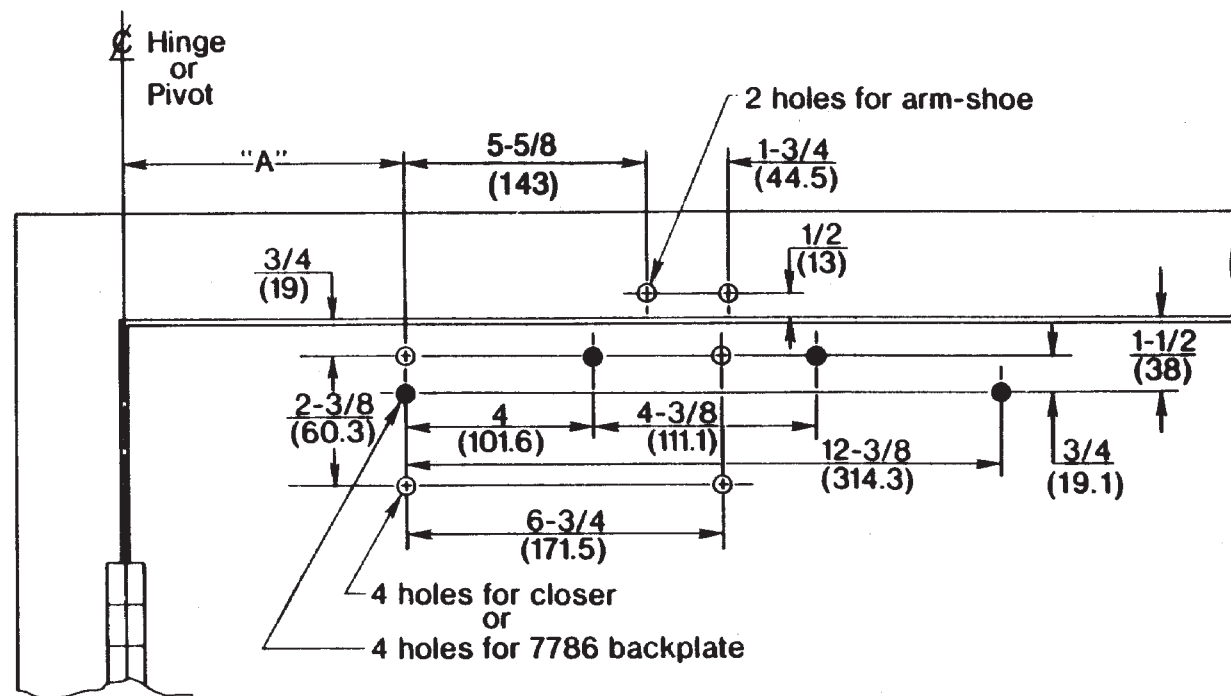
TEMPLATE NUMBER

**7377-0107**

DATE \_\_\_\_\_

07-08

Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



- Caution: Door swing may be limited by door, frame, wall or hardware conditions (including closer projection).
- Do not scale drawing.
- Right hand door shown.
- Dimensions are given in inches (mm).
- Minimum ceiling clearance for closer arm : 1" (25mm).
- Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Through bolts required for wood or plastic faced fire-door mounting.
- Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

★ Sex nut head [9/16" (15.00mm.) diameter x 1/8" (3mm.) high] has to be mortised in door or stop for top two closer or backplate fasteners.

★★ Grommet nut head [5/8" (16.00mm.) diameter x 1/8" (3mm.) high] has to be mortised in door or stop for top two closer or holder backplate fasteners.

PREPARATION FOR FASTENERS			
Fasteners		Door or Frame	Drill Sizes
STANDARD	#14 type "A" S.M. Screw	Wood	3/16" (4.30mm.)
	Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)		
OPTIONAL	1/4-20 Machine Screw	Metal	#7 [201" (5.10mm.) dia.] drill 1/4-20 UNC tap
	Sex-nuts and bolts (See mortising note★)	Hollow-metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) face opposite to closer.
		Aluminum or Wood	3/8" (9.50mm.) through.
	Through-bolts and grommet-nuts (See mortising note★★)	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. X 3/8" (10mm.) deep on face opposite to closer.

## 7580, 7780, and 7780TEL Series Door Closers With or Without 7786 Backplate Regular Arm Installation With Non Hold Open Arm

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

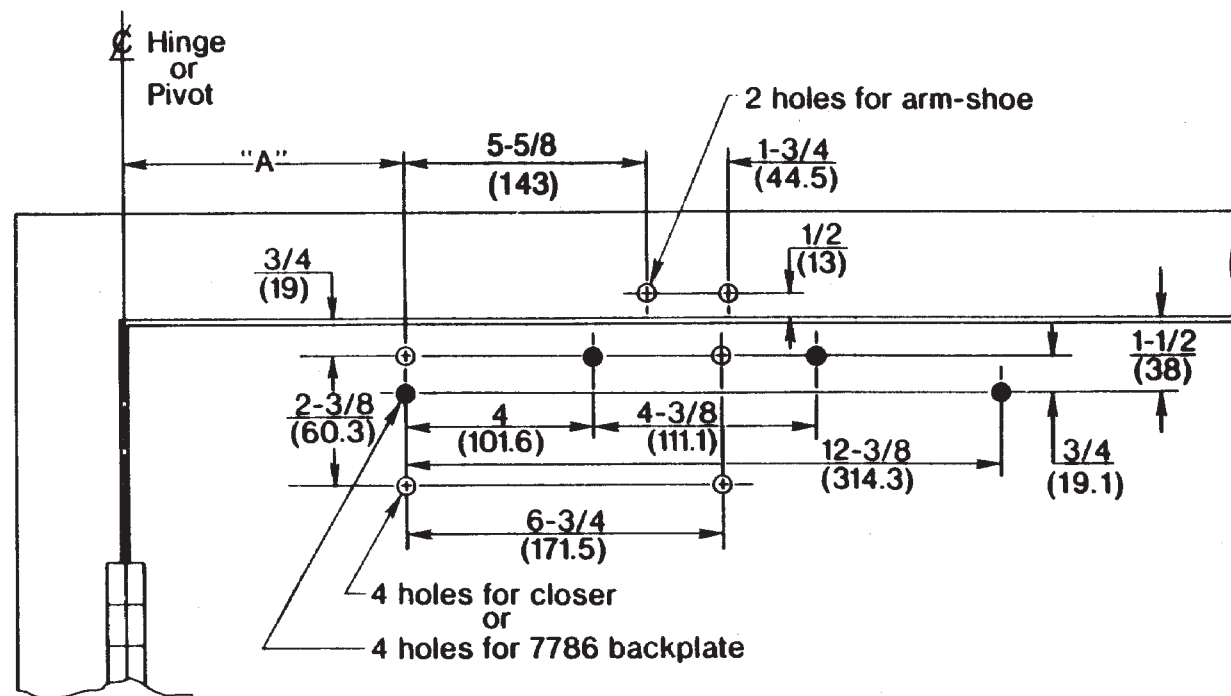
TEMPLATE NUMBER

7377-0110

DATE

07-08

Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



- Caution: Door swing may be limited by door, frame, wall or hardware conditions (including closer projection).
- Do not scale drawing.
- Right hand door shown.
- Dimensions are given in inches (mm).
- Minimum ceiling clearance for closer arm : 1" (25mm).
- Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Through bolts required for wood or plastic faced fire-door mounting.
- Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

★ Sex nut head [9/16" (15.00mm.) diameter x 1/8" (3mm.) high] has to be mortised in door or stop for top two closer or backplate fasteners.

★★ Grommet nut head [5/8" (16.00mm.) diameter x 1/8" (3mm.) high] has to be mortised in door or stop for top two closer or holder backplate fasteners.

PREPARATION FOR FASTENERS			
Fasteners		Door or Frame	Drill Sizes
STANDARD	#14 type "A" S.M. Screw	Wood	3/16" (4.30mm.)
	Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)		
OPTIONAL	1/4-20 Machine Screw	Metal	#7 [201" (5.10mm.) dia.] drill 1/4-20 UNC tap
	Sex-nuts and bolts (See mortising note★)	Hollow-metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) face opposite to closer.
		Aluminum or Wood	3/8" (9.50mm.) through.
	Through-bolts and grommet-nuts (See mortising note★★)	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. X 3/8" (10mm.) deep on face opposite to closer.

## 7580, 7780, and 7780TEL Series Door Closers With or Without 7786 Backplate Regular Arm Installation With Non Hold Open Arm

**Norton**

ASSA ABLOY

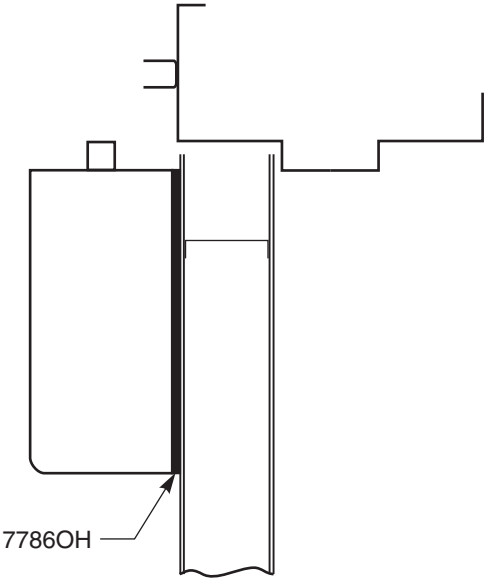
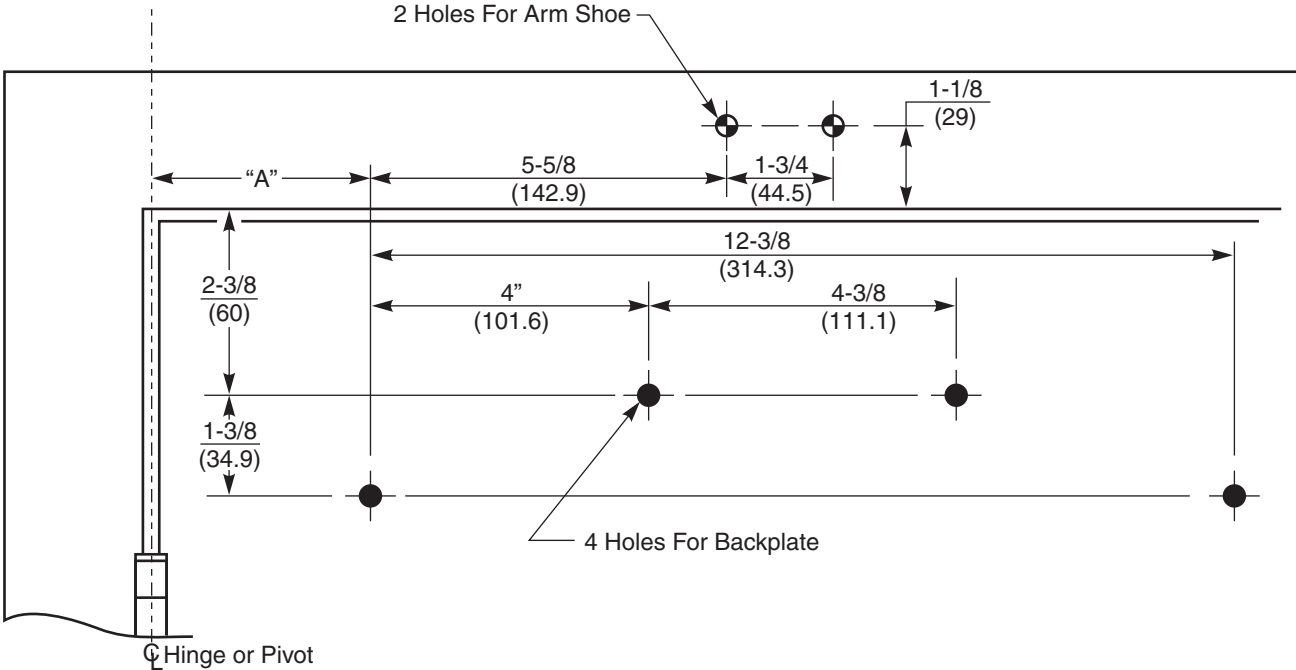
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TEMPLATE NUMBER

7377-0110

DATE

07-08



Installer may have to counterbore backplate for sex-nut head clearance

NOTES:

- 1. Do not scale drawing.
- 2. Right hand door shown.
- 3. All dimensions given in inches (mm).

**Caution:** Door swing may be limited by door, frame, wall or hardware conditions (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Opening	Dimension "A"	
	inches	mm
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105

Preparation for Fasteners			
Fasteners		Door or Frame	Drill Sizes
Standard	Self-Drilling screw	Aluminum or Metal	No drill required
		Wood (see Note)	Pilot hole required 3/16" (4.30 mm)
	1/4"-20 machine screw	Metal	Drill: #7 (0.201" dia.) Tap: 1/4"-20
Optional	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
	Through-bolts and grommet nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

7500 and 7700 Series Door Closers  
with 7786OH Back Plate  
For Clearance of Overhead Stop / Stop and Holder

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Do not scale drawing

Hand of door as noted

Dimensions are in inches  
(mm.)

All dimensions from face of stop.

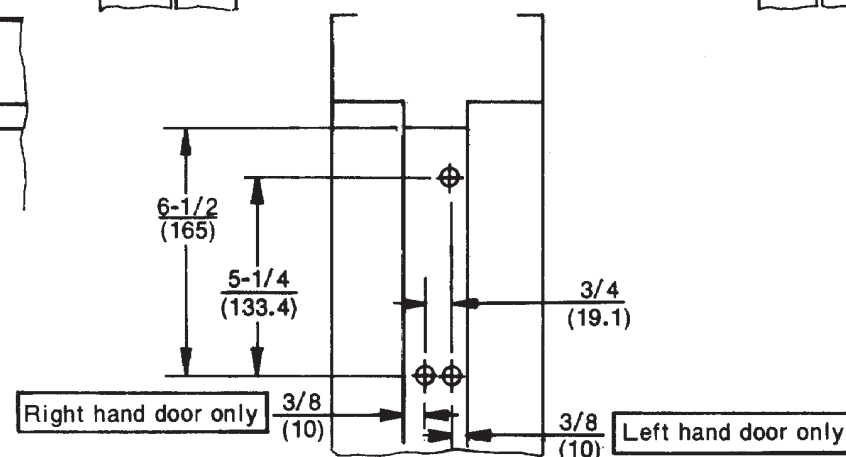
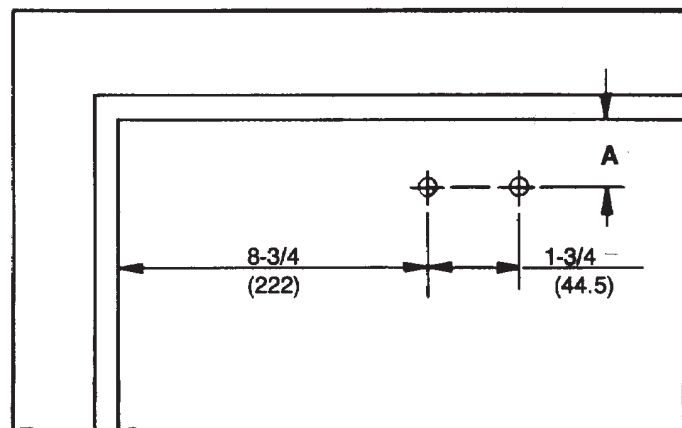
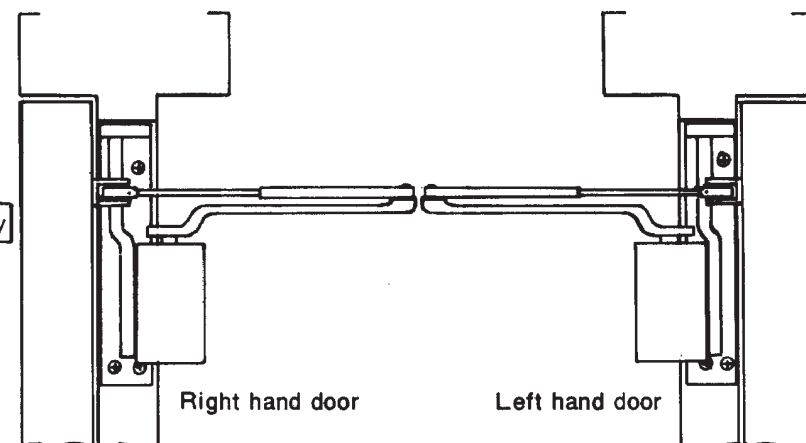
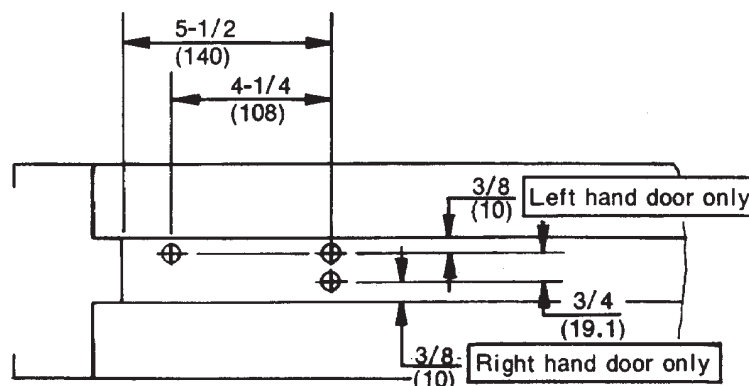
Product application as charted only.

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Corner Bracket	Closer Series	Dimension A	
		inches	mm.
7798	7500-7700	3/4	19
7797	7500-7700	1-7/8	48
	7580-7780	2-3/8	60
	7500H-7700H	1-3/4	44

Preparation for Fasteners		
Fasteners	Door or Frame	Drill-Size
#14 x 1/4" (32mm.) type "A" S.M. screw (Std.)	Wood	3/16" (4.30mm.)
	Aluminum	7/32" (5.50mm.)
1/4"-20 machine screw (Standard)	Metal	drill: #7 (.201") tap: 1/4"-20
Sex-nuts and bolts (Optional)	Hollow-metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
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

**7500, 7500H, 7580, 7700, 7700H, and 7780 Series Door Closers  
With 7797 or 7798 Corner Bracket  
Corner Bracket Installation With Non Hold Open or Hold Open Arm**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

**7377-0149**

DATE

**07-08**

Do not scale drawing

Hand of door as noted

Dimensions are in inches  
(mm.)

All dimensions from face of stop.

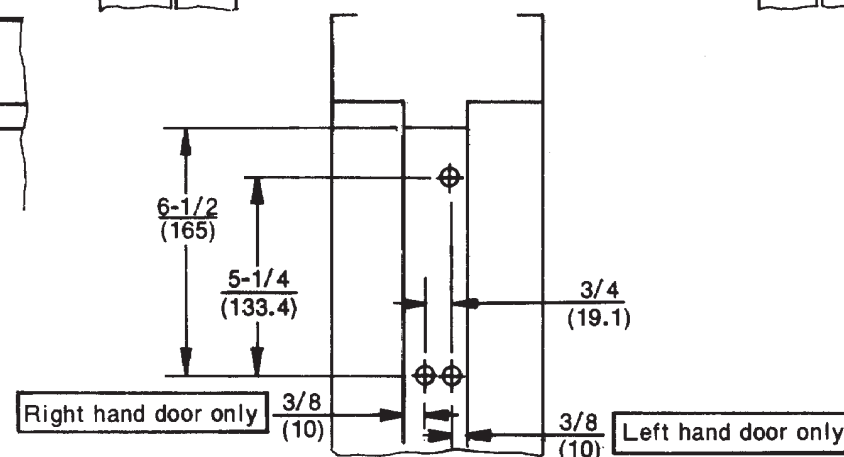
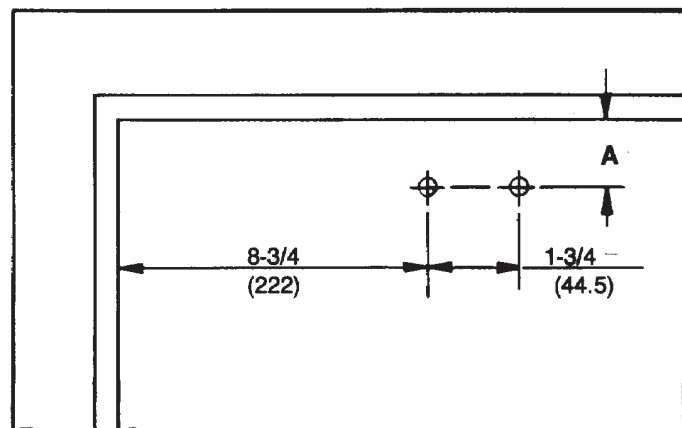
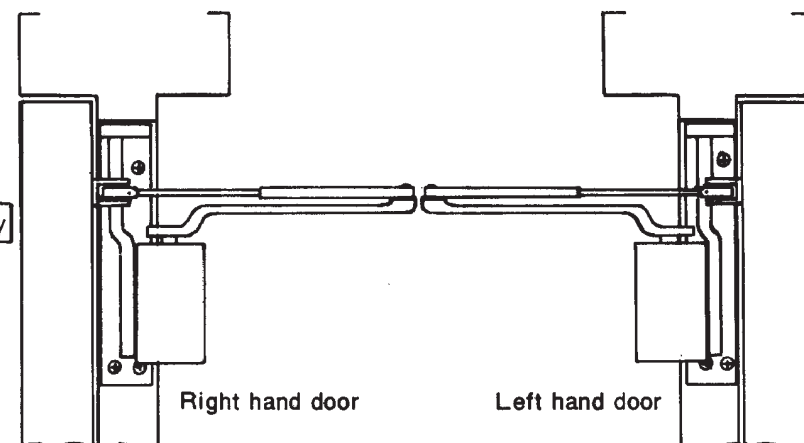
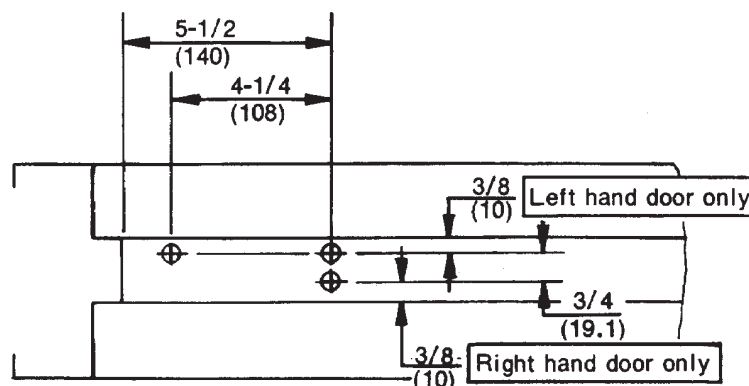
Product application as charted only.

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Corner Bracket	Closer Series	Dimension A	
		inches	mm.
7798	7500-7700	3/4	19
7797	7500-7700	1-7/8	48
	7580-7780	2-3/8	60
	7500H-7700H	1-3/4	44

Preparation for Fasteners		
Fasteners	Door or Frame	Drill-Size
#14 x 1/4" (32mm.) type "A" S.M. screw (Std.)	Wood	3/16" (4.30mm.)
	Aluminum	7/32" (5.50mm.)
1/4"-20 machine screw (Standard)	Metal	drill: #7 (.201") tap: 1/4"-20
Sex-nuts and bolts (Optional)	Hollow-metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
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

**7500, 7500H, 7580, 7700, 7700H, and 7780 Series Door Closers  
With 7797 or 7798 Corner Bracket  
Corner Bracket Installation With Non Hold Open or Hold Open Arm**

**Norton**

ASSA ABLOY

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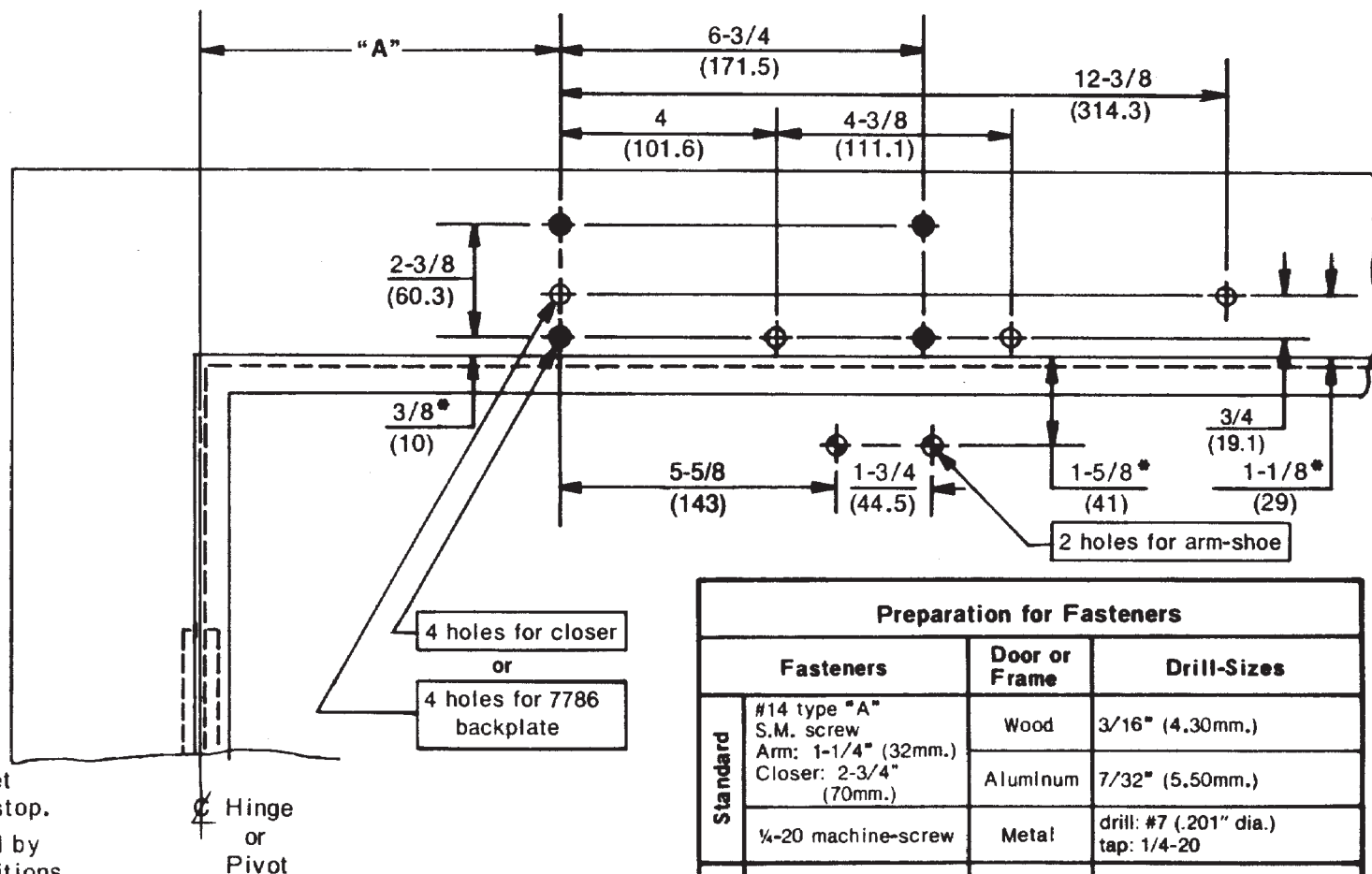
TEMPLATE NUMBER

**7377-0149**

DATE

**07-08**

Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



Do not scale drawing

Left hand door shown

Dimensions are in  $\frac{\text{inches}}{(\text{mm.})}$

\*Always use frame or transom-rabbet as reference plane, not bottom of stop.

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

#### Preparation for Fasteners

Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

(J)7500, (J)7500H, JL7500, JL7500H, (J)7700, (J)7700H, JL7700, JL7700H, J7730, and J7730H Series Door Closers  
With 7786 Backplate (Without 7786 Backplate, Conditions Permitting)  
Top Jamb Installation With Non Hold Open or Hold Open

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

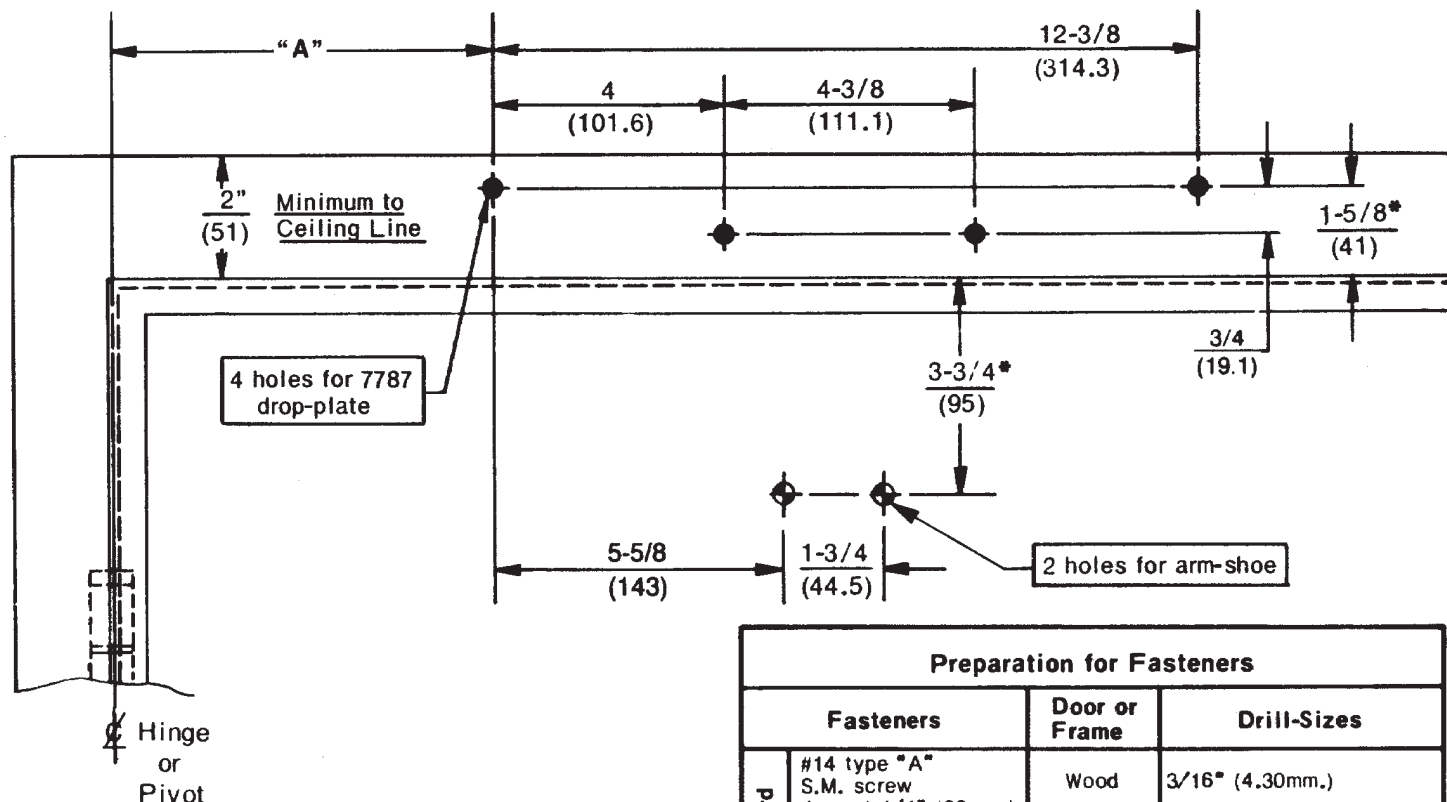
**7377-0151**

DATE

**07-08**



Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
100° to 120°	6-5/8	168
120° to 150°	4-5/8	117
150° to 180°	4-1/8	105



Do not scale drawing

Left hand door shown

Dimensions are in inches (mm.)

\*Always use frame or transom-rabbit as reference plane, not bottom of stop.

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

(J)7500, (J)7500H, JL7500, JL7500H, (J)7700, (J)7700H, JL7700, JL7700H, J7730, and J7730H Series Door Closers  
With 7787 Drop Plate  
Top Jamb Installation With Non Hold Open or Hold Open

**Norton**

ASSA ABLOY

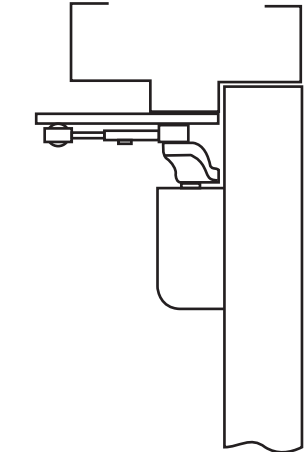
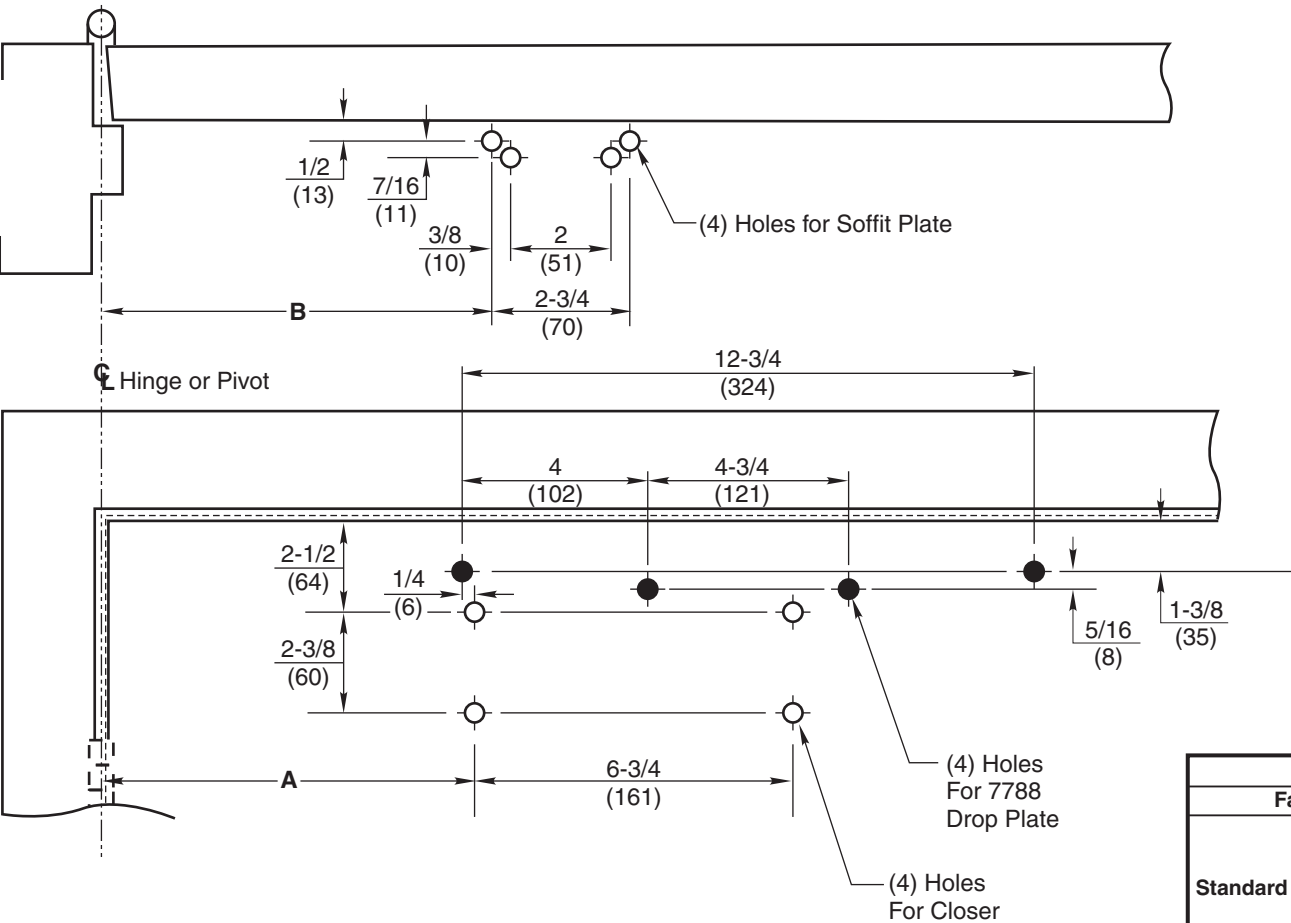
www.nortondoorcontrols.com

TEMPLATE NUMBER

7377-0152

DATE

07-08



Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146

- Notes:**
1. Do not scale drawing
  2. Left hand door shown
  3. Dimensions are in inches (mm).
  4. **Caution: Door swing may be limited by door, frame, wall, or hardware conditions.**
  5. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  6. Sex-bolts required for wood or plastic faced fire-door mounting.
  7. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046 (3mm) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 SDST Type BSD or #14 SMS Type A	Wood	3/16" (5 mm) Pilot Hole Required
	1/4" - 20 machine screw	Metal	Drill: #7 (0.201" dia.) Tap: 1/4" - 20
Optional	Sleeve nuts and bolts	Hollow Metal	9/32" (7 mm) through; 3/8" (10 mm) door or transom-face opposite to closer
		Aluminum or Wood	3/8" (10 mm) through
	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (10 mm) dia. x 3/8" (10 mm) deep on door or transom-face opposite to closer

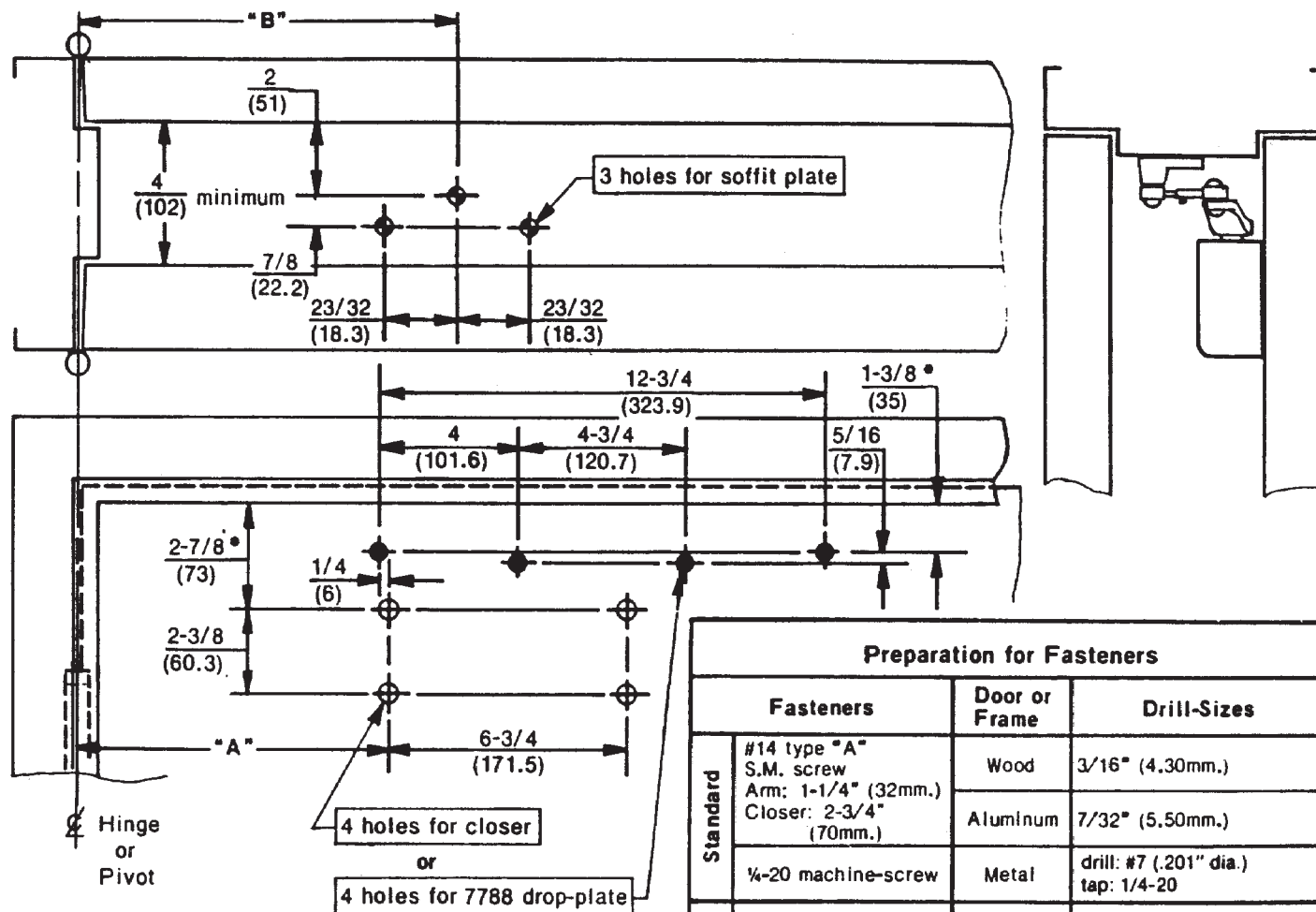
**P7500 and P7700 Series Door Closers**  
**With or Without 7788 Drop Plate**  
**Parallel Arm Installation With Non-Hold Open Arm**

**Norton**

ASSA ABLOY

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Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146



Do not scale drawing

Left hand door shown

Dimensions are in inches (mm.)

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

\*Measure from soffit-plate mounting surface. 2018 soffit-plate may be applied onto frame-rabbit when frame-stop-height does not exceed 5/8" (16mm.).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
Optional	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
Optional	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia.-x 3/8" (10mm.) deep on door or transom-face opposite to closer

## P7500 and P7700 Series Door Closers

### With 2018 Soffit Plate

### With or Without 7788 Drop Plate

### Parallel Arm Installation With Non-Hold Open Arm

**Norton**

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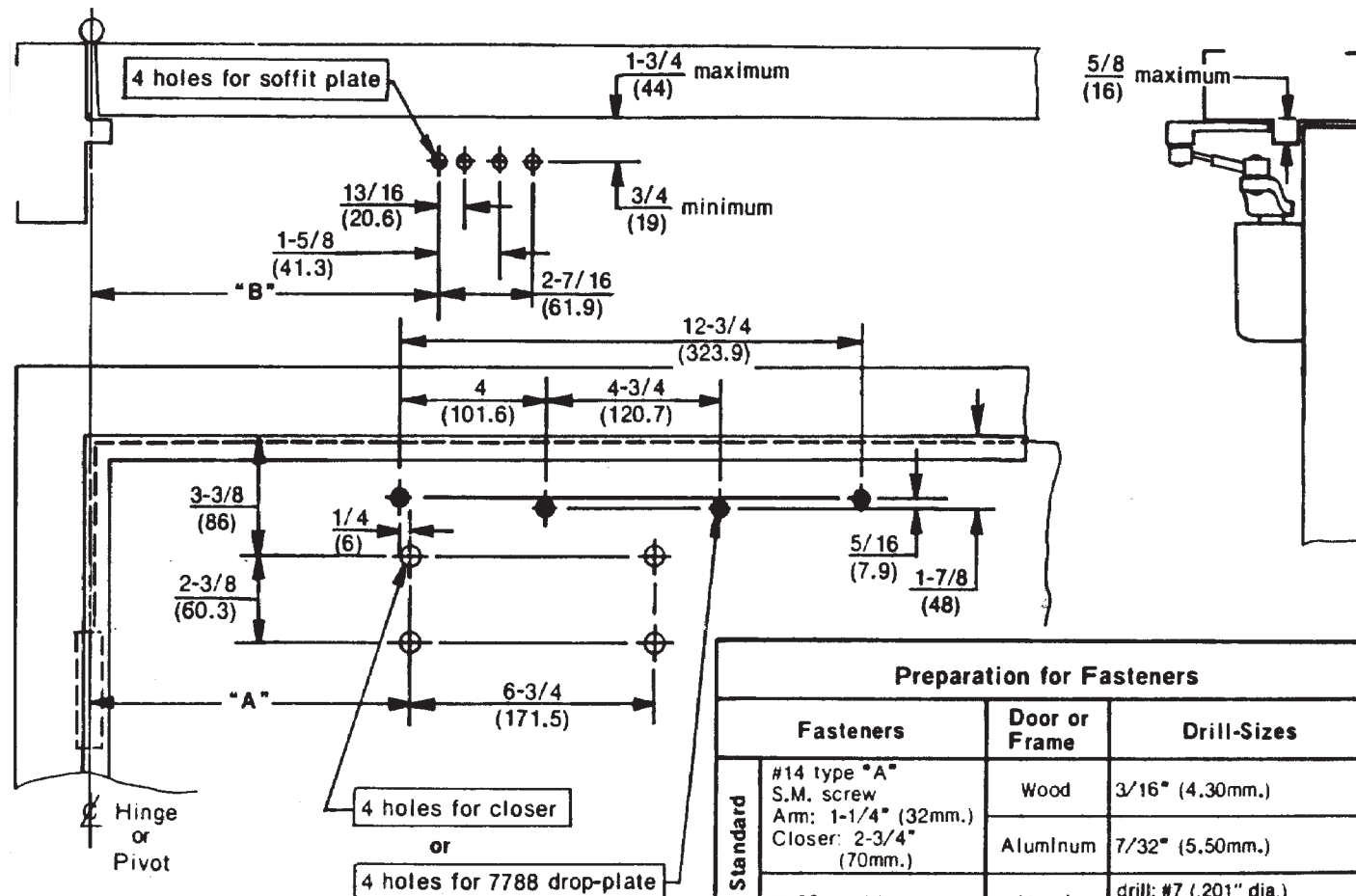
TEMPLATE NUMBER

7377-0203

DATE

07-08

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146



Do not scale drawing

Left hand door shown

Dimensions are in inches  
(mm.)

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**P7500 and P7700 Series Door Closers  
With 2018B Soffit Plate  
With or Without 7788 Drop Plate  
Parallel Arm Installation With Non-Hold Open Arm**

**Norton**

ASSA ABLOY

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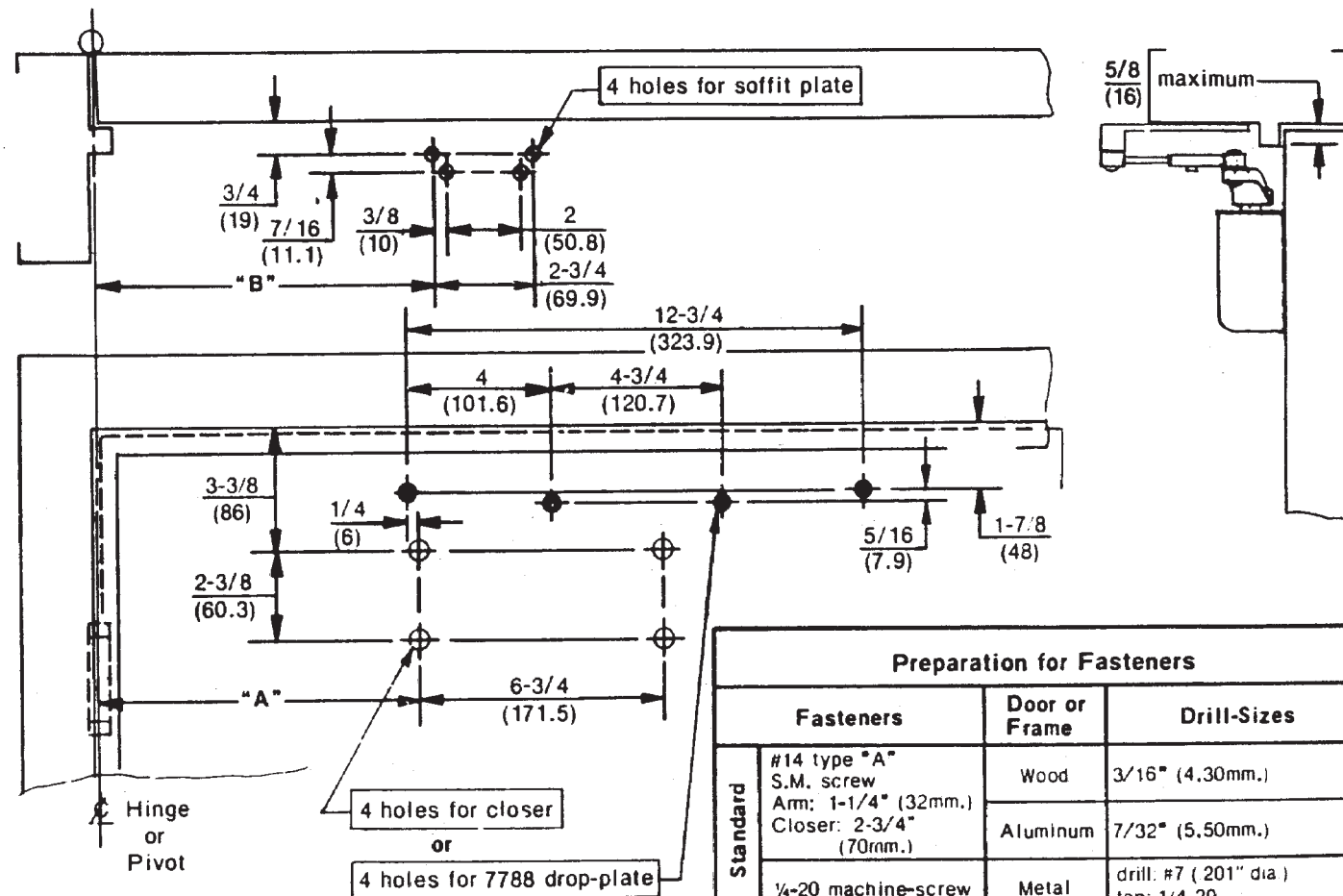
TEMPLATE NUMBER

**7377-0204**

DATE

**07-08**

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146



Do not scale drawing

Left hand door shown

Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
		Fasteners	Door or Frame
Standard		#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood
			Aluminum
Optional		1/4-20 machine-screw	Metal
		Sex-nuts and bolts	Hollow-Metal
			Aluminum or Wood
			All

## P7500 and P7700 Series Door Closers

### With 2018D Soffit Plate

### With or Without 7788 Drop Plate

### Parallel Arm Installation With Non-Hold Open Arm

**Norton**

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TEMPLATE NUMBER

7377-0205

DATE

07-08

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-3/8	238
101° to 130°	7-1/4	184	7-7/8	200
131° to 150°	6-1/4	159	6-7/8	175
151° to 180°	5-1/4	133	5-7/8	149

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

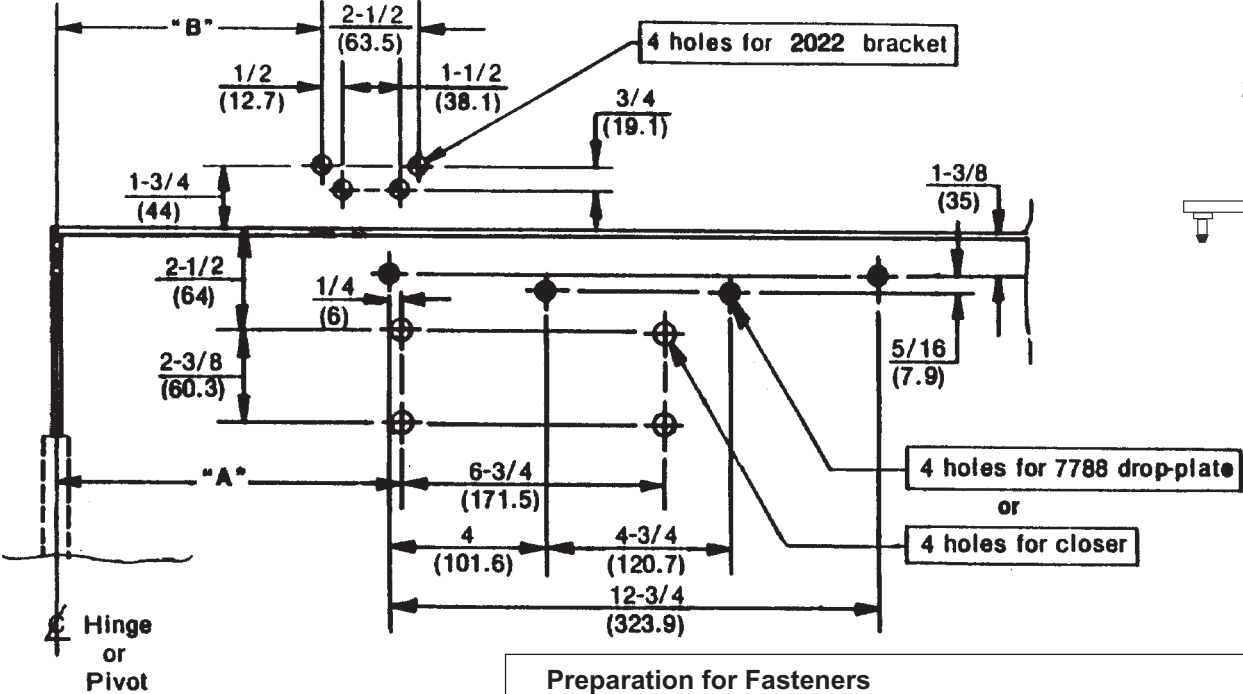
Caution: Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Always consult door/frame manufacturer for fastener compatibility with the material of their door/frame.



Preparation for Fasteners			
figure 2			
Fasteners		Door or Frame	Drill-Sizes
Standard	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
Optional	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
	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

P7500 and P7700 Series Door Closers  
With 2022 Bracket  
With or Without 7788 Drop Plate  
Parallel Arm Installation With Non-Hold Open Arm

Norton

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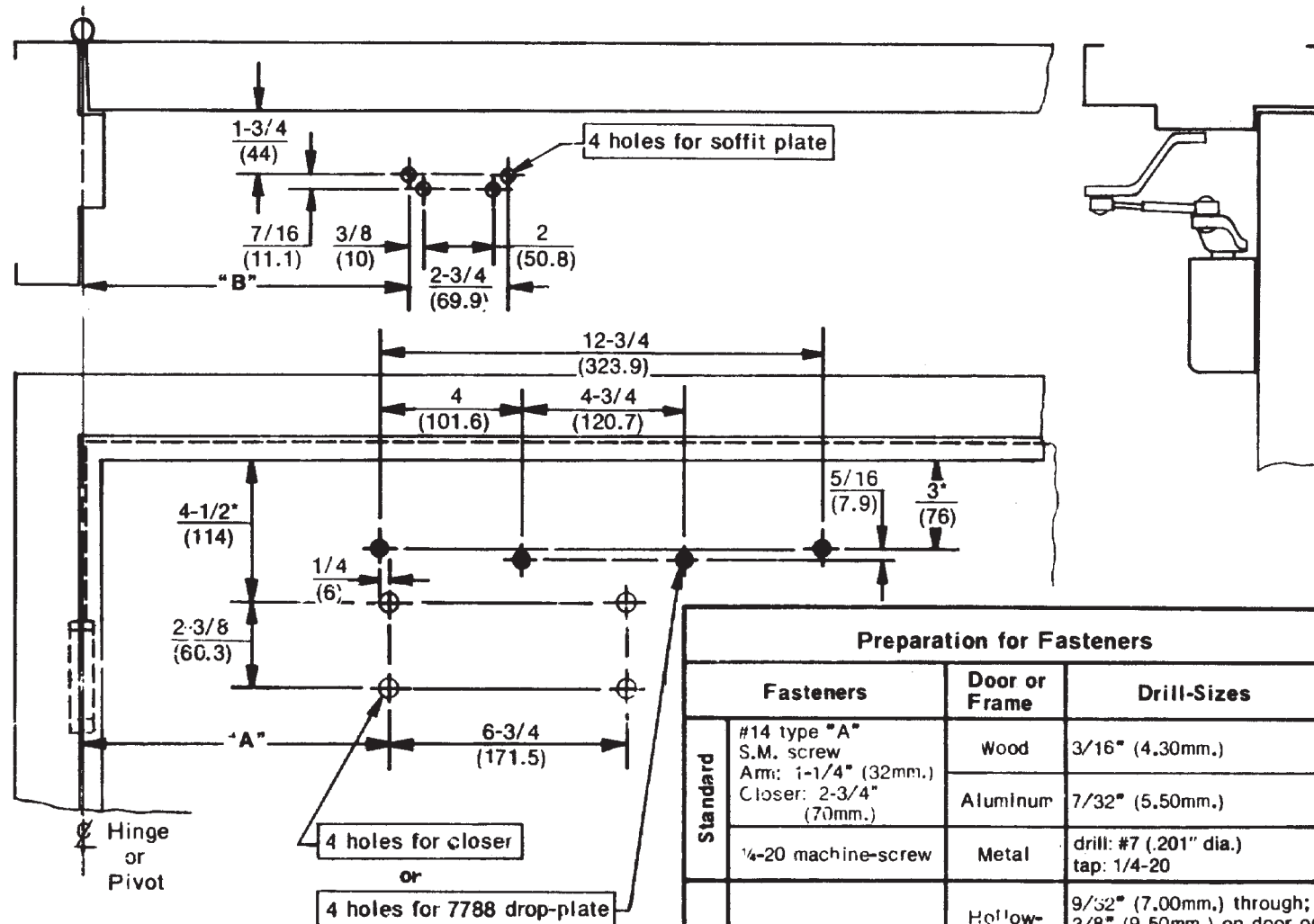
TEMPLATE NUMBER

7377-0206

DATE

05-10

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146



**P7500 and P7700 Series Door Closers  
With 2018S Soffit Plate  
With or Without 7788 Drop Plate  
Parallel Arm Installation With Non-Hold Open Arm**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

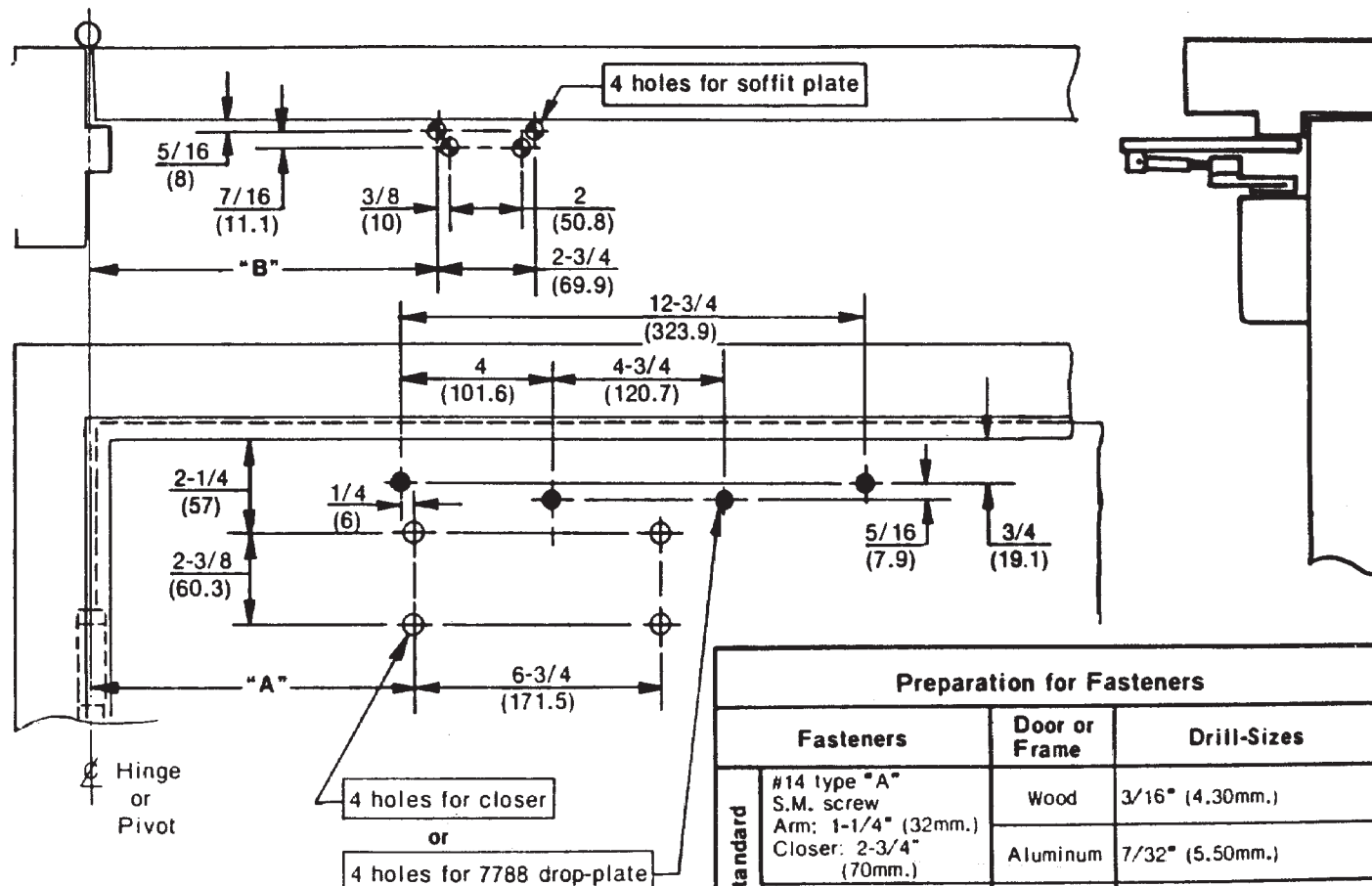
**7377-0207**

DATE

**07-08**



Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146



Do not scale drawing

Left hand door shown

Dimensions are in  $\frac{\text{inches}}{(\text{mm.})}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

#### Preparation for Fasteners

Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

## P7580 and P7780 Series Door Closers With or Without 7788 Drop Plate Parallel Arm Installation With Non-Hold Open Arm

**Norton**

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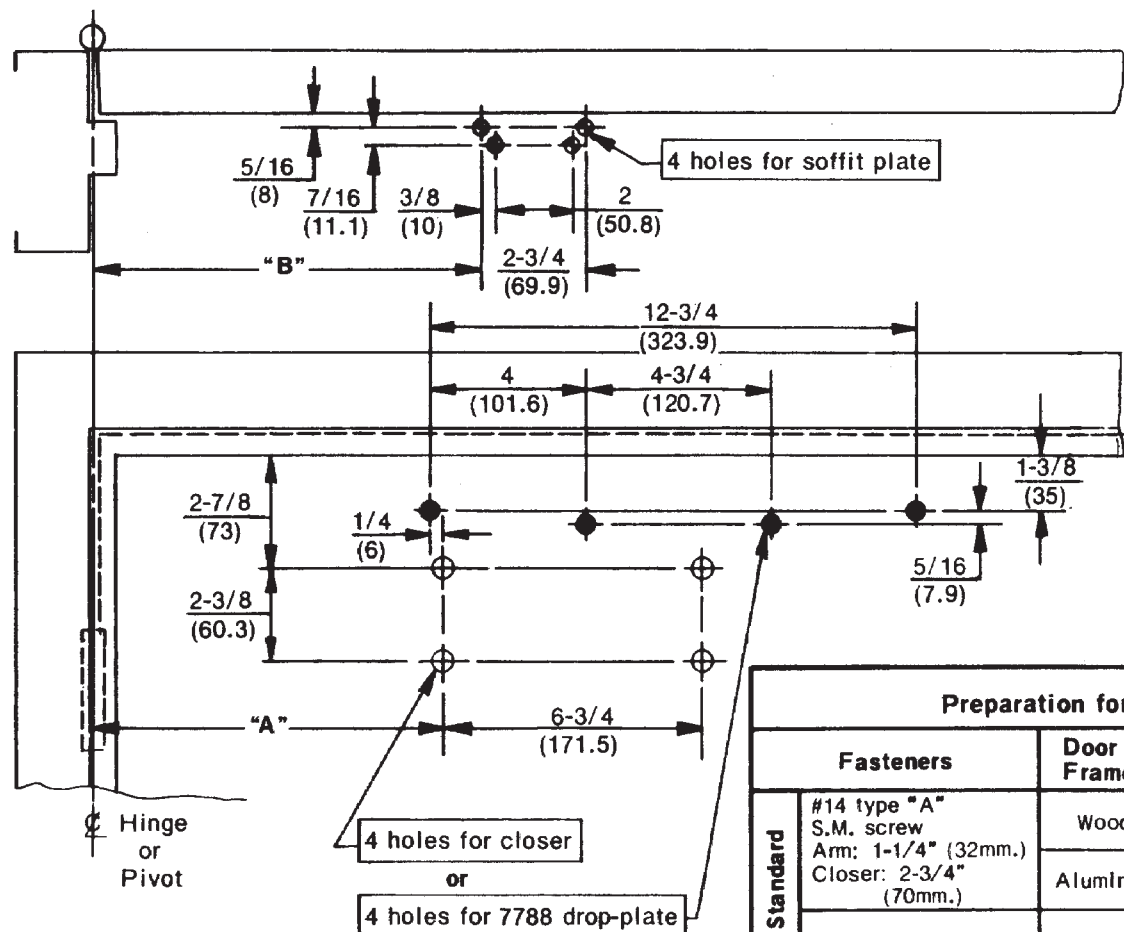
TEMPLATE NUMBER

**7377-0209**

DATE

**07-08**

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146



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

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2,66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
	1/4-20 machine-screw	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**P7500H or P7700H Series Door Closers  
With or Without 7788 Drop Plate  
Parallel Arm Installation With Hold Open**

**Norton**

ASSA ABLOY

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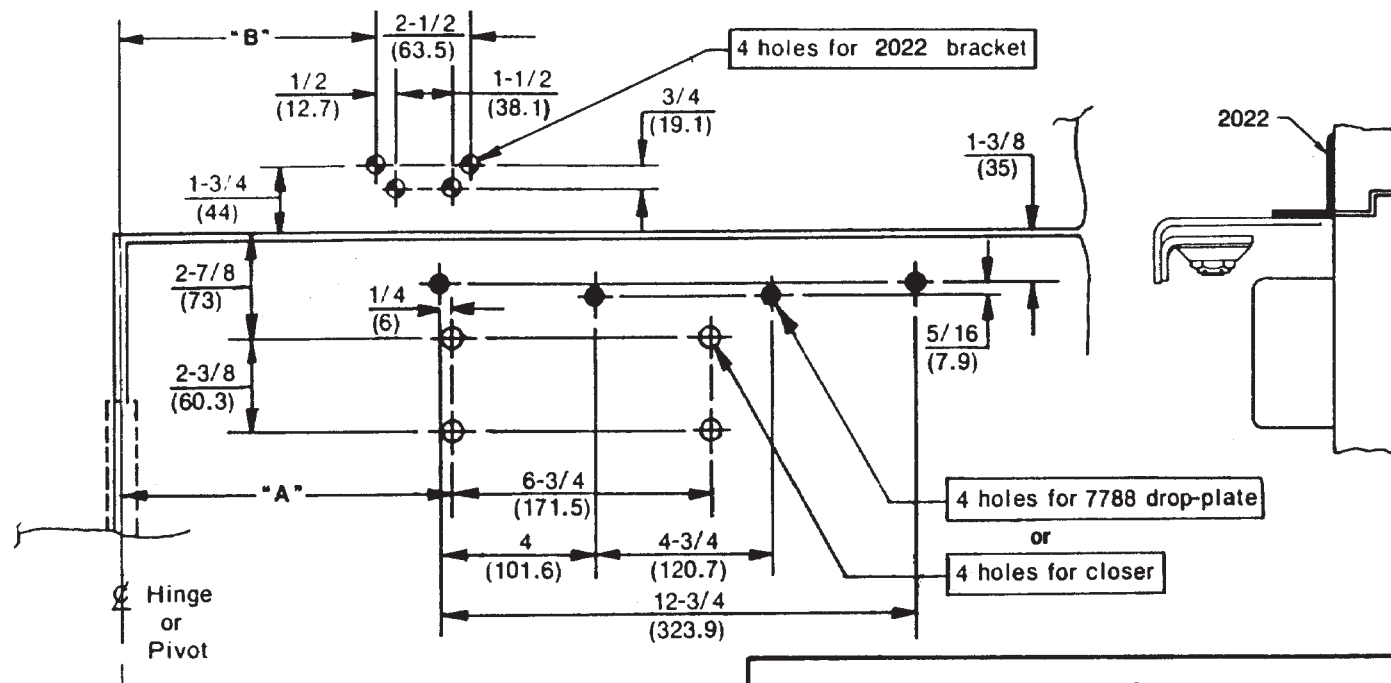
TEMPLATE NUMBER

**7377-0211**

DATE

**07-08**

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-3/8	238
101° to 130°	7-1/4	184	7-7/8	200
131° to 150°	6-1/4	159	6-7/8	175
151° to 180°	5-1/4	133	5-7/8	149



Do not scale drawing

Left hand door shown

Dimensions are in  $\frac{\text{inches}}{\text{(mm.)}}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
		Metal	drill: #7 (.201" dia.) lap: 1/4-20
Optional	Sex-nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. x 3/8" (10mm.) deep on door or transom-face opposite to closer

**P7500H or P7700H Series Door Closers  
With 1628H x 2022 Brackets  
With or Without 7788 Drop Plate  
Parallel Arm Installation With Hold Open**

**Norton**

ASSA ABLOY

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TEMPLATE NUMBER

**7377-0212**

DATE

**07-08**

Door Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
101° to 120°	6-5/8	168
121° to 150°	4-5/8	117
151° to 180°	4-1/8	105

**SPECIAL NOTE:**

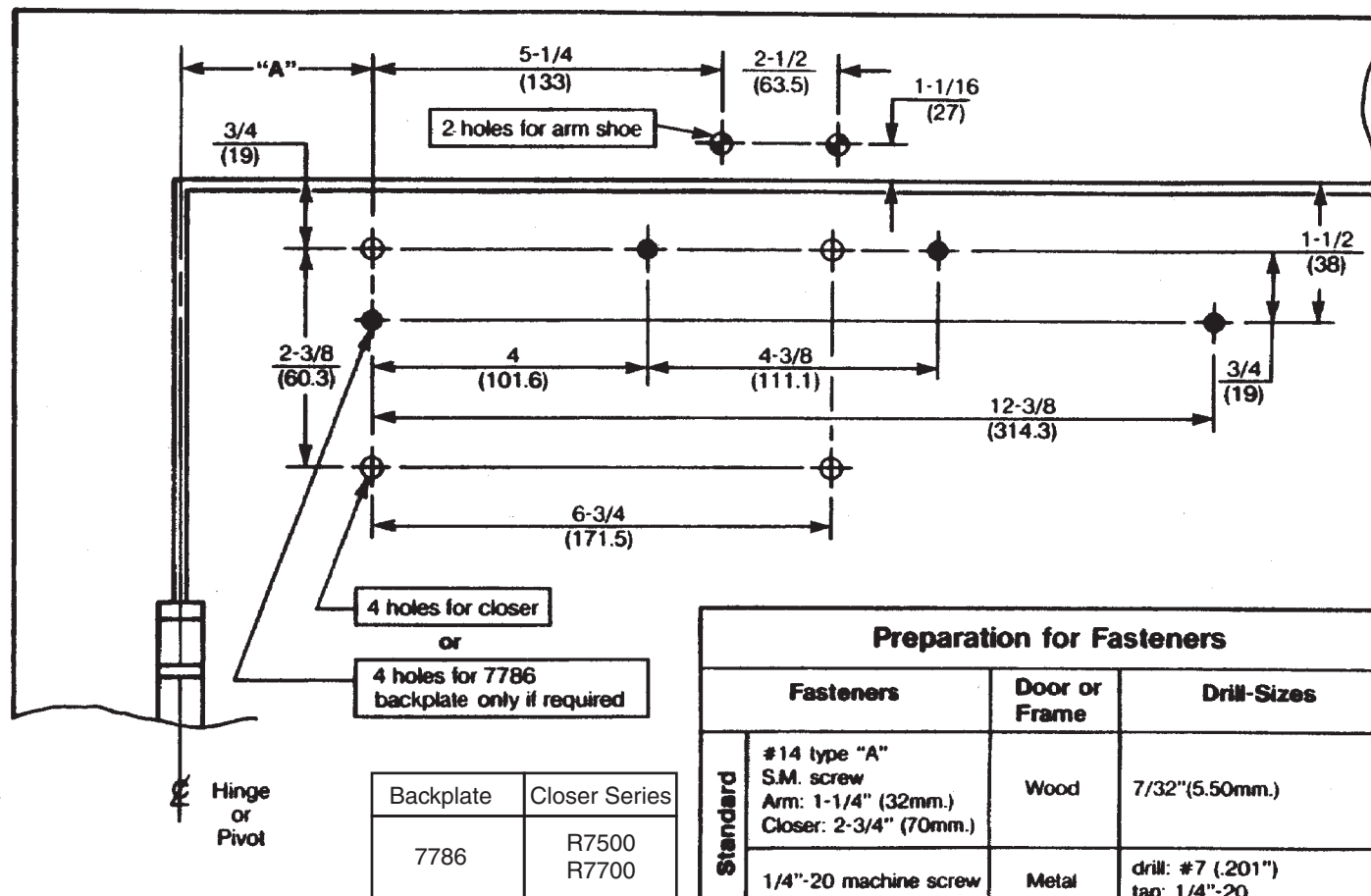
Hinge side frame reveal must not exceed 1/8 (3) or 5/16 (8) if 7786 backplate is used.

Do Not Scale Drawing  
Right Hand Door Shown  
Dimensions are in inches  
(mm.)

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions. (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Backplate	Closer Series
7786	R7500 R7700

**Preparation for Fasteners**

	Fasteners	Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	7/32" (5.50mm.)
	1/4"-20 machine screw	Metal	drill: #7 (.201") tap: 1/4"-20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. X 3/8" (10mm.) deep on door or transom-face opposite to closer

**R7500 Series Rigid Arm, 7570 Series Security Door Closer or  
R7700 Series Rigid Arm, 7770 Security Door Closer  
Regular Arm Application With or Without 7786 Back Plate  
Power Sizes 0 for R7500 & 7570; 2, 3, 4, 5 or 6 for R7700 & 7770**

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TEMPLATE NUMBER

**7377-0601**

DATE

**01-10**

Door Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
101° to 120°	6-5/8	168
121° to 150°	4-5/8	117
151° to 180°	4-1/8	105

# **SPECIAL NOTE:**

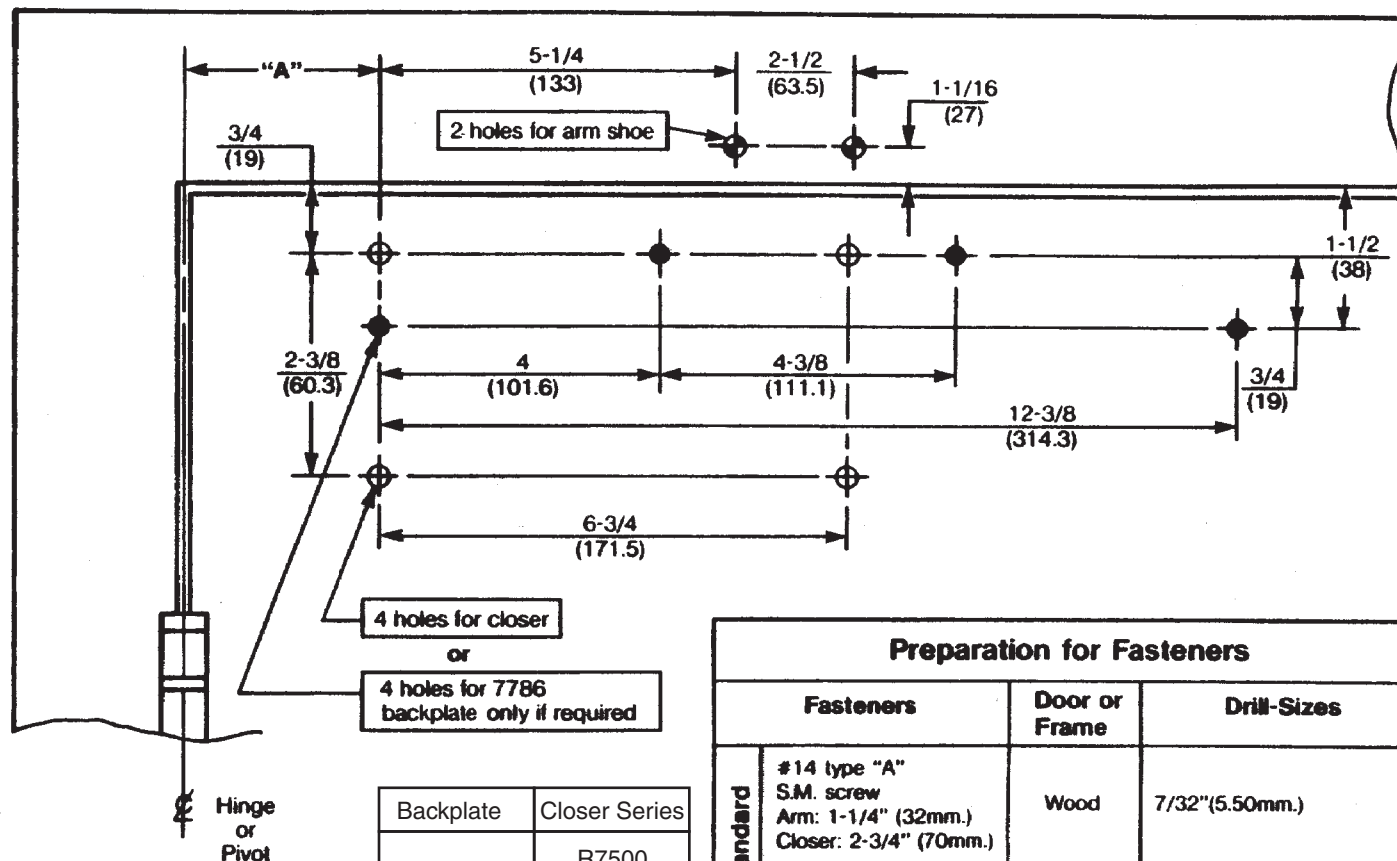
Hinge side frame reveal must not exceed 1/8 (3) or 5/16 (8) if 7786 backplate is used.

Do Not Scale Drawing  
Right Hand Door Shown  
Dimensions are in  $\frac{\text{inches}}{(\text{mm.})}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions. (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Backplate	Closer Series
7786	R7500 R7700

## **Preparation for Fasteners**

	Fasteners	Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	7/32" (5.50mm.)
	1/4"-20 machine screw	Metal	drill: #7 (.201") tap: 1/4"-20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. X 3/8" (10mm.) deep on door or transom-face opposite to closer

**R7500 Series Rigid Arm, 7570 Series Security Door Closer or  
R7700 Series Rigid Arm, 7770 Security Door Closer  
Regular Arm Application With or Without 7786 Back Plate  
Power Sizes 0 for R7500 & 7570; 2, 3, 4, 5 or 6 for R7700 & 7770**

**Norton**

ASSA ABLOY

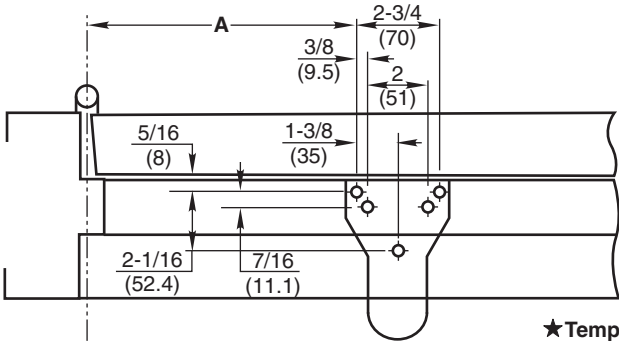
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TEMPLATE NUMBER

**7377-0601**

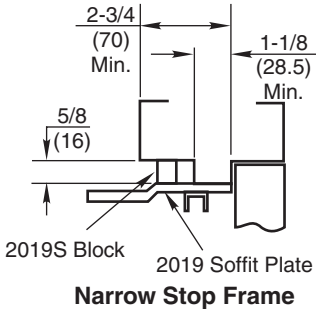
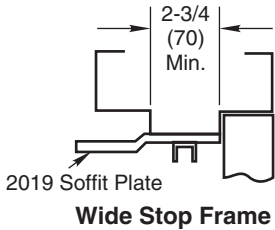
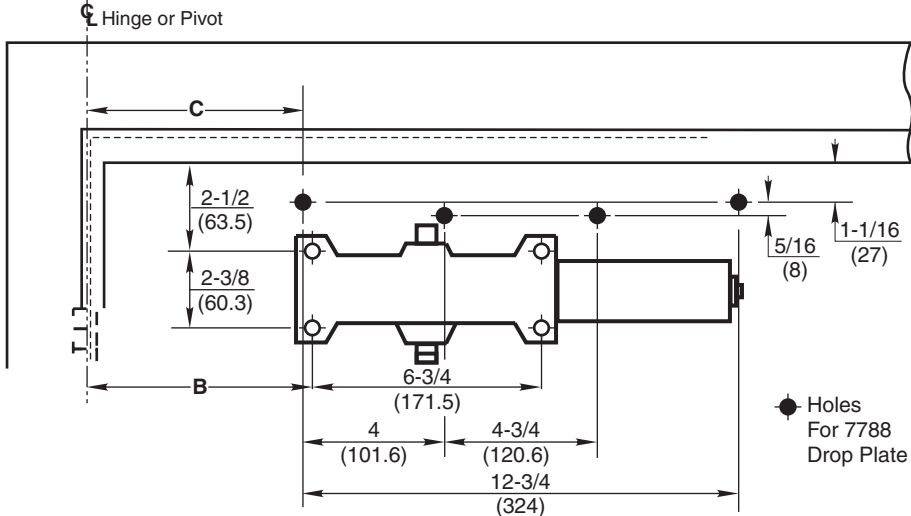
DATE

**01-10**

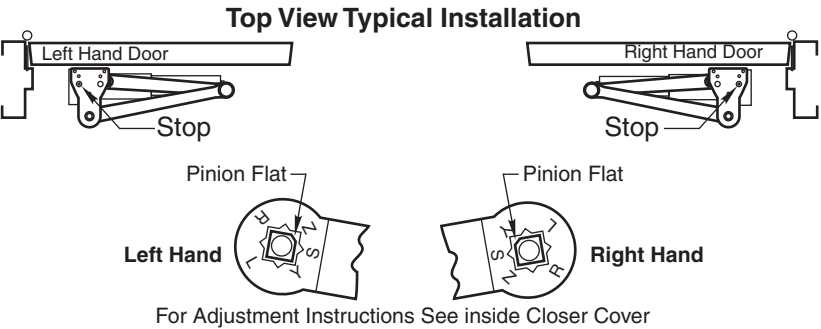


Opening ★	Dim. "A"		Dim. "B"		Dim. "C"	
	inches	mm	inches	mm	inches	mm
85°	10-5/8	270	10-1/8	257	9-7/8	251
90°	9-3/4	247.5	9-1/4	235	9	228.5
95°	9-1/8	232	8-5/8	219	8-3/8	212.5
100°	8-3/8	212.5	7-7/8	200	7-5/8	193.5
105°	7-7/8	200	7-3/8	187.5	7-1/8	181
110°	7-1/4	184	6-3/4	171.5	6-1/2	165

★ Template dimensions are for hold open/door stop within ±2° of charted door openings. Doors may overtravel up to 5° beyond the rest position.



- NOTES:**
1. Do not scale drawing.
  2. Left hand door shown.
  3. Dimensions are in inches (mm).
  4. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  5. Sex-bolts required for wood or plastic faced fire-door mounting.
  6. Minimum thickness recommended for reinforcements in hollow- metal doors and frames: .0146" (2.66mm).
  7. Hold Open function "T" Suffix, is not permitted in a fire-door assembly.
  8. Maximum width hinges for this template are 5" (127mm)



Fasteners	Frame	Door	Drill-Sizes
#14 Type A Sheet Metal Screw	Wood	none	3/16" (4.8 mm) Pilot Hole Required
1/4" - 20 machine screw	Metal	none	Drill: #7 (0.201" dia.) or 5.1mm Tap: 1/4" - 20
Sleeve nuts and bolts	none	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

**CLP-7500, CLP-7700 CloserPlus® Arm Door Closer or  
CPS-7500, CPS-7700 CloserPlus Spring™ Arm Door Closer  
Parallel Arm Application With or Without 7788 Drop Plate  
Arm Function: Stop Only or Stop & Hold Open ("T" or "R" Suffix)  
Power Size 1-6 for 7500, 2, 3, 4, 5 or 6 for 7700**

**Norton**

**ASSA ABLOY**

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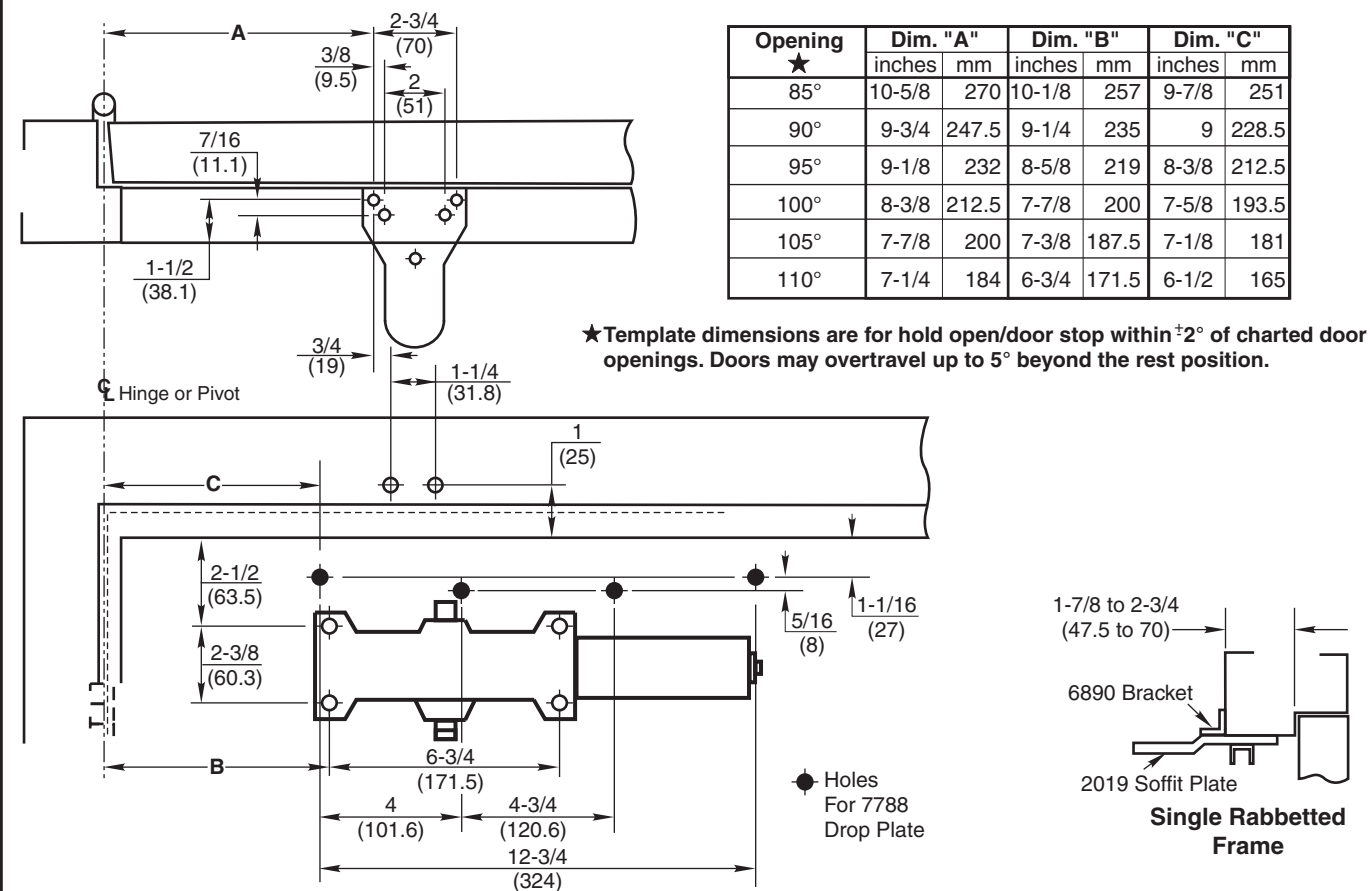
TEMPLATE NUMBER

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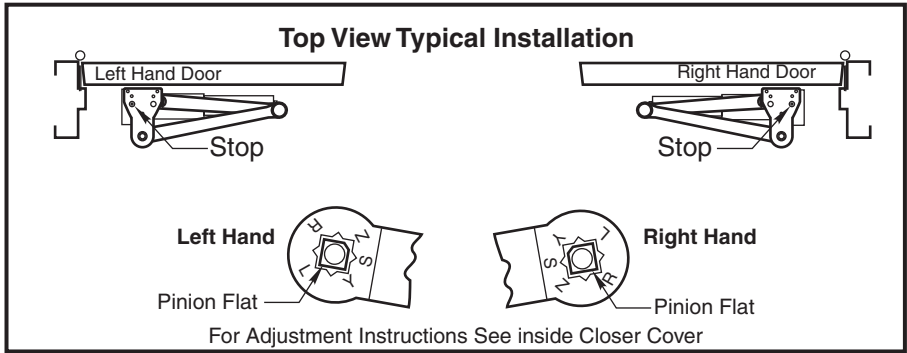
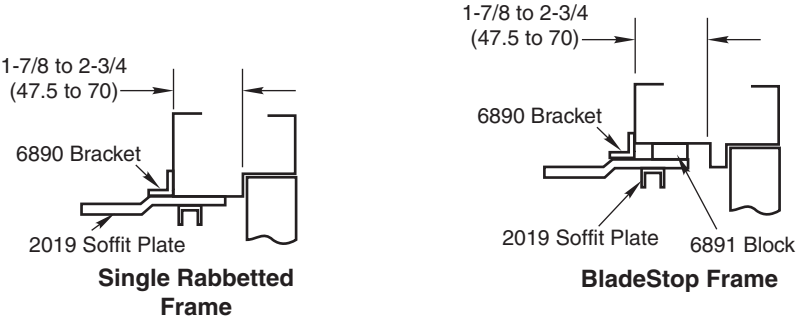
DATE

**11-13**





- NOTES:**
1. Do not scale drawing.
  2. Left hand door shown.
  3. Dimensions are in inches (mm).
  4. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  5. Sex-bolts required for wood or plastic faced fire-door mounting.
  6. Minimum thickness recommended for reinforcements in hollow- metal doors and frames: .0146" (2.66mm).
  7. Hold Open function "T" Suffix, is not permitted in a fire-door assembly.
  8. Maximum width hinges for this template are 5" (127mm).



Fasteners	Frame	Door	Drill-Sizes
#14 Type A Sheet Metal Screw	Wood	none	3/16" (4.8 mm) Pilot Hole Required
1/4" - 20 machine screw	Metal	none	Drill: #7 (0.201" dia.) or 5.1mm Tap: 1/4" - 20
Sleeve nuts and bolts	none	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

**CPS-7500, CPS-7700 CloserPlus Spring™ Arm  
Parallel Arm Application with 6890 Reinforcing Bracket  
With or Without 7788 Drop Plate or 6891 Spacer Block  
Arm Function: Stop Only or Stop & Hold Open ("T" Suffix)  
Power Size ) for 7500; 2, 3, 4, 5, or 6 for 7700**

Norton

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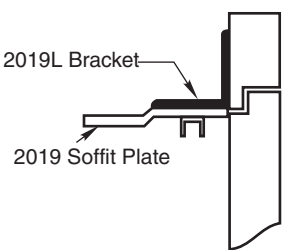
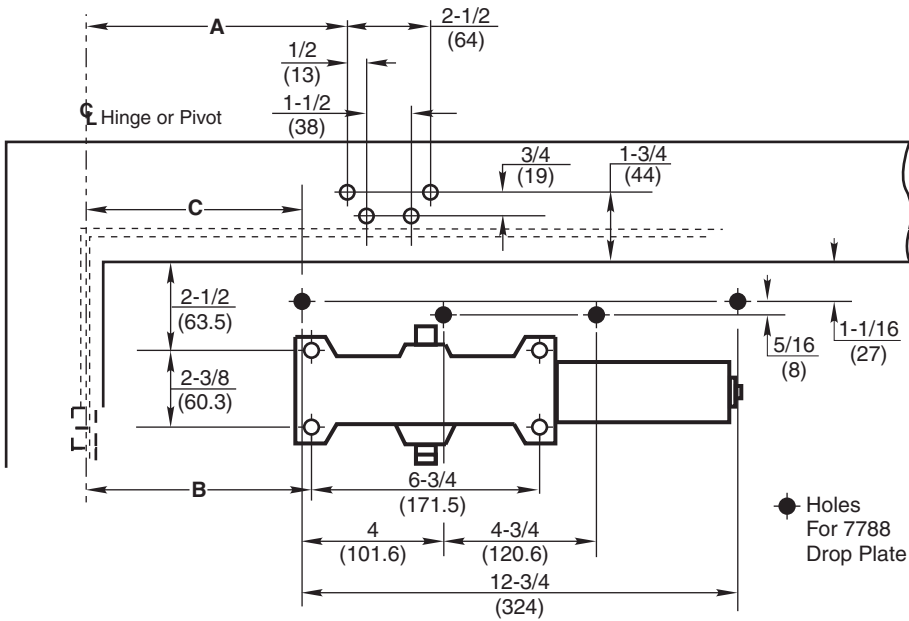
TEMPLATE NUMBER

7377-1302

DATE

07-08

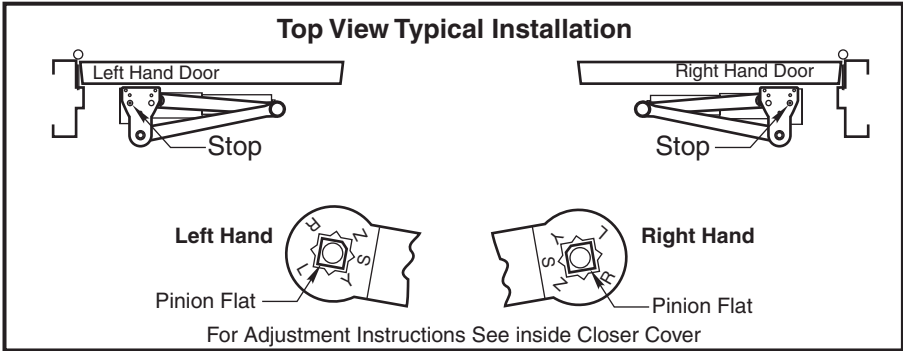




- NOTES:**
- 1. Do not scale drawing.
  - 2. Left hand door shown.
  - 3. Dimensions are in inches (mm).
  - 4. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  - 5. Sex-bolts required for wood or plastic faced fire-door mounting.
  - 6. Minimum thickness recommended for reinforcements in hollow- metal doors and frames: .0146" (2.66mm).
  - 7. Hold Open function "T" Suffix, is not permitted in a fire-door assembly.
  - 8. Maximum width hinges for this template are 5" (127mm).

Opening ★	Dim. "A"		Dim. "B"		Dim. "C"	
	inches	mm	inches	mm	inches	mm
85°	10-3/4	273	10-1/4	260.5	10	254
90°	9-7/8	251	9-3/8	238	9-1/8	232
95°	9-1/4	235	8-3/4	222.5	8-1/2	216
100°	8-1/2	216	8	203	7-3/4	197
105°	8	203	7-1/2	190.5	7-1/4	184
110°	7-3/8	187.5	6-7/8	174.5	6-5/8	168

★Template dimensions are for hold open/door stop within ±2° of charted door openings. Doors may overtravel up to 5° beyond the rest position.



Fasteners	Frame	Door	Drill-Sizes
#14 Type A Sheet Metal Screw	Wood	none	3/16" (4.8 mm) Pilot Hole Required
1/4" - 20 machine screw	Metal	none	Drill: #7 (0.201" dia.) or 5.1mm Tap: 1/4" - 20
Sleeve nuts and bolts	none	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

**CLP-7500, CLP-7700 CloserPlus® Arm or  
CPS-7500, CPS-7700 CloserPlus Spring™ Arm  
Parallel Arm Application x 2019L Flush Transom Bracket With or Without 7788 Drop Plate  
Arm Function: Stop Only or Stop & Hold Open ("T" or "R" Suffix)  
Power Size 1-6 for 7500; 2, 3,4, 5 or 6 for 7700**

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TEMPLATE NUMBER  
**7377-1303**

DATE  
**11-13**

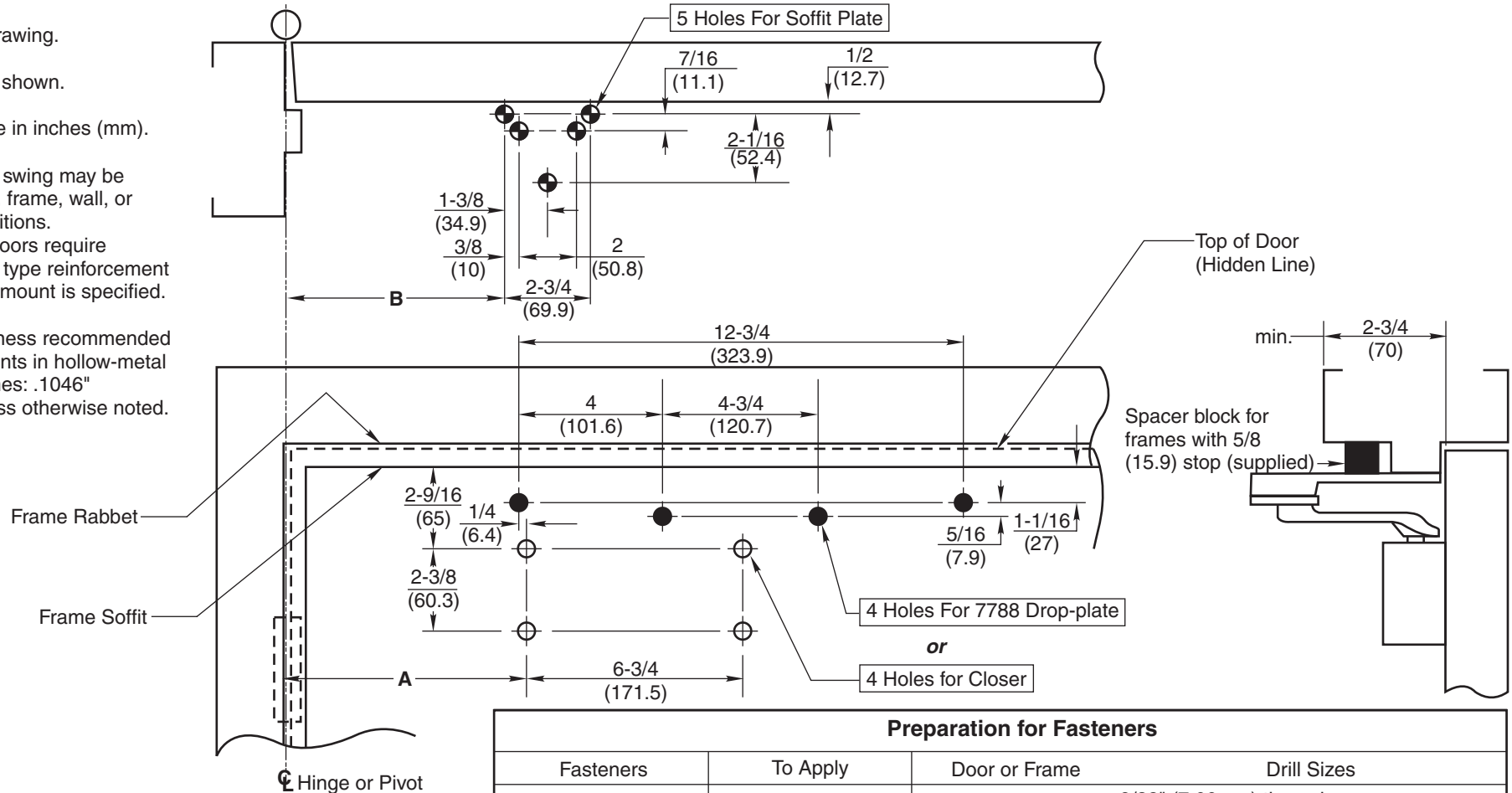
Do not scale drawing.

Left hand door shown.

Dimensions are in inches (mm).

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.  
Hollow-metal doors require channel or box type reinforcement when thru-bolt mount is specified.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.



Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-1/4	235
101° to 130°	7-1/4	184	7-3/4	197
131° to 150°	6-1/4	159	6-3/4	171
151° to 180°	5-1/4	133	5-3/4	146

Preparation for Fasteners			
Fasteners	To Apply	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer or 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
Self Drill Screws	Soffit-plate	Wood	3/16" (4.30mm)
		Aluminum	No Drill required
1/4-20 machine screw	Optional	Metal	drill: #7 (.201" dia.) tap: 1/4-20
Through-bolts and grommet-nuts		All	9/32" (7.00mm) through; 3/8" (9.50mm) dia. x 3/8" (10mm) deep, door face opposite to closer

## PR7500, PR7500H, PR7700, or PR7700H Series Door Closers With or Without 7788 Drop Plate Parallel Rigid Installation With Non Hold Open or Hold Open

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TEMPLATE NUMBER

**7377-0251**

DATE

**02-15**

Do not scale drawing

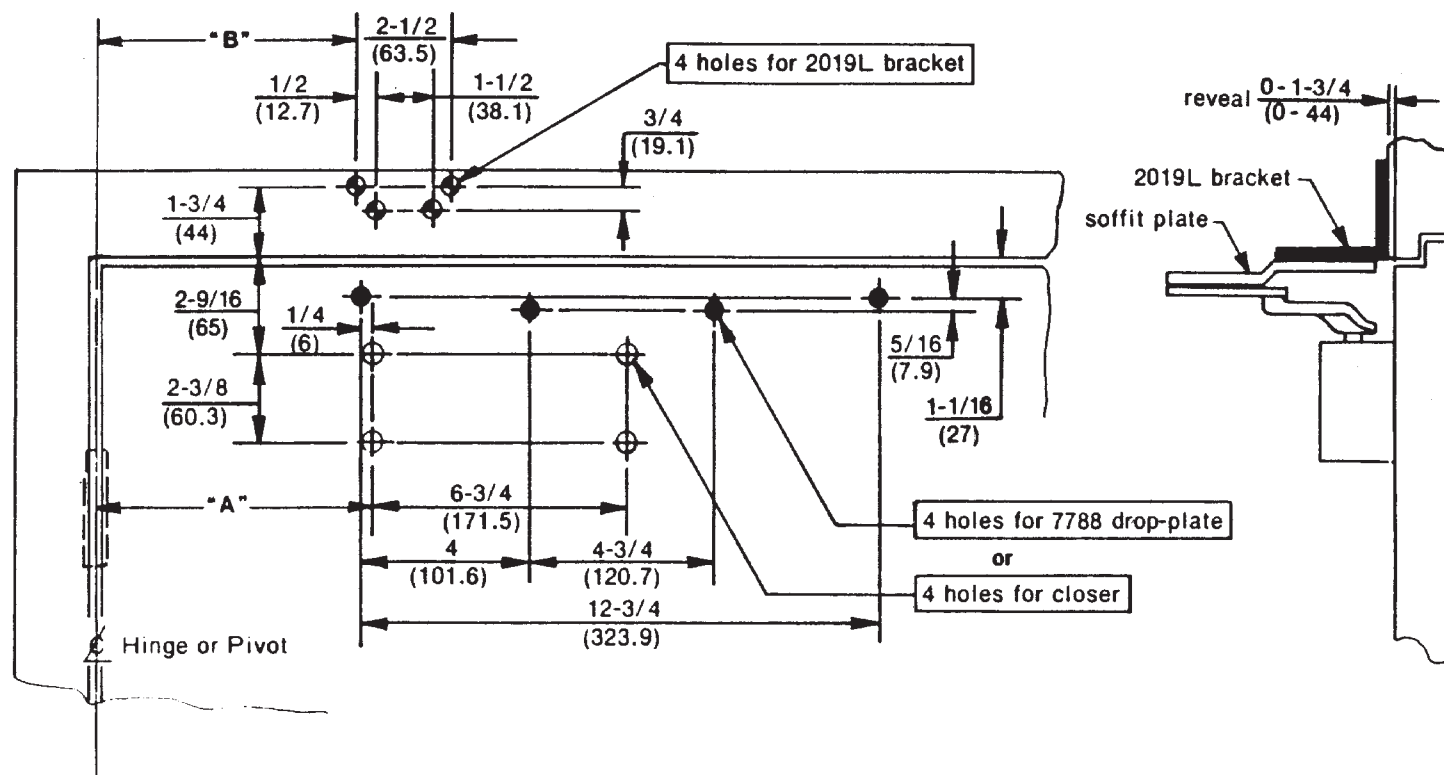
Left hand door shown

Dimensions are in inches  
(mm.)

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



#### Preparation for Fasteners

Fasteners	To Apply	Door or Frame	Drill Sizes
Sex-nuts and bolts	Closer, drop-plate, 2019L 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
#14 x 1 1/4" (32mm.) type "A" S.M. screws	Special Application Optional	Wood	3/16" (4.30mm.)
		Aluminum	7/32" (5.50mm.)
		Metal	drill: #7 (.201" dia.) 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.

Opening	Dim. "A"		Dim. "B"	
	inches	mm	inches	mm
To 100°	8-3/4	222	9-3/8	238
101° to 130°	7-1/4	184	7-7/8	200
131° to 150°	6-1/4	159	6-7/8	175
151° to 180°	5-1/4	133	5-7/8	149

**PR7500, PR7500H, PR7700 or PR7700H Series Door Closers  
With 2019L Bracket  
With or Without 7788 Drop Plate  
Parallel Rigid Installation With Non Hold Open or Hold Open**

**Norton**

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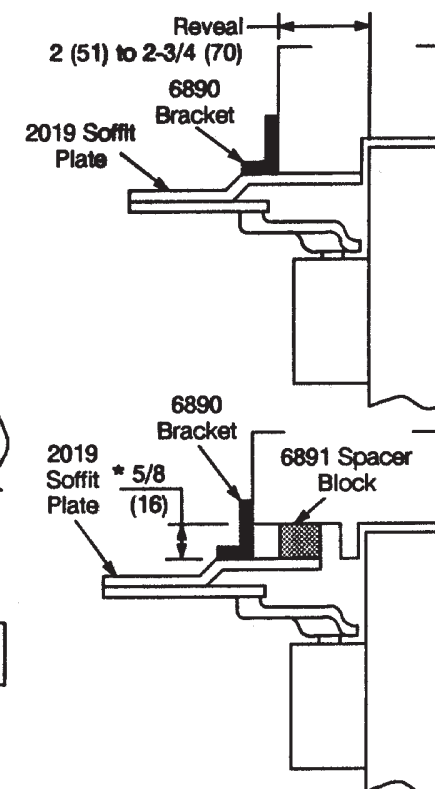
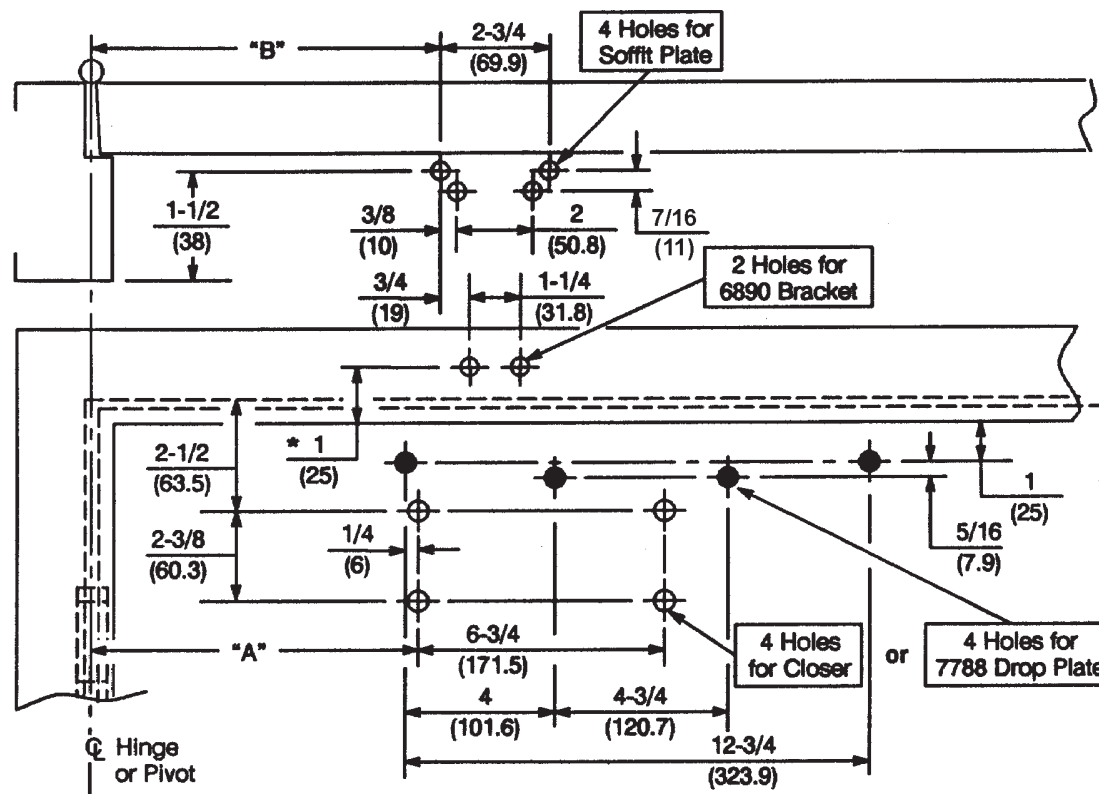
TEMPLATE NUMBER

**7377-0252**

DATE

**07-08**

**Caution:** Door swing may be limited by door, frame, wall or hardware conditions.



**Notes:**

1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are in inches (mm).
4. Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
5. Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm) unless otherwise noted.

\* This dimension must be located from the same surface that the 2019 soffit plate is mounted to.

Door Opening	Dim. "A"	Dim. "B"
To 100°	8-3/4 (222)	9-1/4 (235)
101° to 130°	7-1/4 (184)	7-3/4 (197)
131° to 150°	6-1/4 (159)	6-3/4 (171)
151° to 180°	5-1/4 (133)	5-3/4 (146)

**Preparation for Fasteners**

Fasteners	To Apply	Door or Frame	Drill Sizes
#14 x 1-1/4 (32mm) type "A" Sheet Metal screw	Soffit Plate	Wood	7/32" (5.50mm)
		Aluminum	7/32" (5.50mm)
1/4-20 machine screw		Metal	drill: #7 (.201" dia.) tap: 1/4-20
Sex nuts and bolts	Closer or Drop Plate	Hollow Metal	9/32" (7.00mm) thru; 3/8" (9.50mm) door face opposite to closer
		Aluminum or Wood	3/8" (9.50mm) thru
Thru bolts and grommet nuts	Optional	All	9/32" (7.00mm) thru; 3/8" (9.50mm) dia. x 3/8" (10mm) deep, door face opposite to closer

**PR7500, PR7500H, PR7700 or PR7700H Series Door Closers  
With 6890 Bracket  
With or Without 7788 Drop Plate  
Parallel Rigid Installation With Non Hold Open or Hold Open**

**Norton**

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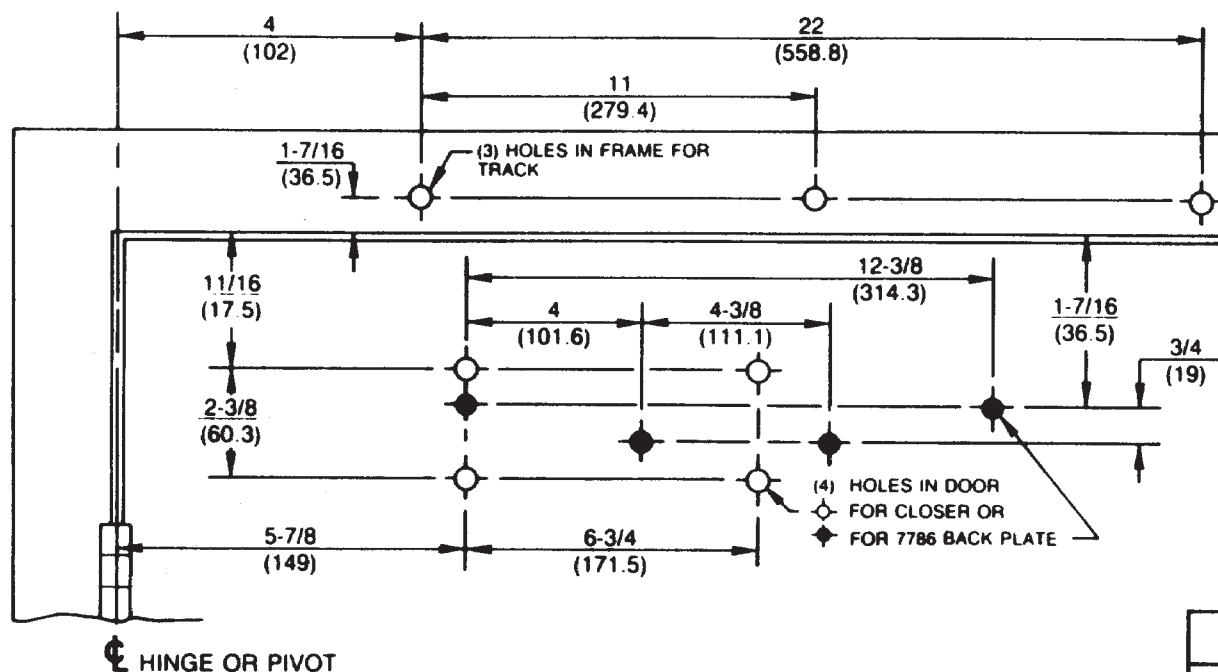
TEMPLATE NUMBER

**7377-0253**

DATE

**07-08**

**IMPORTANT: From centerline of pivot point  
to end of track is 26½" (673mm)**



- Right hand door shown.
- Do not scale drawing.
- Dimensions are given in inches (mm.)
- Closer mounted with sex nuts requires that door silencers or 7786 back plate be used.
- Minimum ceiling clearance for unit is 2" (50mm.).
- Maximum door opening
  - Non Hold Open with Spring Buffer - 110°
  - Non Hold Open without Spring Buffer - 180°
  - Hold Open - 110°

**Preparation for Fasteners**

Fasteners	Door or Frame	Drill-Sizes
#14 type "A" S.M. screw	Wood	3/16" (4.30mm.)
¼"-20 machine-screw	Metal	drill: #7 (.201") tap: ¼"-20
Sex-nuts and bolts (Optional)	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
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

**7700ST/7500ST Series Non Hold Open Door Closer**  
**7700ST-H/7500ST-H Series Hold Open Door Closer**  
**Hinge Side Slide Track Application**  
**With or Without 7786 Backplate**

**Norton**

ASSA ABLOY

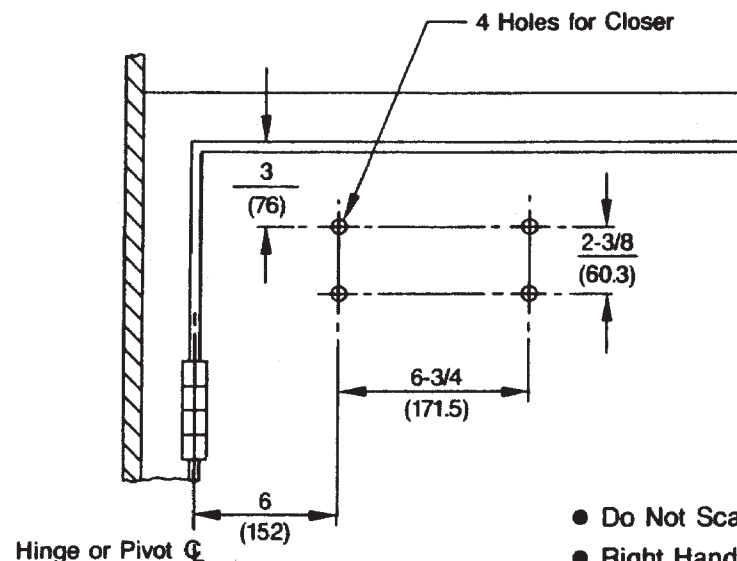
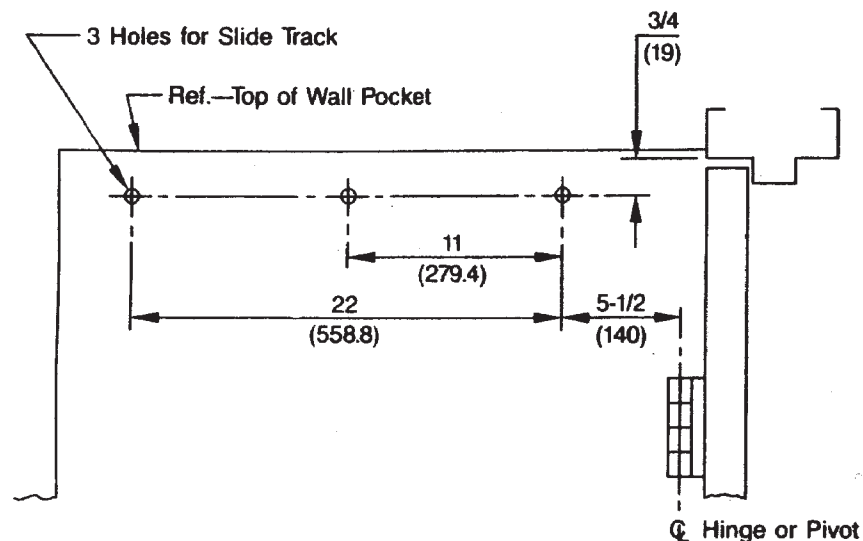
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TEMPLATE NUMBER

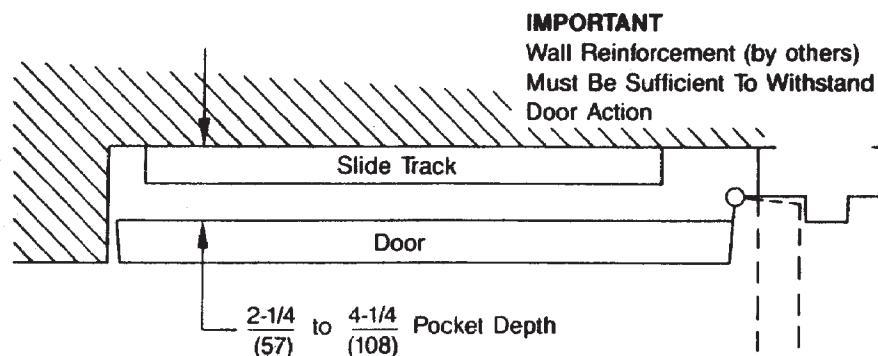
**7377-0501**

DATE

**07-08**



- Do Not Scale Drawing
- Right Hand Door Shown
- Dimensions Are Given In Inches (Millimeters)



Closer Sizing Chart	
Door Width	Closer
Up to 42" (1.07m)	7706STP
43" to 48" (1.09m to 1.22m)	7706EP-STP

PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm. drill-1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

**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)**

**Norton**

ASSA ABLOY

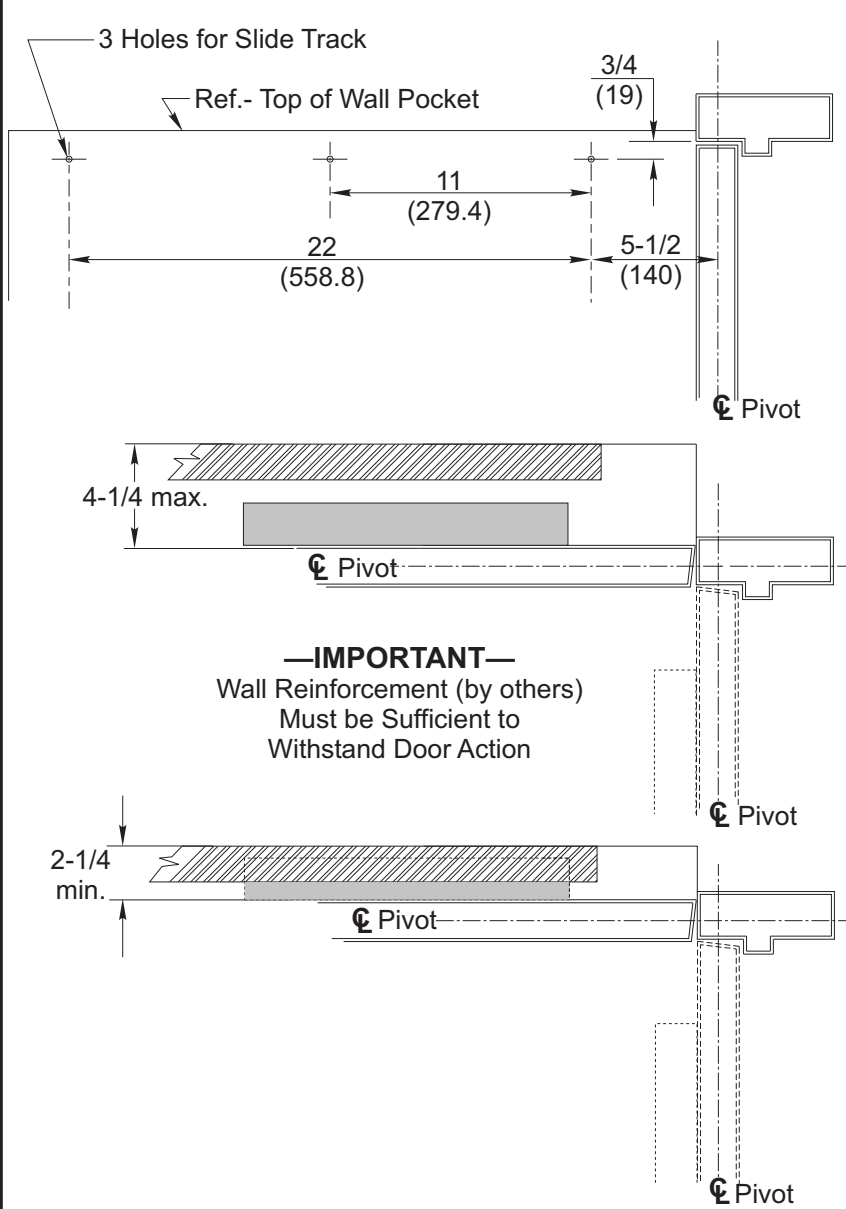
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TEMPLATE NUMBER

**7377-0505**

DATE

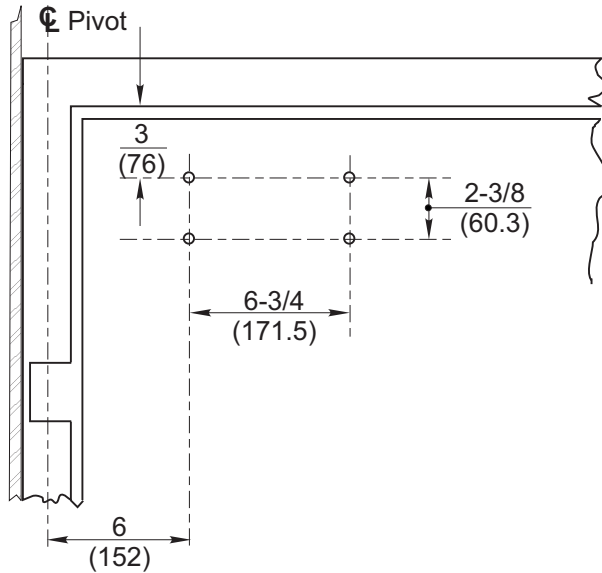
**07-08**



- Do Not Scale Drawing
- Right Hand Door Shown
- Dimension are given in:  

Inches  
Millimeters

Closer Sizing Chart	
Door Width	Closer
Up to 42" (1.07m)	7706STP
43" to 48" (1.09m to 1.22m)	7706EP-STP



PREPARATION FOR FASTENERS		
TYPE OF FASTENER	DOOR OR FRAME	PREPARATION
#14 Type "A" Sheet Metal Screw	Wood	7/32" (5.5mm)
1/4-20 Machine Screw	Hollow Metal	#7(.201 dia.) or 5.10mm drill 1/4-20 tap
SNB (Sex Nut & Bolt) (Optional)	Hollow Metal	9/32" (7.00mm) thru... 3/8" (9.50mm) door face Opposite to closer
	Aluminum or Wood	3/8" (9.50mm) thru...
TBGN (Thru Bolt & Grommet Nut) (Optional)	All	9/32" (7.00mm) thru... 3/8" (9.50mm) diameter 3/8" (10mm) deep, door Face opposite to closer

7706STP or 7706EP-STP Series Closers with Pocket Pivots  
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)

Norton

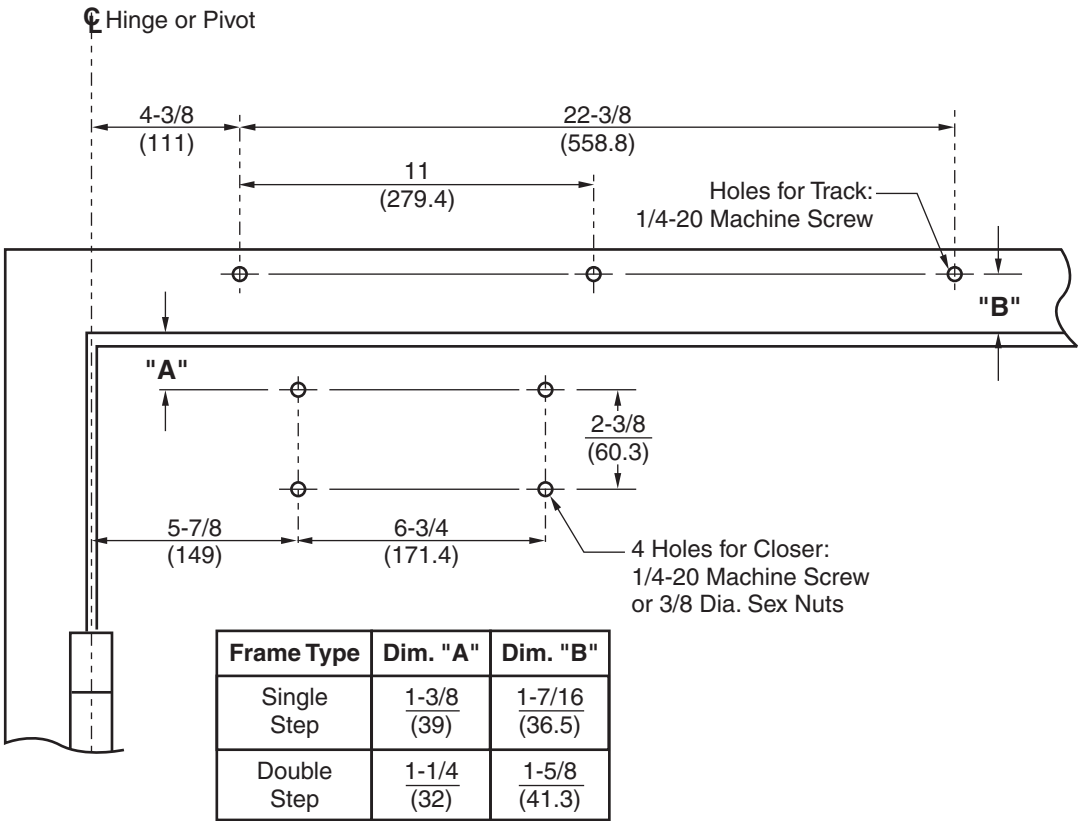
ASSA ABLOY

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TEMPLATE NUMBER  
7377-0506

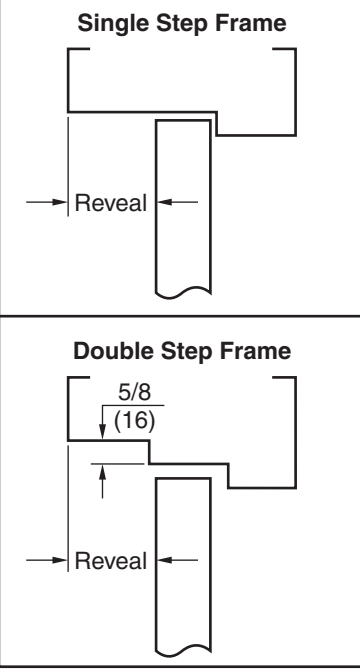
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07-08





Frame Type	Dim. "A"	Dim. "B"
Single Step	1-3/8 (39)	1-7/16 (36.5)
Double Step	1-1/4 (32)	1-5/8 (41.3)

Preparation for Fasteners		
Fasteners	Opening	Fastener Preparation
8-32 Machine Screw	Metal Frame	#29 Drill, .136" (3.50mm) Dia. Tap #8-32 UNC
1/4-20 Machine Screw	Metal Door or Frame	#7 Drill, .201" (5.10mm) Dia. Tap 1/4-20 UNC
3/8 Dia. Sex Nut	Wood or Composite Door	3/8 Drill, .375" (9.50mm) Dia. Thru



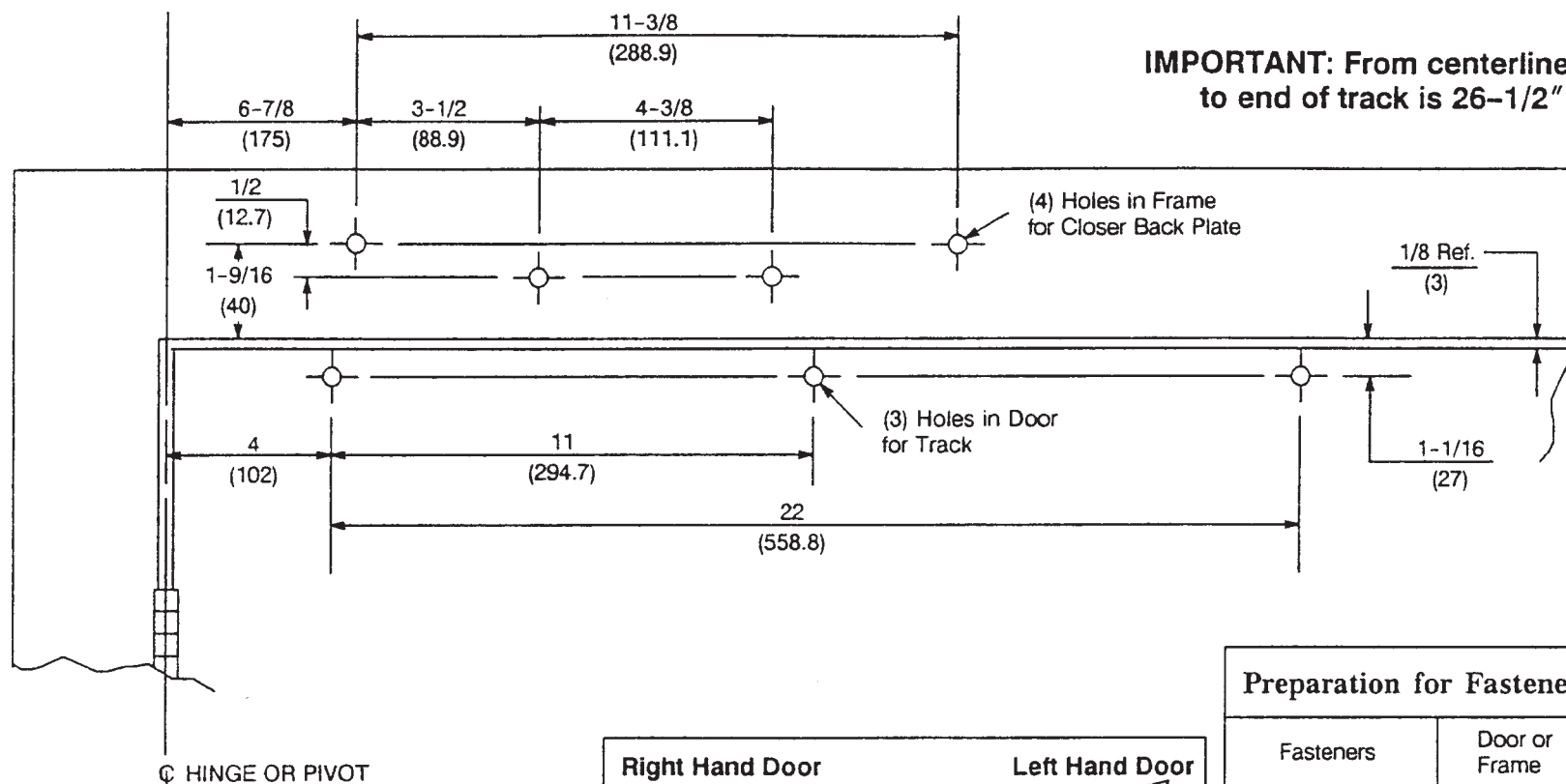
- NOTES**
1. Do not scale drawing.
  2. Right hand door shown.
  3. Dimensions are in inches (mm).
  4. **Important:** From centerline of pivot to end of track 26-7/8" (683mm).
  5. Charted dimensions measured from door rabbet.
  6. Minimum ceiling clearance for unit is 2-1/8" (54mm).
  7. Maximum door opening is 105°.
  8. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  9. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046 (2.66mm) unless otherwise noted.

7700ST-DE/7500ST-DE Series Non-Hold Open Door Closers  
7700STH-DE/7500STH-DE Series Hold Open Door Closers  
Hinge Side Slide Track Application For Double Egress Frame  
Hinge Side Frame Reveals 1/8" to 3" (3 to 76mm)

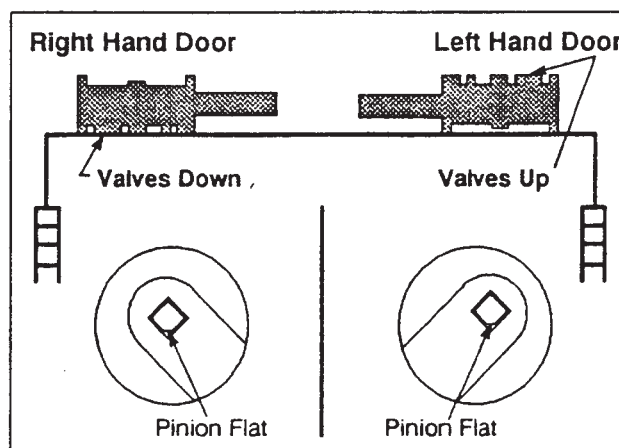
  
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TEMPLATE NUMBER  
**7377-0511**

DATE  
**07-08**



- Right hand door shown.
- Do not scale drawing.
- Dimensions are given in  $\frac{\text{inches}}{\text{(mm.)}}$
- Minimum ceiling clearance for unit is 4-5/8 (118mm).
- Maximum door opening
  - Non Hold Open with Spring Buffer -110°
  - Non Hold Open without Spring Buffer -180°
  - Hold Open -110°



### Preparation for Fasteners

Fasteners	Door or Frame	Drill-Sizes
#14 type "A" S.M. screw	Wood	7/32" (5.5mm)
1/4"-20 machine-screw	Metal	drill: #7 (.201") tap: 1/4"-20
Sex-nuts and bolts (Optional)	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
Through-bolt 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

**J7700ST/J7500ST Series Non Hold Open Door Closer**  
**J7700ST-H/J7500ST-H Series Hold Open Door Closer**  
**Hinge Side Top Jamb Slide Track Application**  
**With Backplate No. 7786JP**

**Norton**

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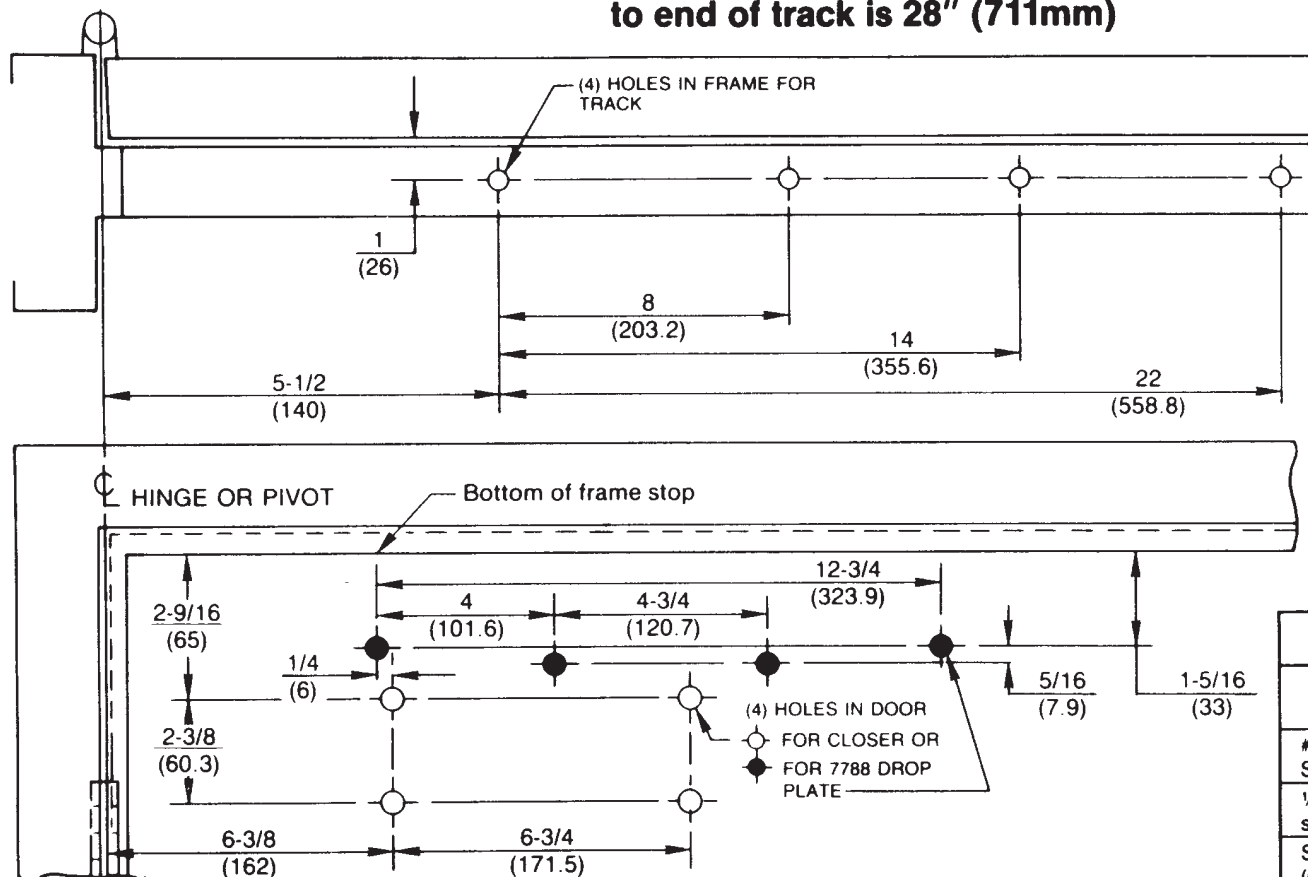
TEMPLATE NUMBER

**7377-0515**

DATE

**07-08**

## IMPORTANT: From centerline of pivot point to end of track is 28" (711mm)



- Left hand door shown.
- Do not scale drawing.
- Dimensions are given in inches .  
(mm.)
- Maximum door opening:
  - Non Hold Open with buffer assembly in track - 100°
  - Non Hold Open without buffer assembly in track - 125°. Auxilliary stop required.
  - Hold Open - 100°

### Preparation for Fasteners

Fasteners	Door or Frame	Drill-Sizes
#14 type "A" S.M. screw	Wood	7/32" (5.5mm)
1/4"-20 machine-screw	Metal	drill: #7 (.201") tap: 1/4"-20
Sex-nuts and bolts (Optional)	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
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

**PS7700ST/PS7500ST Series Non Hold Open Door Closer**  
**PS7700ST-H/PS7500ST-H Series Hold Open Door Closer**  
**Push Side Slide Track Application**  
**With or Without 7788 Drop Plate**

**Norton**

ASSA ABLOY

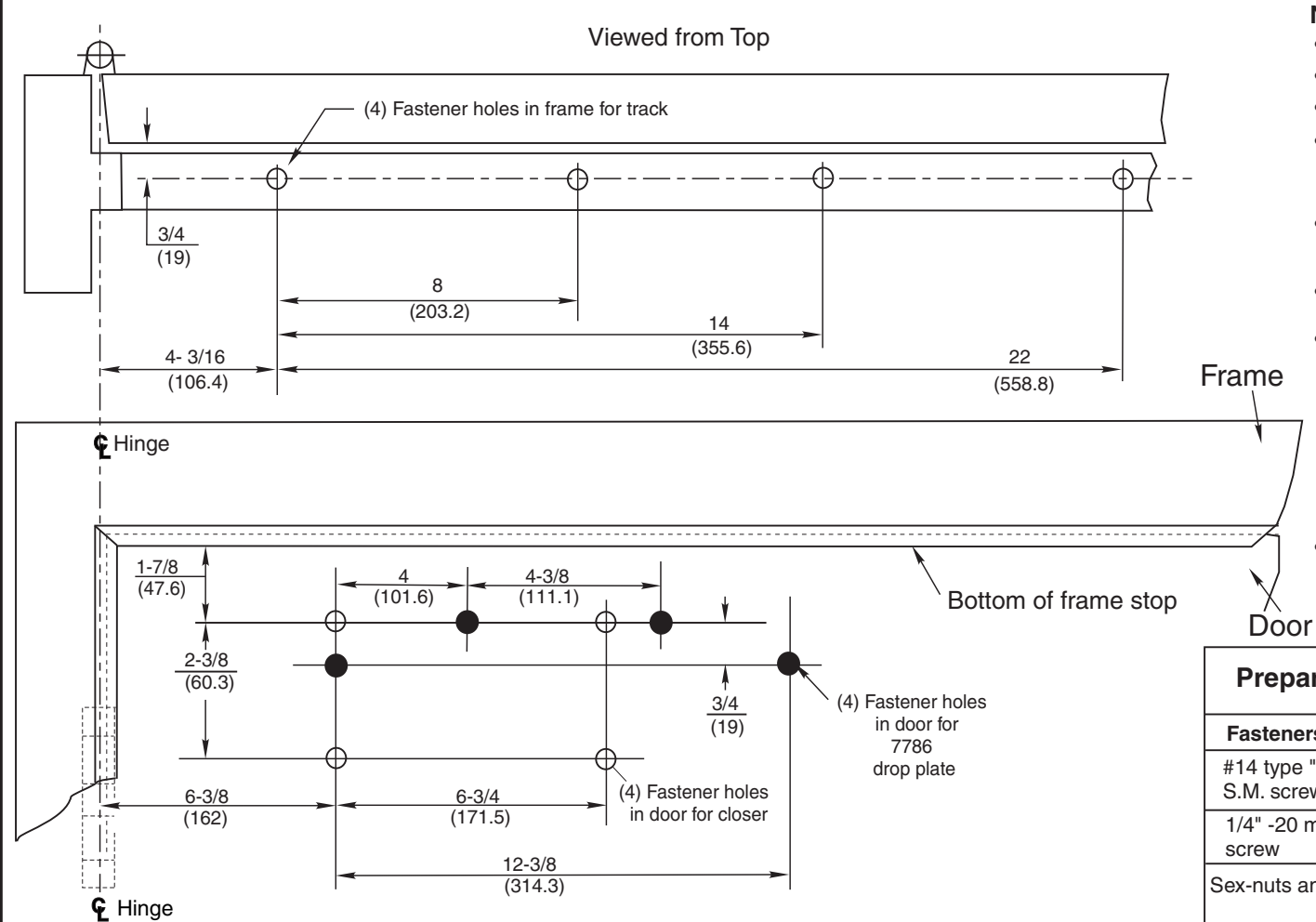
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TEMPLATE NUMBER



**7377-0520**

DATE

**07-08**



- Notes:**
- Left hand door shown.
  - Do not scale drawing
  - Minimum door width 29" (736.6mm).
  - .1046 (2.7mm) minimum thickness recommended for hollow metal door and frame reinforcement.
  - From centerline of pivot point to end of track is 27-11/16" (703.3mm).
  - Dimensions are given in inches (mm)
  - Maximum door opening:  
**Non-Hold Open & Hold Open**  
105° recommended with cushion stop in track.  
**Non-Hold Open**  
120° maximum without cushion stop.  
Use of auxiliary door stop is required when cushion stop is not used.
  - Use of an auxiliary door stop is recommended where severe or abusive conditions are expected.

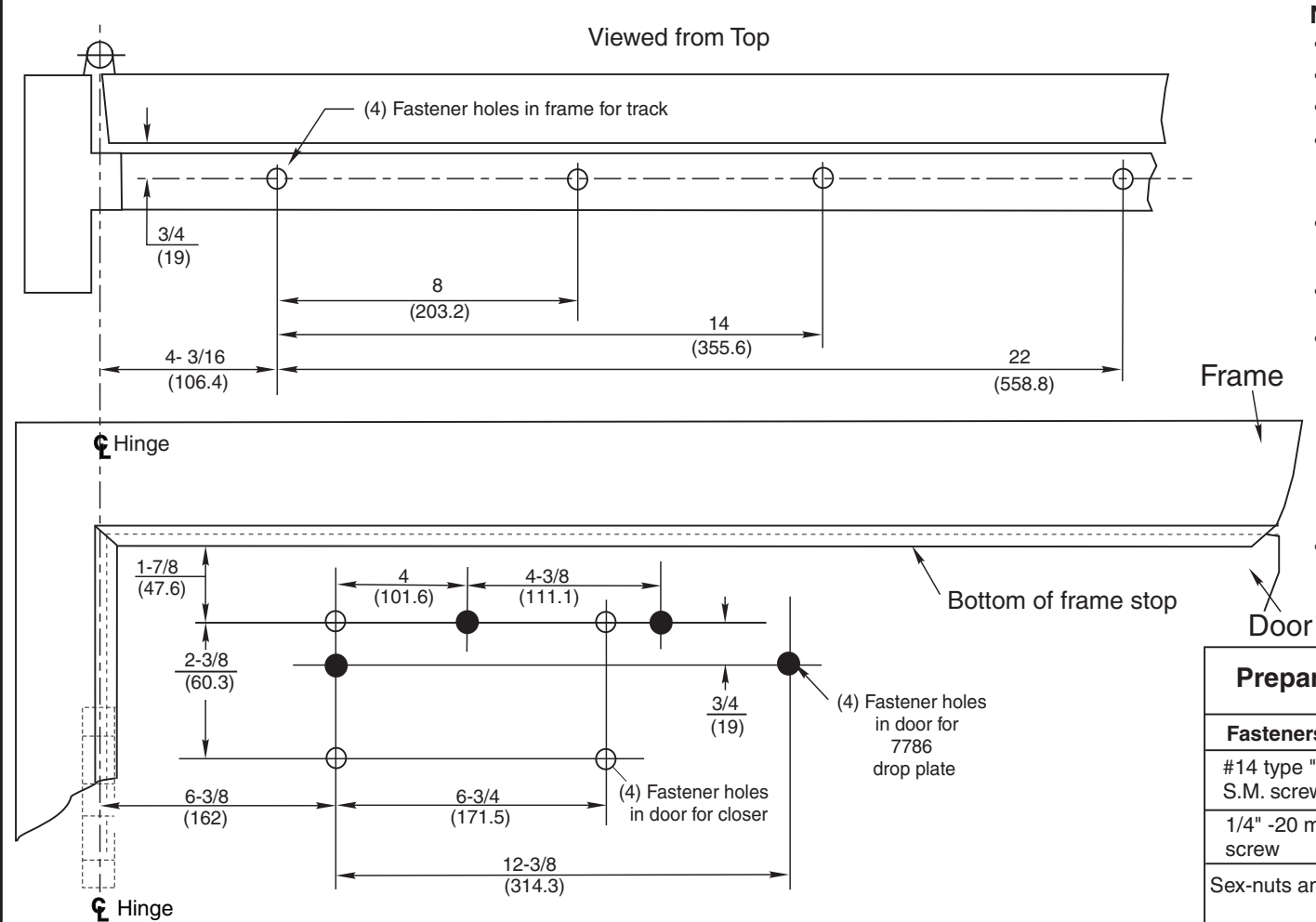
Preparation for Fasteners			 
Fasteners	Door or Frame	Drill Sizes	
#14 type "A" S.M. screw	Wood	7/32"(5.56mm)	
1/4" -20 machine screw	Metal	drill: #7 (.201") tap: 1/4" -20	
Sex-nuts and bolts	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door-face opposite to closer	
	Aluminum or Wood	3/8" (9.50mm) through	
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	

**PS7540ST and PS7740ST Non Hold Open-Stop Mounted Installation**  
**PS7540STH and PS7740STH Hold Open-Stop Mounted Installation**  
**Door Closer with Slide Track**  
**With or Without 7786 Drop Plate**  
For Use on Doors with 4½" or 5" Wide Butt Hinges

  
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TEMPLATE NUMBER  
**7377-0561**

DATE  
**07-08**



- Notes:**
- Left hand door shown.
  - Do not scale drawing
  - Minimum door width 29" (736.6mm).
  - .1046 (2.7mm) minimum thickness recommended for hollow metal door and frame reinforcement.
  - From centerline of pivot point to end of track is 27-11/16" (703.3mm).
  - Dimensions are given in inches (mm)
  - Maximum door opening:  
**Non-Hold Open & Hold Open**  
105° recommended with cushion stop in track.  
**Non-Hold Open**  
120° maximum without cushion stop.  
Use of auxiliary door stop is required when cushion stop is not used.
  - Use of an auxiliary door stop is recommended where severe or abusive conditions are expected.

Preparation for Fasteners		
Fasteners	Door or Frame	Drill Sizes
#14 type "A" S.M. screw	Wood	7/32"(5.56mm)
1/4" -20 machine screw	Metal	drill: #7 (.201") tap: 1/4" -20
Sex-nuts and bolts	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm) through
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

**PS7540ST and PS7740ST Non Hold Open-Stop Mounted Installation**  
**PS7540STH and PS7740STH Hold Open-Stop Mounted Installation**  
**Door Closer with Slide Track**  
**With or Without 7786 Drop Plate**  
For Use on Doors with 4½" or 5" Wide Butt Hinges

Norton

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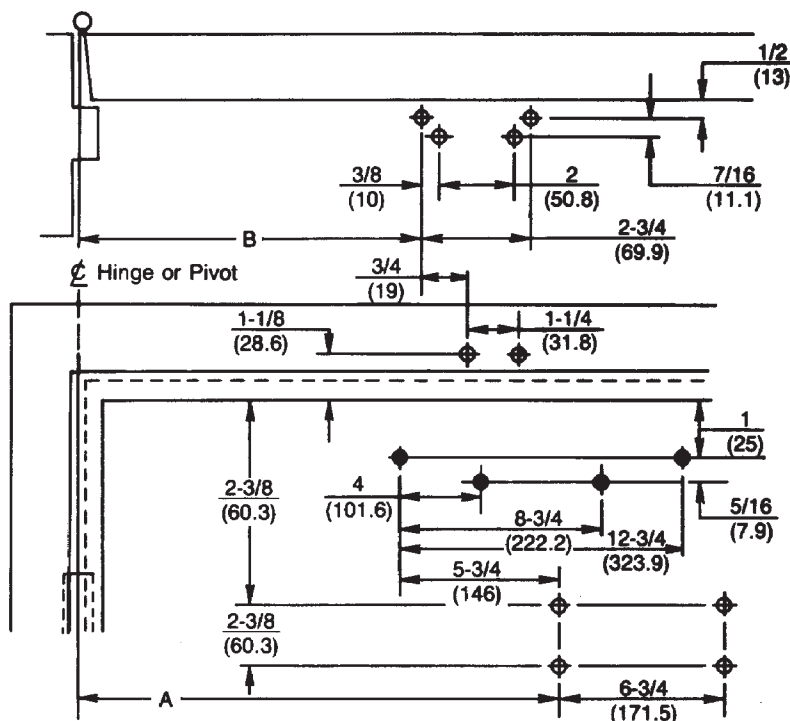
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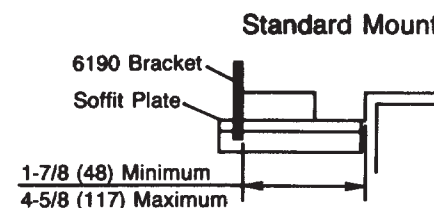
7377-0561

DATE

07-08



◆ 7788 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"dia.) 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°	10 1/4	260	10 1/2	267	11 1/4	286	11 1/2	292
90°	95°	9 5/8	244	9 7/8	251	10 1/2	267	10 3/4	273
95°	100°	9 1/8	232	9 3/8	238	10	254	10 1/4	260
100°	105°	8 3/4	222	9	229	9 1/2	241	9 3/4	248
105°	110°	8 5/8	213	8 3/4	219	9 1/8	232	9 5/8	238
110°	115°	8	203	8 1/4	210	8 3/4	222	9	229

\* "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 UNI-7500 & UNI-7700**  
**Parallel Arm Installation Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**  
**Doors 28" - 32" (0.70-0.80m) Wide**

**Norton**

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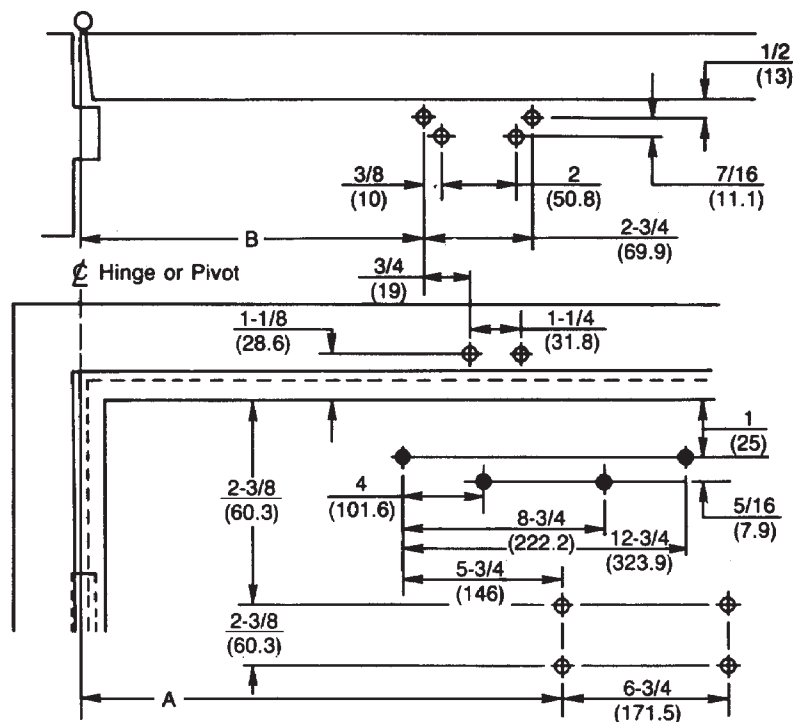
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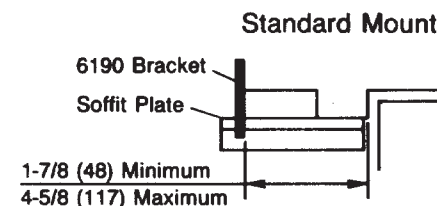
**7377-1351**

DATE

**07-08**



◆ 7788 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" dia.) 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°	12¾	324	12⅞	327	13¾	349	13⅞	352
90°	95°	12	305	12⅞	308	12⅞	327	13	330
95°	100°	11½	292	11⅝	295	12¼	311	12⅝	314
100°	105°	10⅞	276	11	279	11⅝	295	11¾	298
105°	110°	10½	267	10⅝	270	11⅞	283	11¼	286
110°	115°	10	254	10⅞	257	10¾	273	10⅞	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 UNI-7500 & UNI-7700**  
**Parallel Arm Installation Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate or 6190 Bracket**  
**Doors 33" - 41" (0.85-1.00m) Wide**

**Norton**

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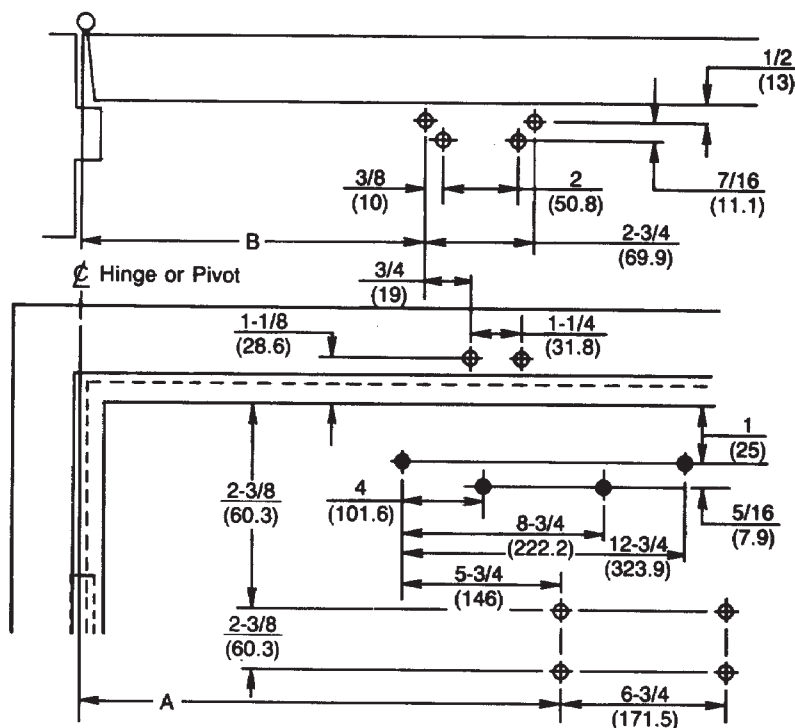
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**7377-1352**

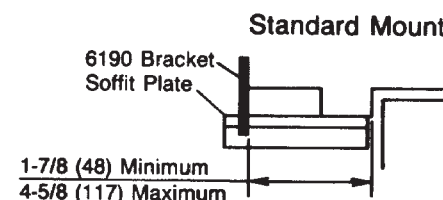
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**07-08**





◆ 7788 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"dia.) 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 7/8	378	15 1/8	384	15 7/8	403	16 1/8	410
90°	95°	14	356	14 1/4	362	15	381	15 1/4	387
95°	100°	13 3/8	340	13 5/8	346	14 1/4	362	14 1/2	368
100°	105°	12 3/4	324	13	330	13 5/8	346	13 7/8	352
105°	110°	12 1/4	311	12 1/2	318	13	330	13 1/4	337
110°	115°	11 7/8	302	12 1/8	308	12 1/2	318	12 3/4	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 UNI-7500 & UNI-7700**  
**Parallel Arm Installation Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate or 6190 Bracket**  
**Doors 42" - 48" (1.05-1.20m) Wide**

**Norton**

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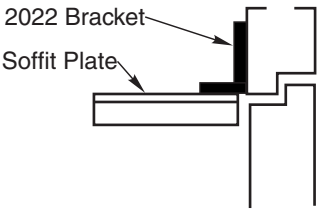
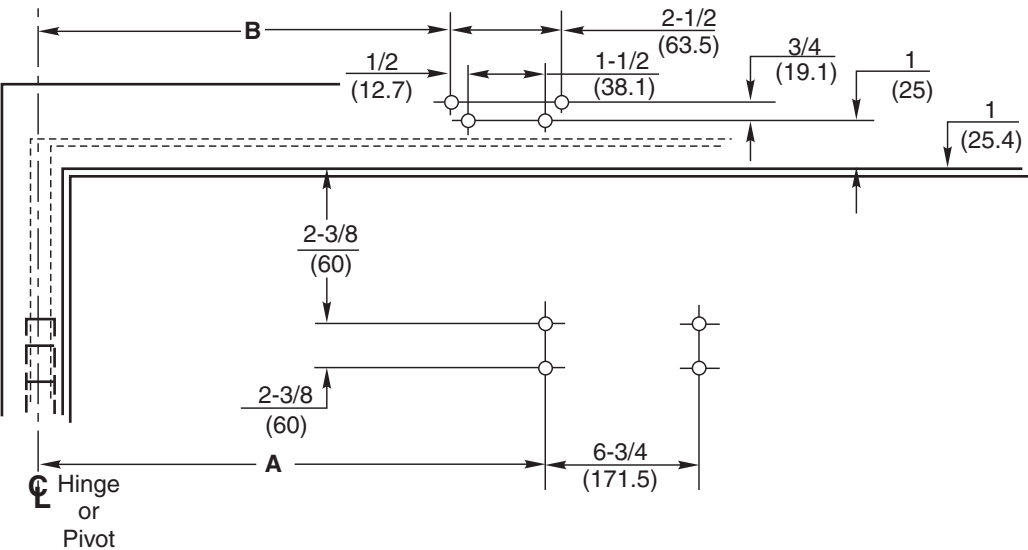
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TEMPLATE NUMBER

**7377-1353**

DATE

**07-08**



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.
- Series UNI-7500H, UNI-7500BF-H, UNI-7700H door closers are furnished with a hold open arm function and are not permitted to be used on fire door assemblies.

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
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°	10-1/4	260	10-5/8	270	11-1/4	286	11-5/8	295
90°	95°	9-5/8	244	10	254	10-1/2	267	10-7/8	276
95°	100°	9-1/8	232	9-1/2	241	10	254	10-3/8	264
100°	105°	8-3/4	222	9-1/8	232	9-1/2	241	9-7/8	251
105°	110°	8-3/8	213	8-3/4	222	9-1/8	232	9-1/2	241
110°	115°	8	203	8-3/8	213	8-3/4	222	9-1/8	232

★ "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 UNI-7500, UNI-7700 or  
Series UNI-7500H, UNI-7700H  
Doors 28"-32" (0.70-0.80m) Wide

Parallel Arm Installation Template —  
Flush Partitions  
Stop Only or Stop and Hold Open  
Unitrol® Door Closer

Norton

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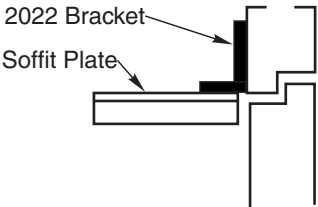
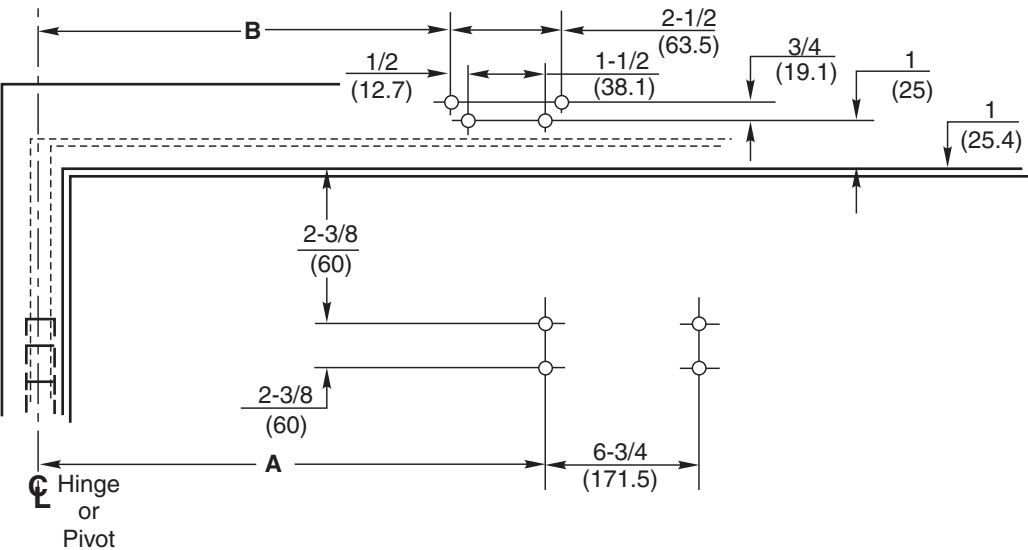
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TEMPLATE NUMBER

7377-1354

DATE

07-08



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.
- Series UNI-7500H, UNI-7500BF-H, UNI-7700H door closers are furnished with a hold open arm function and are not permitted to be used on fire door assemblies.

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
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°	12-3/4	324	13	330	13-3/4	349	14	356
90°	95°	12	305	12-1/4	311	12-7/8	327	13-1/8	333
95°	100°	11-1/2	292	11-3/4	298	12-1/4	311	12-1/2	318
100°	105°	10-7/8	276	11-1/8	283	11-5/8	295	11-7/8	302
105°	110°	10-1/2	267	10-3/4	273	11-1/8	283	11-3/8	289
110°	115°	10	254	10-1/4	260	10-3/4	273	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 UNI-7500, UNI-7700 or  
Series UNI-7500H, UNI-7700H  
Doors 33"-41" (0.85-1.00m) Wide

Parallel Arm Installation Template —  
Flush Partitions  
Stop Only or Stop and Hold Open  
Unitrol® Door Closer

Norton

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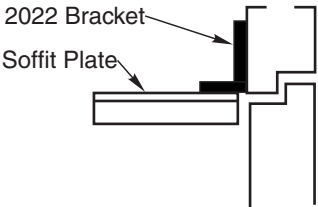
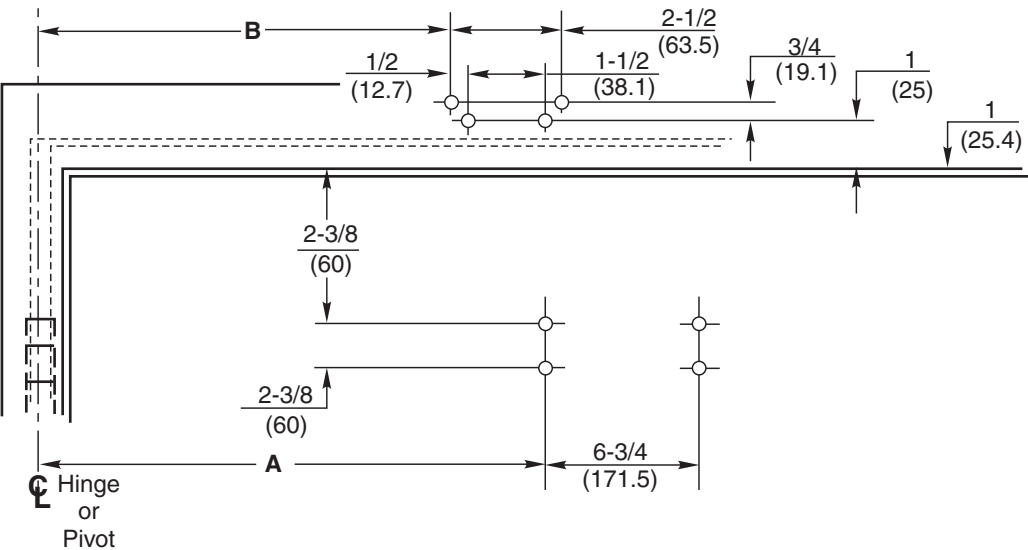
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TEMPLATE NUMBER

7377-1355

DATE

07-08



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.
- Series UNI-7500H, UNI-7500BF-H, UNI-7700H door closers are furnished with a hold open arm function and are not permitted to be used on fire door assemblies.

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
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°	14-7/8	378	15-1/4	387	15-7/8	403	16-1/4	413
90°	95°	14	356	14-3/8	365	15	381	15-3/8	391
95°	100°	13-3/8	340	13-3/4	349	14-1/4	362	14-5/8	371
100°	105°	12-3/4	324	13-1/8	333	13-5/8	346	14	356
105°	110°	12-1/4	311	12-5/8	321	13	330	13-3/8	340
110°	115°	11-7/8	302	12-1/4	311	12-1/2	318	12-7/8	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 UNI-7500, UNI-7700 or  
Series UNI-7500H, UNI-7700H  
Doors 42"-48" (1.05-1.20m) Wide

Parallel Arm Installation Template —  
Flush Partitions  
Stop Only or Stop and Hold Open  
Unitrol® Door Closer

Norton

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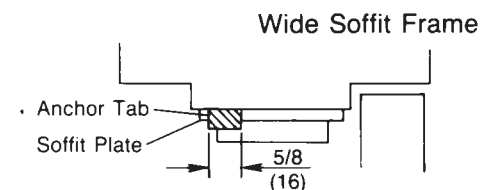
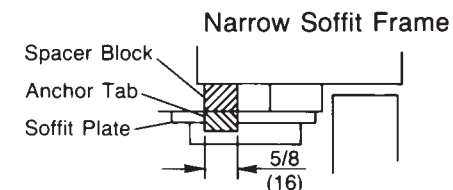
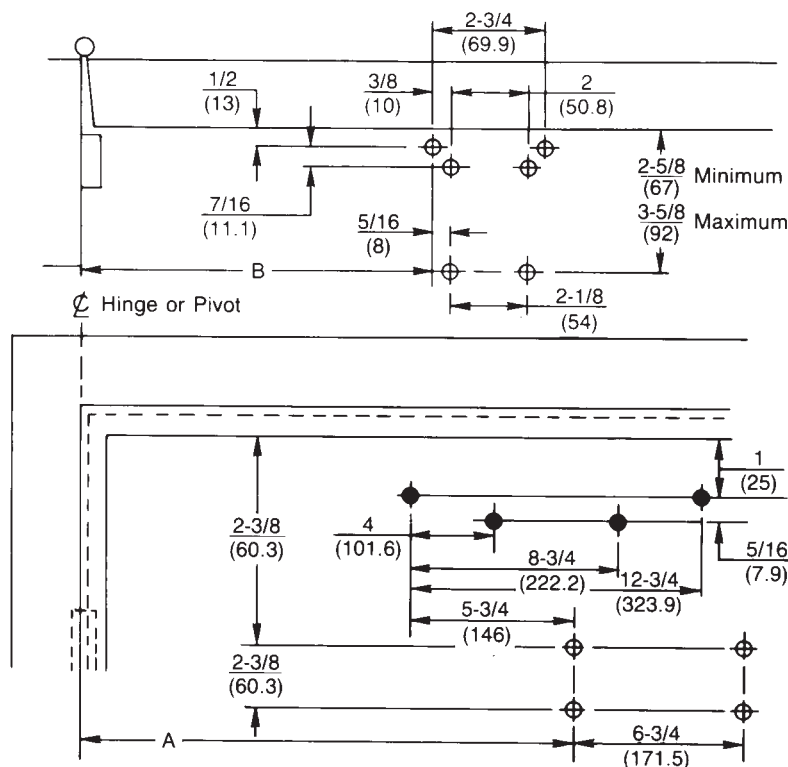
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TEMPLATE NUMBER

7377-1356

DATE

07-08



#### 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" dia.) 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°	10 1/4	260	10 1/2	267	11 1/4	286	11 1/2	292
90°	95°	9 5/8	244	9 7/8	251	10 1/2	267	10 3/4	273
95°	100°	9 1/8	232	9 3/8	238	10	254	10 1/4	260
100°	105°	8 3/4	222	9	229	9 1/2	241	9 3/4	248
105°	110°	8 3/8	213	8 5/8	219	9 1/8	232	9 3/8	238
110°	115°	8	203	8 1/4	210	8 3/4	222	9	229

\* "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 6191 Reinforcing Kit**  
**Series UNI-7500 & UNI-7700**  
**Doors 28"-32" (0.70-0.80m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**

**Norton**

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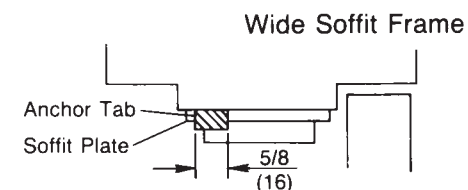
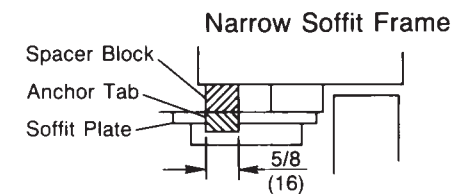
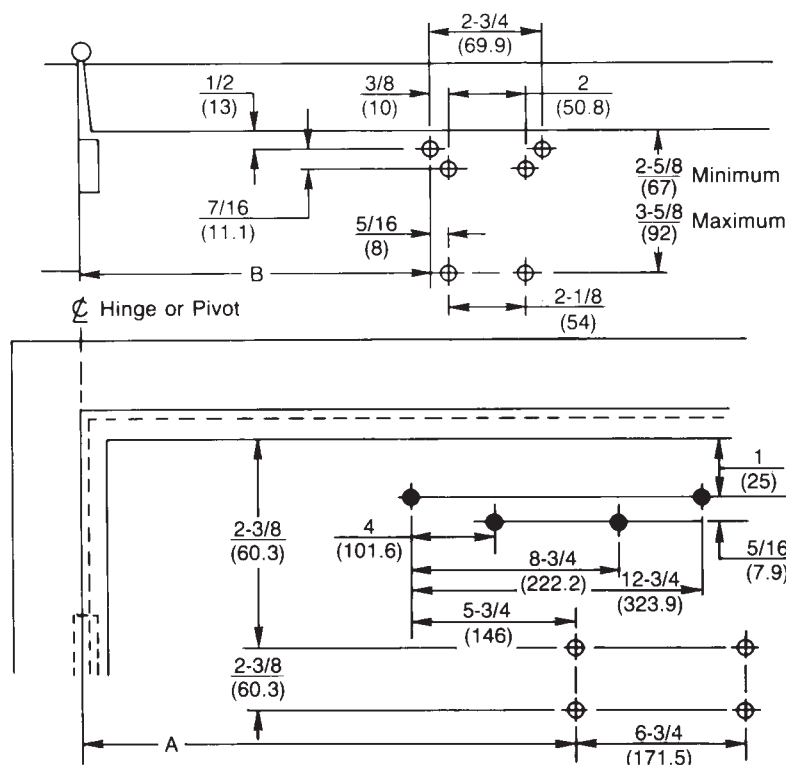
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TEMPLATE NUMBER

**7377-1357**

DATE

**07-08**



#### 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" dia.) 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°	12¾	324	12⅞	327	13¾	349	13⅞	352
90°	95°	12	305	12⅞	308	12⅞	327	13	330
95°	100°	11½	292	11⅞	295	12¼	311	12⅞	314
100°	105°	10⅞	276	11	279	11⅞	295	11¾	298
105°	110°	10½	267	10⅞	270	11⅞	283	11¼	286
110°	115°	10	254	10⅞	257	10¾	273	10⅞	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® with 6191 Reinforcing Kit  
 Series UNI-7500 & UNI-7700  
 Doors 33"-41" (0.85-1.00m) Wide**

**Parallel Arm Installation Template  
 Stop Only or Hold Open Unitrol®  
 Backcheck or Delayed Action Door Closer  
 With or Without 7788 Drop Plate**

**Norton**

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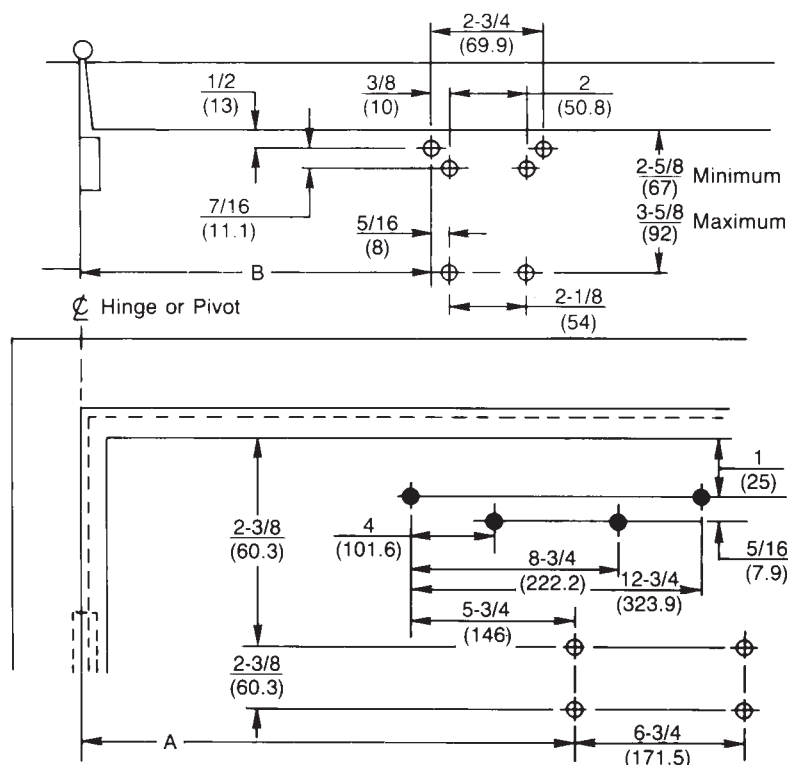
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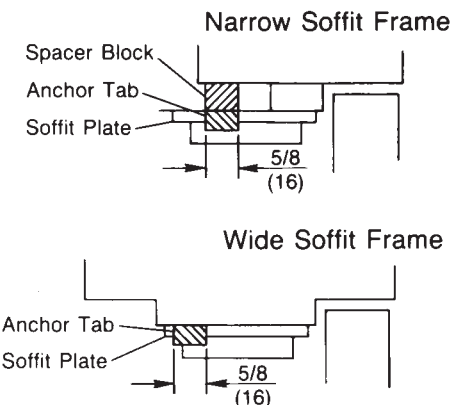
**7377-1358**

DATE

**07-08**



◆ 7788 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" dia.) 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 7/8	378	15 1/8	384	15 7/8	403	16 1/8	410
90°	95°	14	356	14 1/4	362	15	381	15 1/4	387
95°	100°	13 3/8	340	13 5/8	346	14 1/4	362	14 1/2	368
100°	105°	12 3/4	324	13	330	13 5/8	346	13 7/8	352
105°	110°	12 1/4	311	12 1/2	318	13	330	13 1/4	337
110°	115°	11 7/8	302	12 1/8	308	12 1/2	318	12 3/4	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® with 6191 Reinforcing Kit**  
**Series UNI-7500 & UNI-7700**  
**Doors 42"-48" (1.05-1.20m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**

**Norton**

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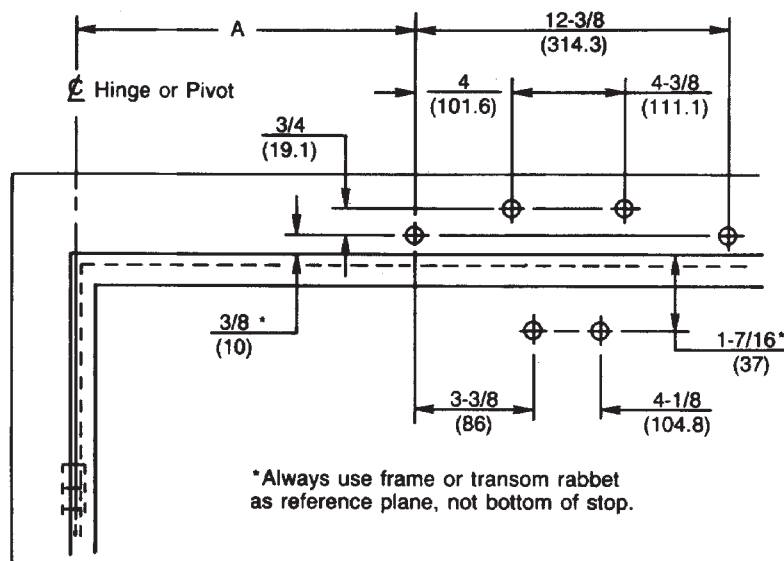
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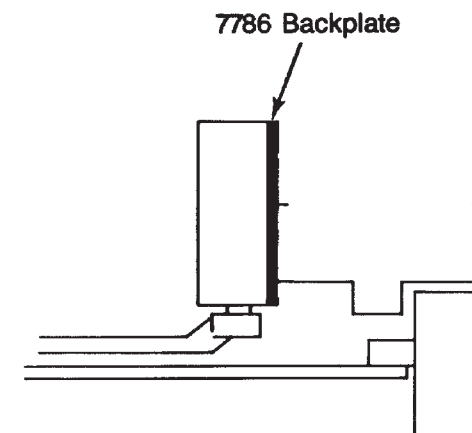
**07-08**





#### 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

Figure 6.

Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Arm-foot	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	7786 closer-backplate	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201"dia.) 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 A	
		Inches	mm.	Inches	mm.
85°	90°	9 3/4	248	10 1/4	260
90°	95°	9 1/8	232	9 5/8	244
95°	100°	8 1/2	216	9 1/8	232
100°	105°	8	203	8 5/8	219
105°	110°	7 3/4	197	8 1/8	206
110°	115°	7 3/8	187	7 7/8	200

**Unitrol® Standard Application  
Series UNI-J7500 & UNI-J7700  
(7786 Backplate)**

**Top Jamb Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer**

**Norton**

ASSA ABLOY

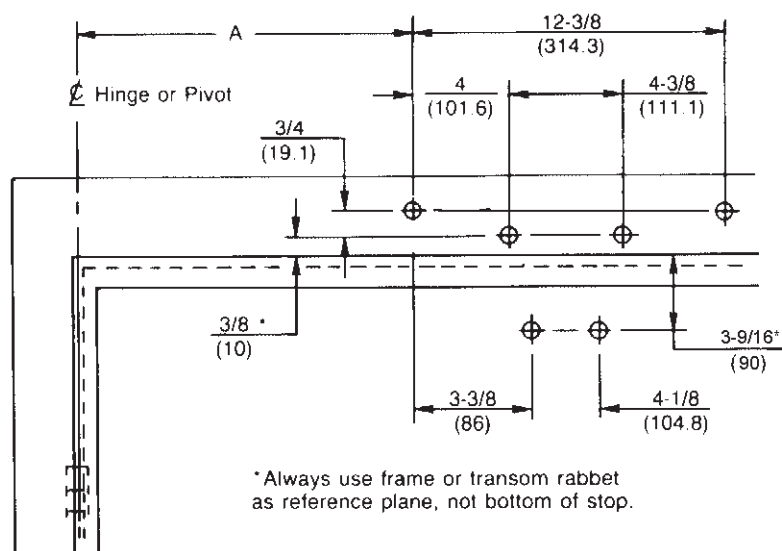
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7377-1401**

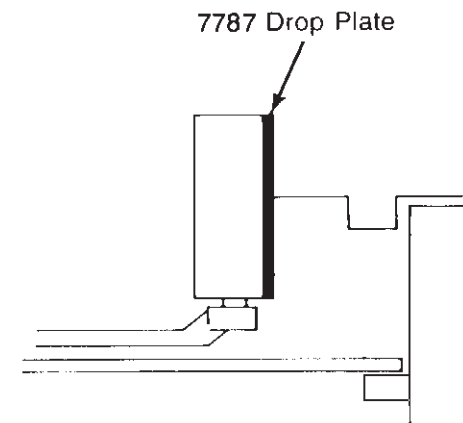
DATE

**07-08**



**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			Figure 6.
Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Arm-foot	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	Drop plate	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201" dia.) 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 A	
		Inches	mm.	Inches	mm.
85°	90°	9 3/4	248	10 1/4	260
90°	95°	9 1/8	232	9 5/8	244
95°	100°	8 1/2	216	9 1/8	232
100°	105°	8	203	8 5/8	219
105°	110°	7 3/4	197	8 1/8	206
110°	115°	7 3/8	187	7 7/8	200

**Unitrol® with 7787 Drop Plate  
Series UNI-J7500 and UNI-J7700**

**Top Jamb Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer**

**Norton**

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TEMPLATE NUMBER

**7377-1411**

DATE

**07-08**

Door Opening	Dimension "A"	
	inches	mm.
To 100°	7-5/8	194
101° to 120°	6-5/8	168
121° to 150°	4-5/8	117
151° to 180°	4-1/8	105

**SPECIAL NOTE:**

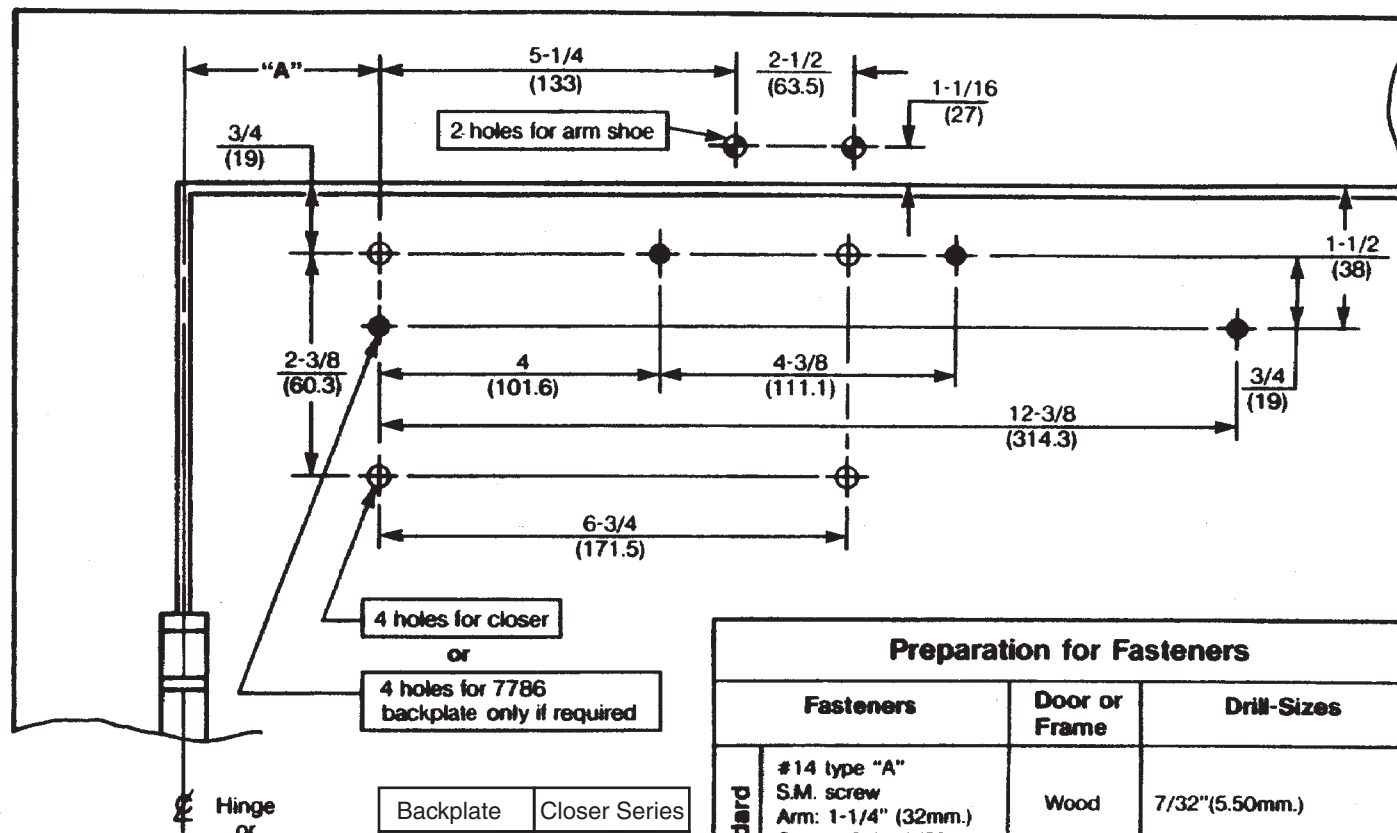
Hinge side frame reveal must not exceed 1/8 (3) or 5/16 (8) if 7786 backplate is used.

Do Not Scale Drawing  
Right Hand Door Shown  
Dimensions are in  $\frac{\text{inches}}{\text{(mm.)}}$

**Caution:** Door swing may be limited by door, frame, wall, or hardware conditions. (including closer projection).

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.) unless otherwise noted.



Backplate	Closer Series
7786	R7500 R7700

**Preparation for Fasteners**

	Fasteners	Door or Frame	Drill-Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm.) Closer: 2-3/4" (70mm.)	Wood	7/32" (5.50mm.)
	1/4"-20 machine screw	Metal	drill: #7 (.201") tap: 1/4"-20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) on door or transom-face opposite to closer
		Aluminum or Wood	3/8" (9.50mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00mm.) through; 3/8" (9.50mm.) dia. X 3/8" (10mm.) deep on door or transom-face opposite to closer

**R7500 Series Rigid Arm, 7570 Series Security Door Closer or  
R7700 Series Rigid Arm, 7770 Security Door Closer  
Regular Arm Application With or Without 7786 Back Plate  
Power Sizes 0 for R7500 & 7570; 2, 3, 4, 5 or 6 for R7700 & 7770**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER

**7377-0601**

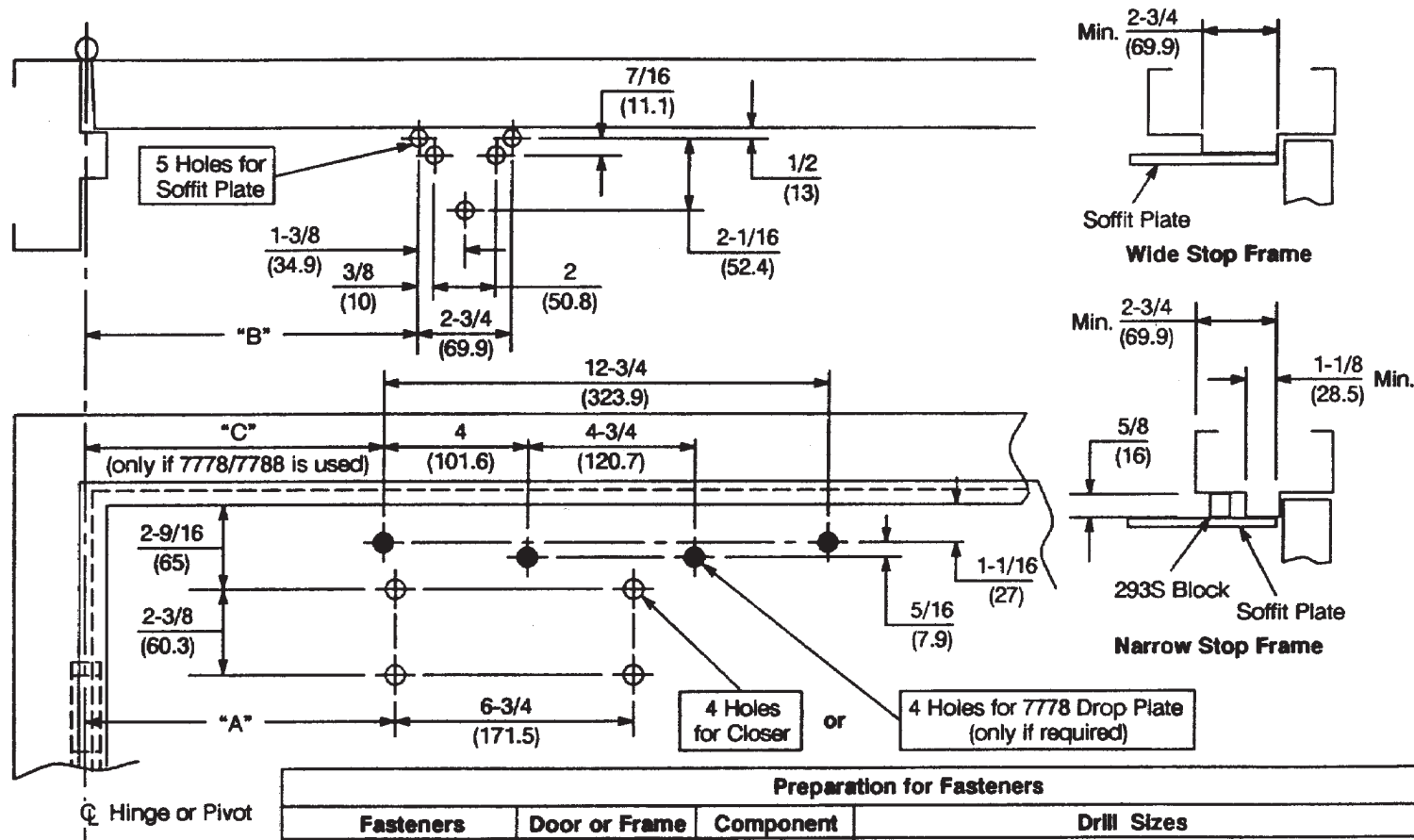
DATE

**01-10**

**Caution:** Door swing may be limited by door, frame, wall or hardware conditions.

**Notes:**

1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are in inches (mm).
4. Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
5. Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm) unless otherwise noted.
6. Hold open function, "T" suffix, is not permitted in a fire-door assembly.
7. Maximum width hinges for this template are 5" (127mm)



Door Opening	Dim. "A"	Dim. "B"	Dim. "C"
85°	10-1/8 (257)	10-5/8 (270)	9-7/8 (251)
90°	9-1/4 (235)	9-3/4 (248)	9 (229.6)
95°	8-5/8 (219)	9-1/8 (232)	8-3/8 (213)
100°	7-7/8 (200)	8-3/8 (213)	7-5/8 (194)
105°	7-3/8 (187)	7-7/8 (200)	7-1/8 (181)
110°	6-3/4 (171)	7-1/4 (184)	6-1/2 (165)

Preparation for Fasteners			
Fasteners	Door or Frame	Component	Drill Sizes
#14 type "A" S.M. screw Arm: 1-1/4" (32mm) Closer: 2-3/4" (70mm)	Wood	Arm	7/32" (5.50mm)
1/4-20 machine screw	Metal	Arm	drill: #7 (.201") tap: 1/4-20
Sex nuts and bolts (SNB)	Hollow Metal	Closer	9/32" (7.00mm) thru; 3/8" (9.50mm) on door or transom face opposite to closer
	Aluminum or Wood		3/8" (9.50mm) thru
Thru bolts and grommet nuts (TBGN)	All	Closer	9/32" (7.00mm) thru; 3/8" (9.50mm) dia. x 3/8" (9.50mm) deep on door or transom face opposite to closer

**CLP-7570, CLP-7770 CloserPlus® Arm Security Door Closer or  
CPS-7570, CPS-7770 CloserPlus Spring™ Arm Security Door Closer  
Parallel Arm Application With or Without 7778 Drop Plate  
Arm Function - Stop Only of Stop & Hold Open ("T" Suffix)  
Power Size 0 for 7570; 2, 3, 4, 5, or 6 for 7770**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

TEMPLATE NUMBER

**7377-0625**

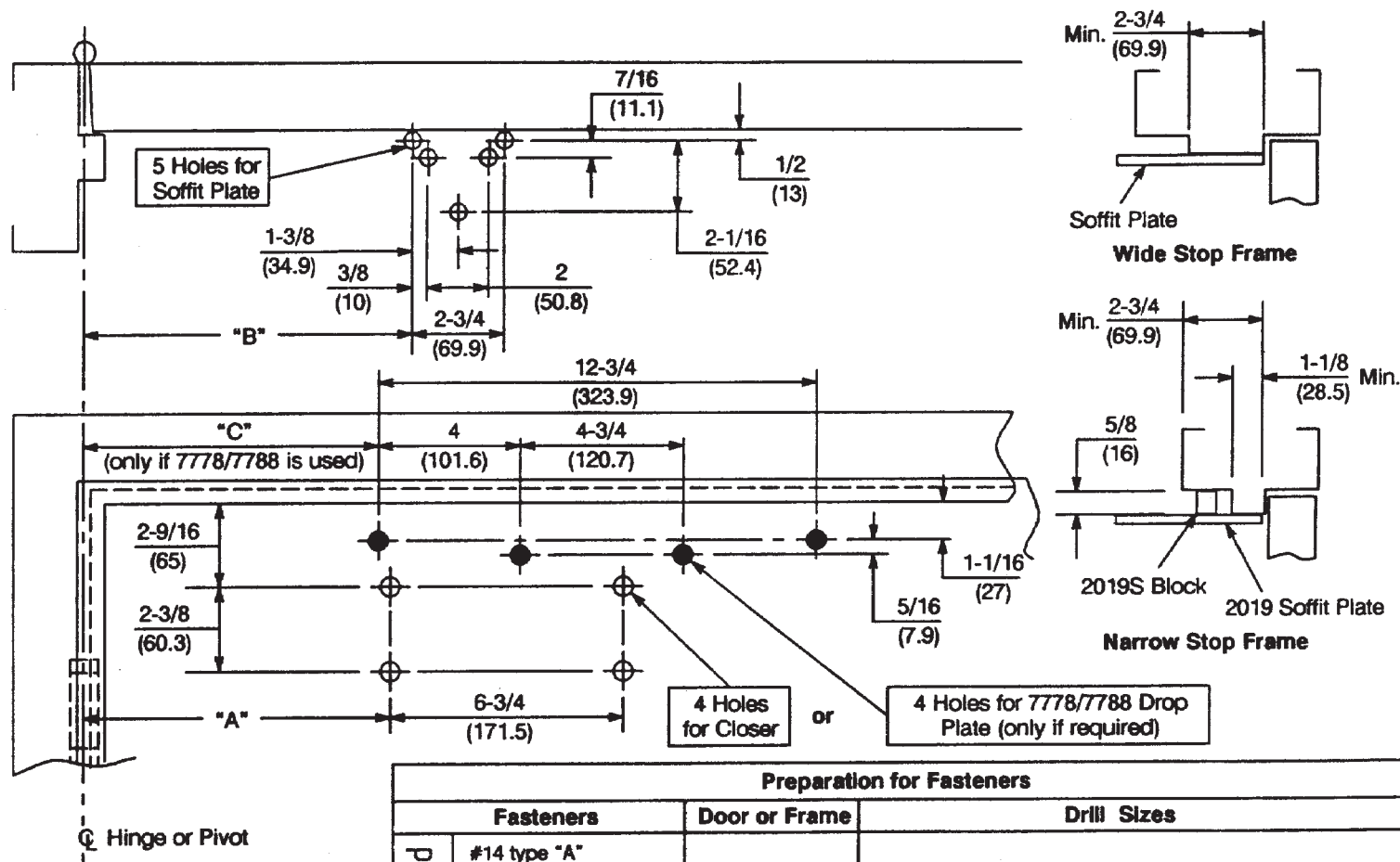
DATE

**07-08**

**Caution:** Door swing may be limited by door, frame, wall or hardware conditions.

**Notes:**

1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are in inches (mm).
4. Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
5. Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm) unless otherwise noted.



Door Opening	Dim. "A"	Dim. "B"	Dim. "C"
To 100°	8-5/8 (219)	9-1/8 (232)	8-3/8 (213)
101° to 120°	7-7/8 (200)	8-3/8 (213)	7-5/8 (194)
121° to 180°	6-3/4 (171)	7-1/4 (184)	6-1/2 (165)

Maximum hinge width 5" (127mm) for doors swinging beyond 150°.

**PR7570 and PR7770 Series Security Door Closer  
With or Without 7788 Drop Plate or  
Parallel Rigid Arm Non-Hold Open Installation**

**Norton**

ASSA ABLOY

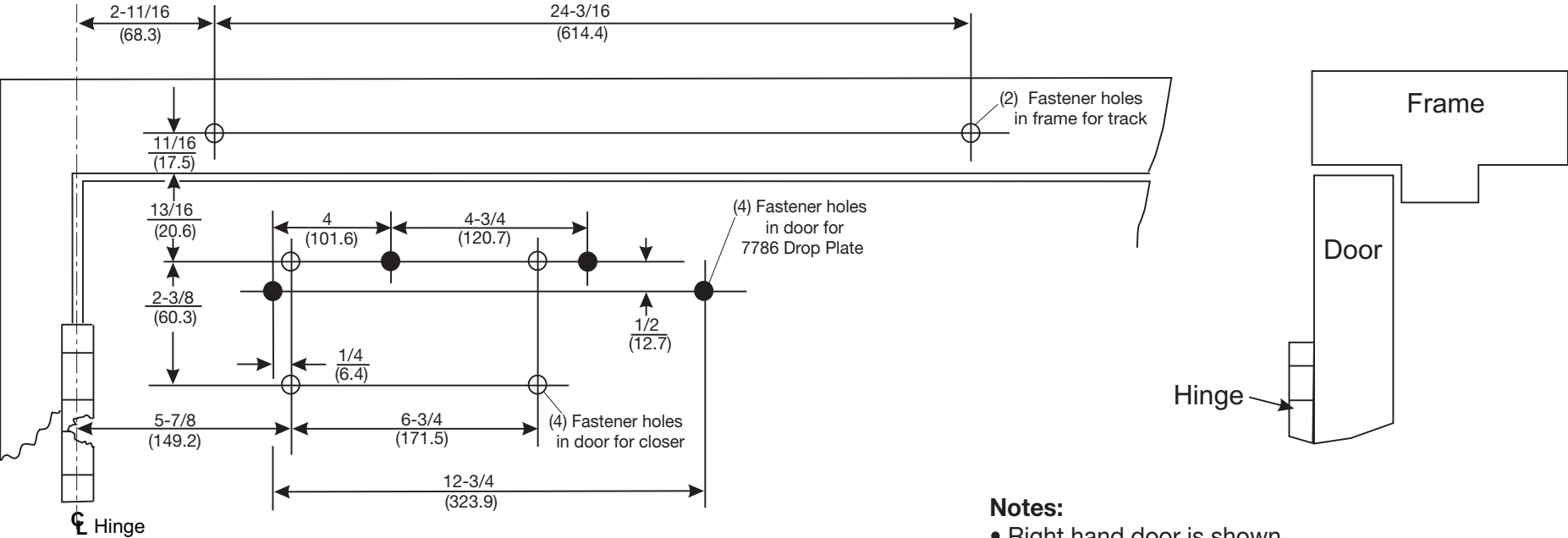
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TEMPLATE NUMBER



**7377-0621**

DATE

**07-08**



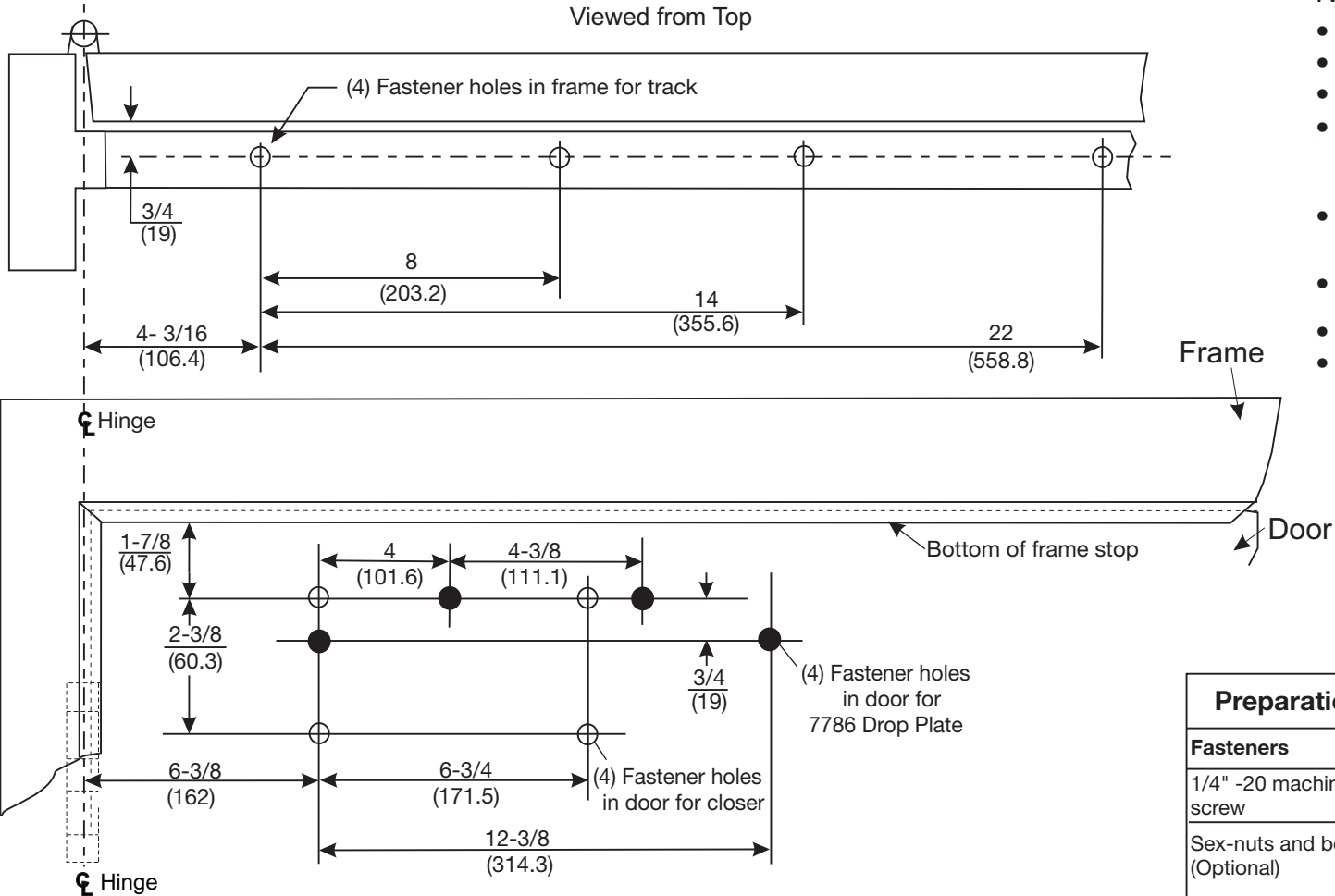
- Notes:**
- Right hand door is shown.
  - Do not scale drawing.
  - Minimum door width 26" (660.4mm).
  - .1046 (2.7mm) minimum thickness recommended for hollow metal door and frame reinforcement.
  - From centerline of hinge to end of track 27-3/8" (695.3mm).
  - Minimum ceiling clearance for track is 1-1/8" (26.6mm).
  - Closer mounted with sex nuts requires the use of door silencers.
  - Dimensions are given in  $\frac{\text{inches}}{(\text{mm})}$
  - Maximum door opening:
    - 110°- recommended with cushion stop in track.
    - 180°- without cushion stop.
  - Use of auxiliary door stop is required to prevent damage to door, frame, and hinge.

Preparation for Fasteners  		
Fasteners	Door or Frame	Drill Sizes
1/4" -20 machine screw	Metal	drill: #7 (.201") tap: 1/4" -20
Sex-nuts and bolts (Optional)	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm) through
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

**7570ST & 7770ST**  
**Security Door Closer with Security Slide Track**  
**With or Without 7786 Drop Plate**  
For Use on Doors with 4½" or 5" Wide Butt Hinges  
Non-Hold Open, Hinge Mounted Installation

  
ASSA ABLOY  
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TEMPLATE NUMBER	DATE
<b>7377-0670</b>	<b>07-08</b>



- Notes:
- Left hand door shown.
  - Do not scale drawing
  - Minimum door width 29" (736.6mm).
  - .1046 (2.7mm) minimum thickness recommended for hollow metal door and frame reinforcement.
  - From centerline of pivot point to end of track is 27-11/16" (703.3mm).
  - Dimensions are given in inches (mm)
  - Maximum door opening: 120°
  - Use of auxiliary door stop is required for openings to 120°, conditions permitting.

Preparation for Fasteners		
Fasteners	Door or Frame	Drill Sizes
1/4" -20 machine screw	Metal	drill: #7 (.201") tap: 1/4" -20
Sex-nuts and bolts (Optional)	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm) through
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

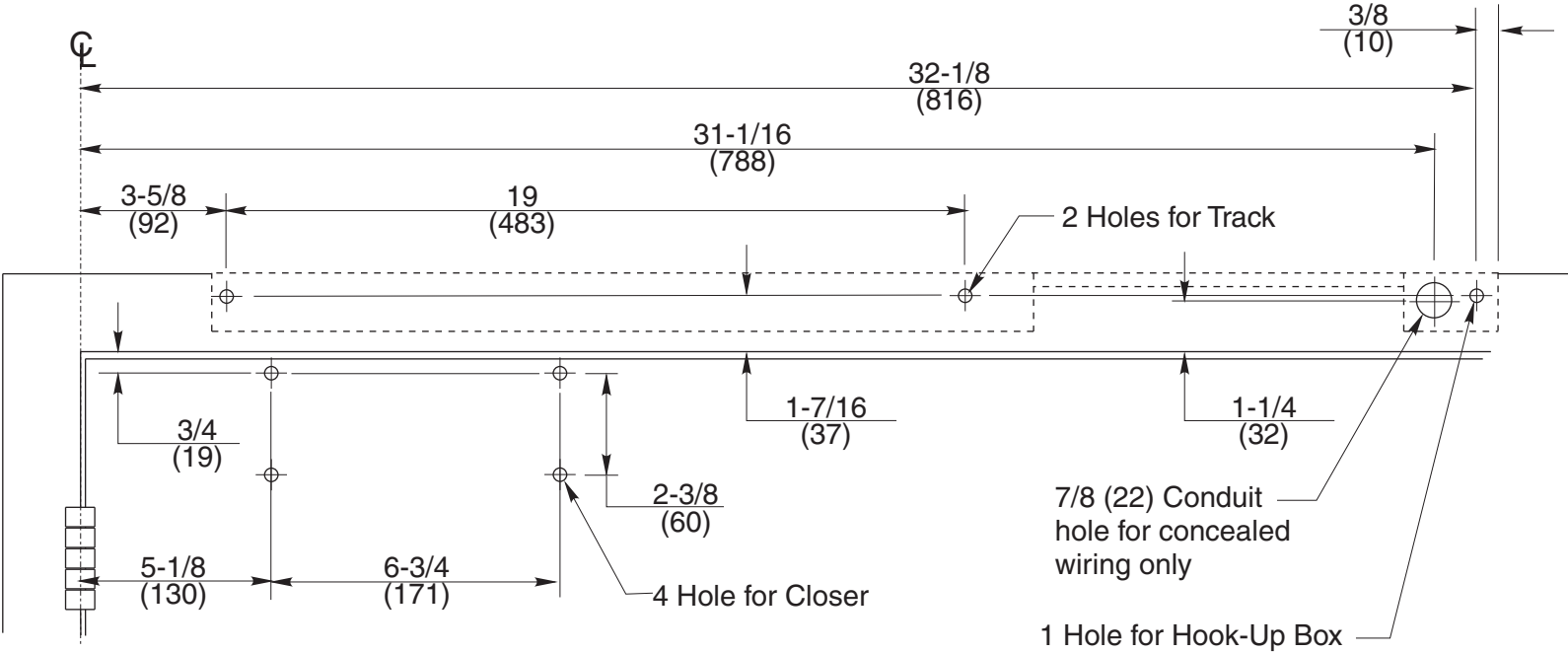
**P7570ST & P7770ST**  
**Security Door Closer with Security Slide Track**  
**With or Without 7786 Drop Plate**  
For Use on Doors with 4½" or 5" Wide Butt Hinges  
Non-Hold Open, Stop Mounted Installation

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TEMPLATE NUMBER  
**7377-0680**

DATE  
**07-08**





- Notes:**
- Do not scale drawing.
  - Right hand door shown. Same dimensions apply for left hand door, measured from centerline of hinge or pivot.
  - Template information based upon use of 4-1/2" hinges or 3/4" offset pivots.
  - Dimensions are shown in inches and millimeters (mm).
  - Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  - Sex-nuts are required for wood or plastic faced fire-door installations.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
  - Minimum ceiling clearance for closer unit is 2" (50).
  - Maximum door opening is 110°.

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

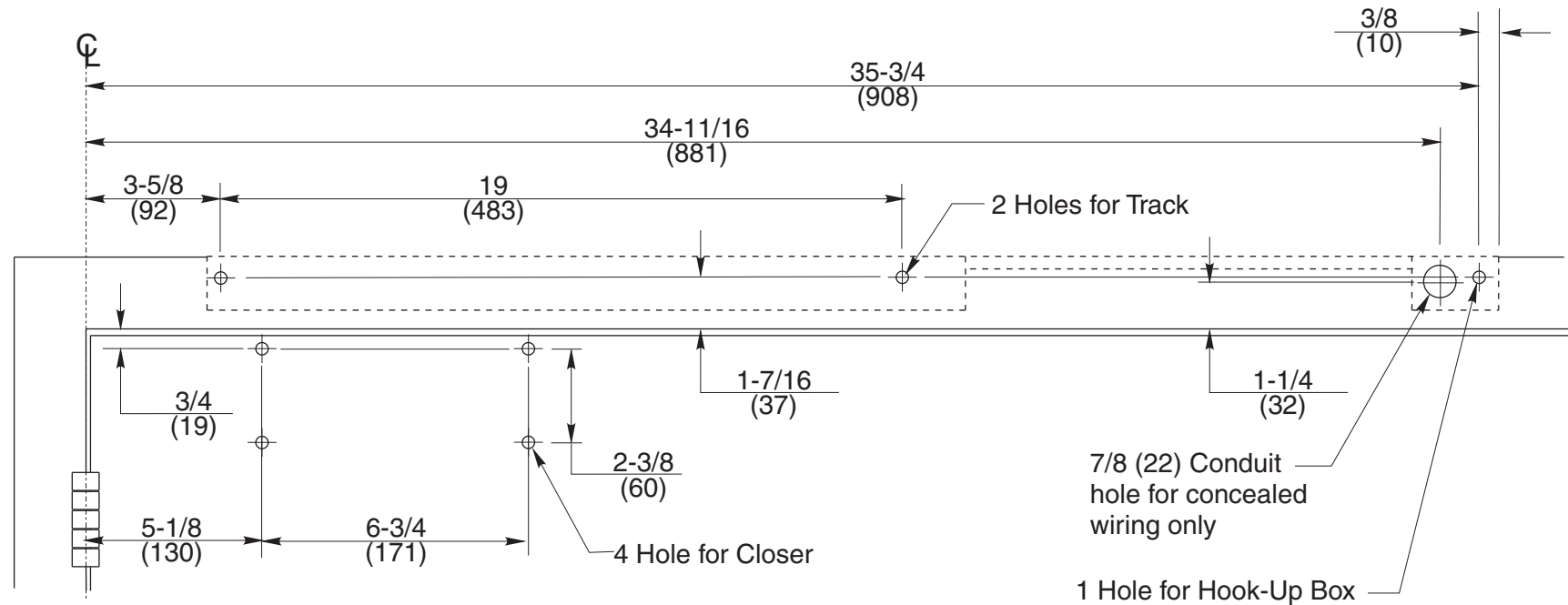
**Norton Series 7700PTO Support Unit**  
Combination Door Closer-Holder with Single Point Hold Open  
Hinge (Pull) Side of Door Installation

1-877-974-2255

**Norton**

ASSA ABLOY

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- Notes:
- Right Hand Shown
- Do not scale drawing.
  - Right hand door shown. Same dimensions apply for left hand door, measured from centerline of hinge or pivot.
  - Template information based upon use of 4-1/2" hinges or 3/4" offset pivots.
  - Dimensions are shown in inches and millimeters (mm).
  - Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  - Sex-nuts are required for wood or plastic faced fire-door installations.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
  - Minimum ceiling clearance for closer unit is 2" (50).
  - Maximum door opening is 110°.

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

Norton Series 7700PTDO Master Unit

Combination Door Closer-Holder with Single Point Hold Open Hinge (Pull) Side of Door Installation

1-877-974-2255

Norton

ASSA ABLOY

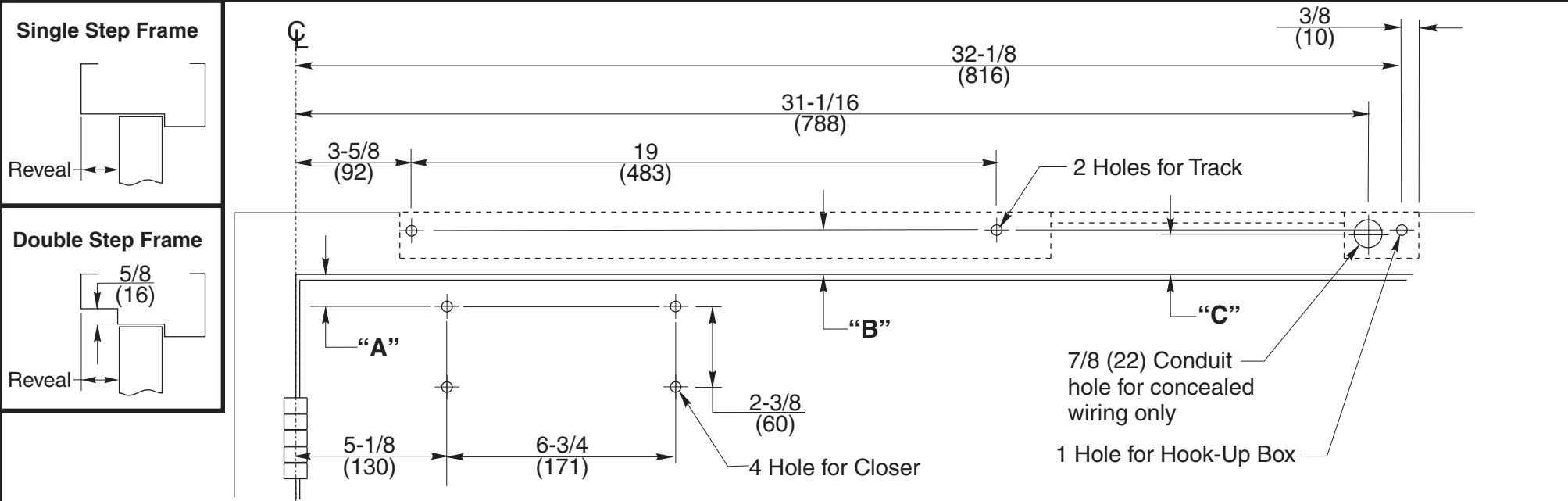
www.nortondoorcontrols.com

TEMPLATE NUMBER

7378-1803

DATE

02-09



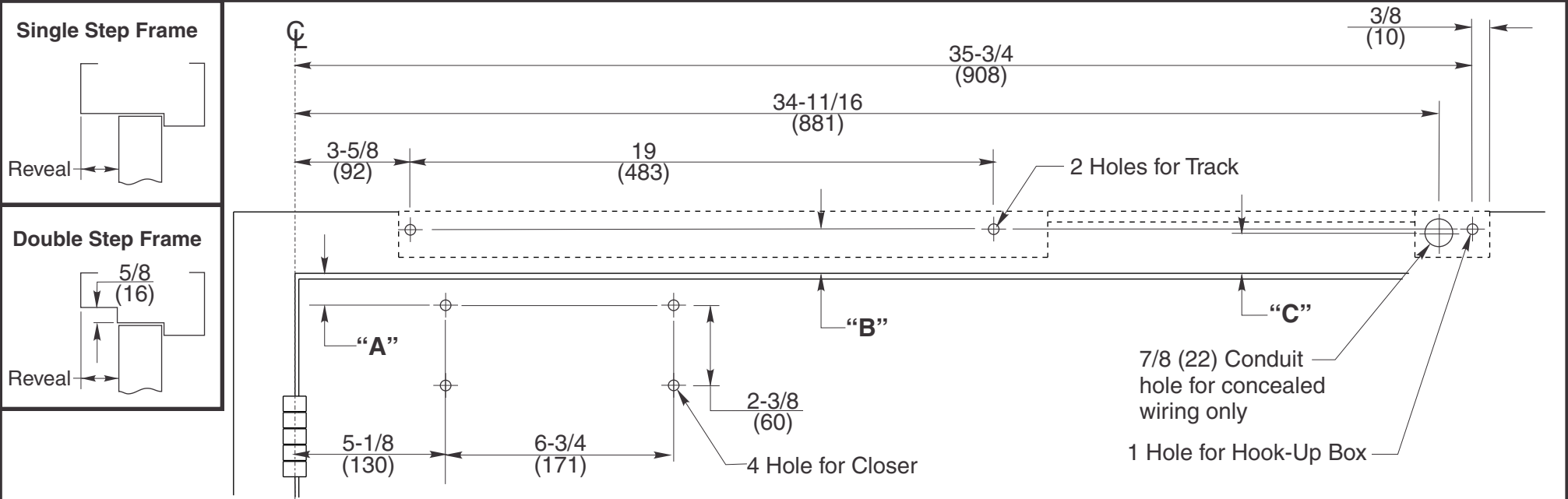
Notes:

- Do not scale drawing.
- Right hand door shown. Same dimensions apply for left hand door, measured from centerline of hinge or pivot.
- Template information based upon use of 4-1/2" hinges or 3/4" offset pivots.
- Dimensions are shown in inches and millimeters (mm).
- Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Sex-nuts are required for wood or plastic faced fire-door installations.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
- Minimum ceiling clearance for closer unit is 2" (50).
- Maximum door opening is 105°.
- Charted dimensions measured from door rabbet.

Right Hand Shown

Frame Type	Dim. "A"	Dim. "B"	Dim. "C"
Single Step	1-3/8 (39)	1-7/16 (37)	1-1/4 (32)
Double Step	1-1/4 (32)	1-5/8 (41)	1-7/16 (37)

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer



- Notes:
- Do not scale drawing.

Right hand door shown. Same dimensions apply for left hand door, measured from centerline of hinge or pivot.

Template information based upon use of 4-1/2" hinges or 3/4" offset pivots.

Dimensions are shown in inches and millimeters (mm).

Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-nuts are required for wood or plastic faced fire-door installations.

Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.

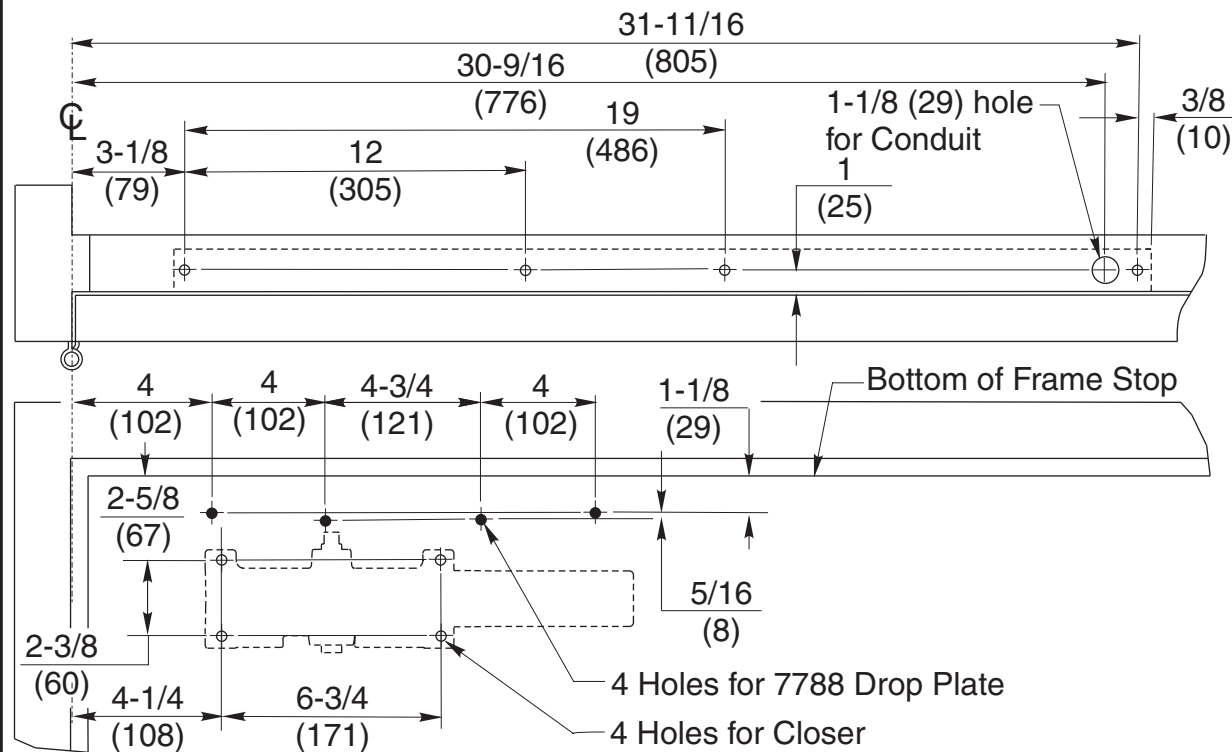
Minimum ceiling clearance for closer unit is 2" (50).

Maximum door opening is 105°.

Charted dimensions measured from door rabbet.
- Right Hand Shown

Frame Type	Dim. "A"	Dim. "B"	Dim. "C"
Single Step	1-3/8 (39)	1-7/16 (37)	1-1/4 (32)
Double Step	1-1/4 (32)	1-5/8 (41)	1-7/16 (37)

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer



Left Hand Shown

- Notes:
- Do not scale drawing.
  - Left hand door shown. Same dimensions apply for right hand door, measured from centerline of hinge or pivot.
  - Template information based upon use of 4-1/2” hinges or 3/4” offset pivots.
  - Dimensions are shown in inches and millimeters (mm).
  - Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  - Sex-nuts are required for wood or plastic faced fire-door installations.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
  - Maximum door opening is 110°.

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

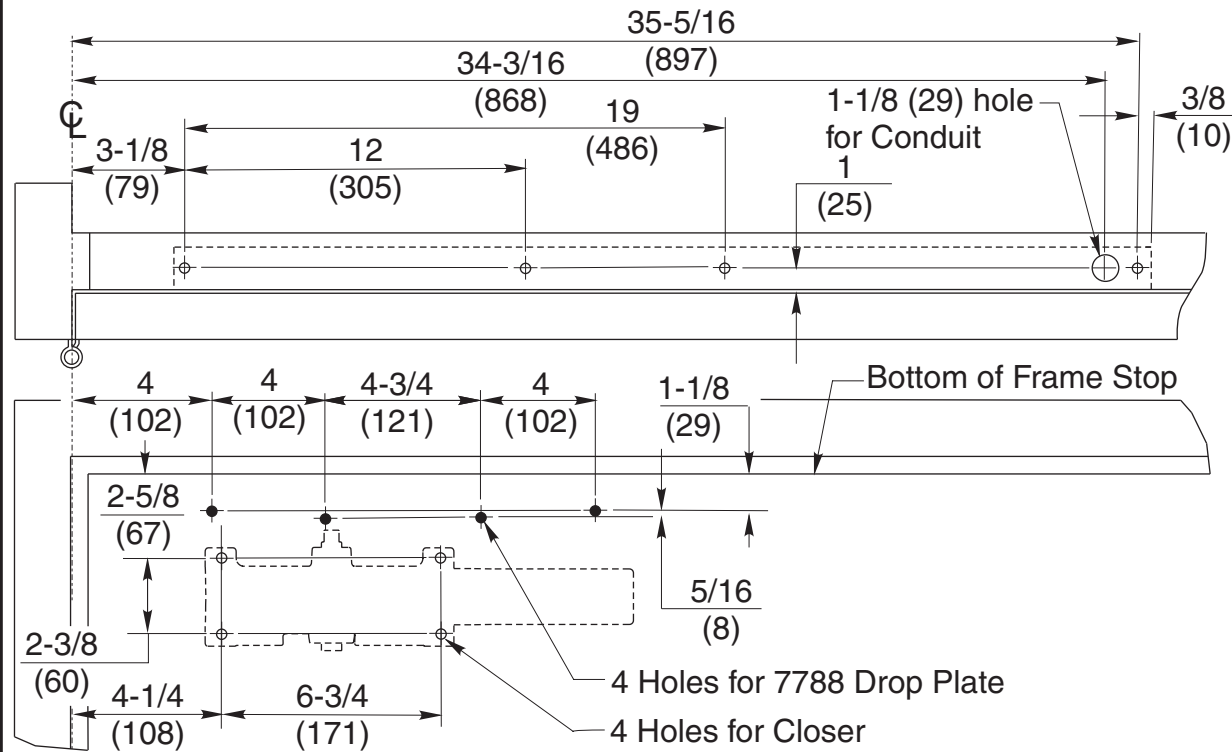
Norton Series P7700PTO Support Unit  
With or Without 7788 Drop Plate  
Combination Door Closer-Holder with Single Point Hold Open  
Stop (Push) Side of Door Installation

1-877-974-2255



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Left Hand Shown

- Notes:**
- Do not scale drawing.
  - Left hand door shown. Same dimensions apply for right hand door, measured from centerline of hinge or pivot.
  - Template information based upon use of 4-1/2” hinges or 3/4” offset pivots.
  - Dimensions are shown in inches and millimeters (mm).
  - Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
  - Sex-nuts are required for wood or plastic faced fire-door installations.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
  - Maximum door opening is 110°.

Preparation for Fasteners			
Fasteners		Door or Frame	Drill-Sizes
Standard	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
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

Norton Series P7700PTDO Master Unit  
With or Without 7788 Drop Plate

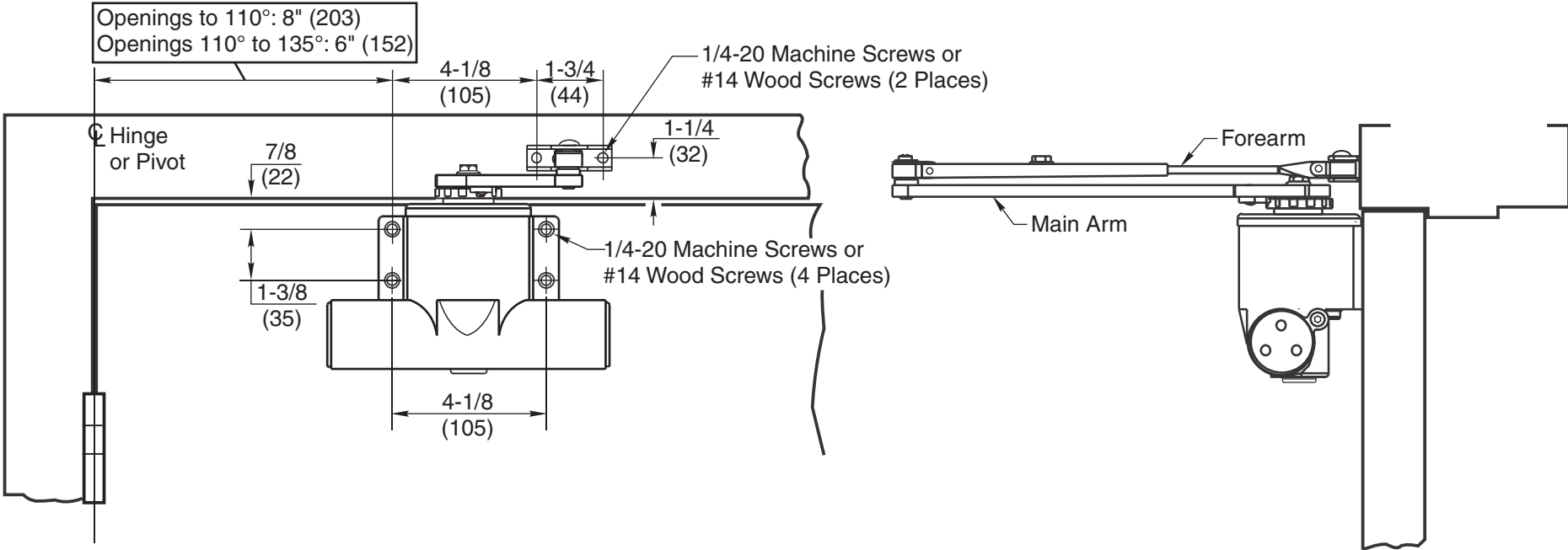
Combination Door Closer-Holder with Single Point Hold Open  
Stop (Push) Side of Door Installation

1-877-974-2255

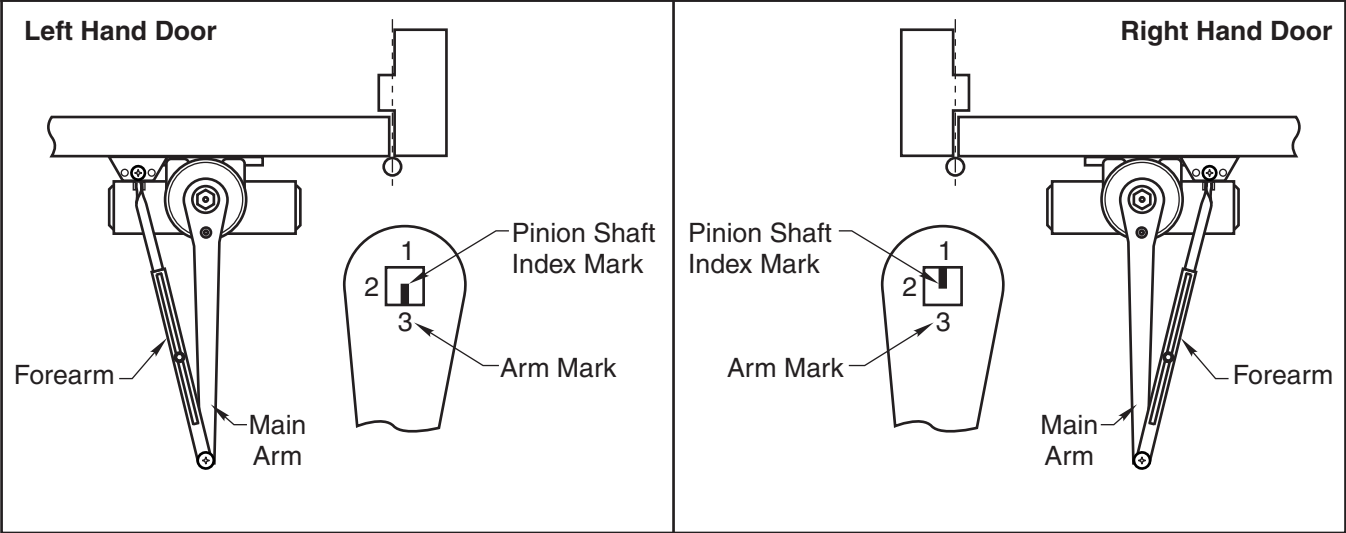


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Indexing of Main Arm



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

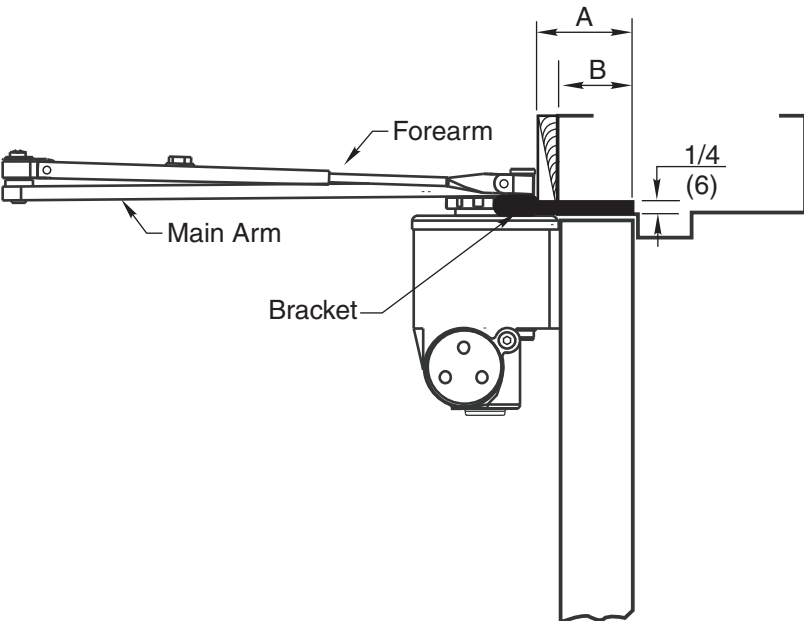
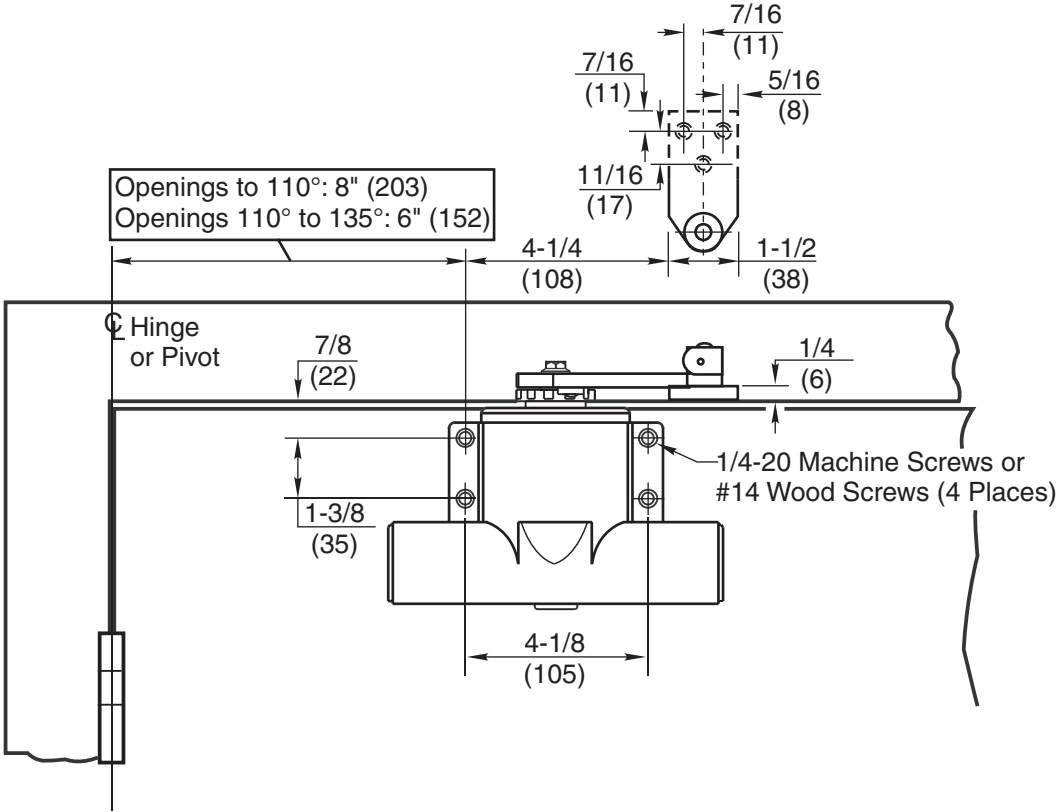
Series 78-B/F-RA Door Closers  
Non-Hold Open Regular Arm Installation  
Closer Sizes 78-B/D-RA or 78-E/F-RA

Norton

ASSA ABLOY

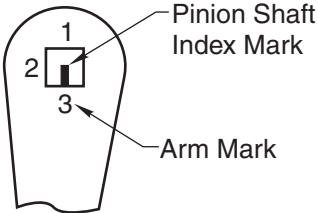
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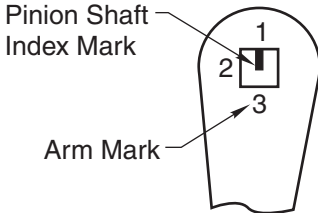


Indexing of Main Arm

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)

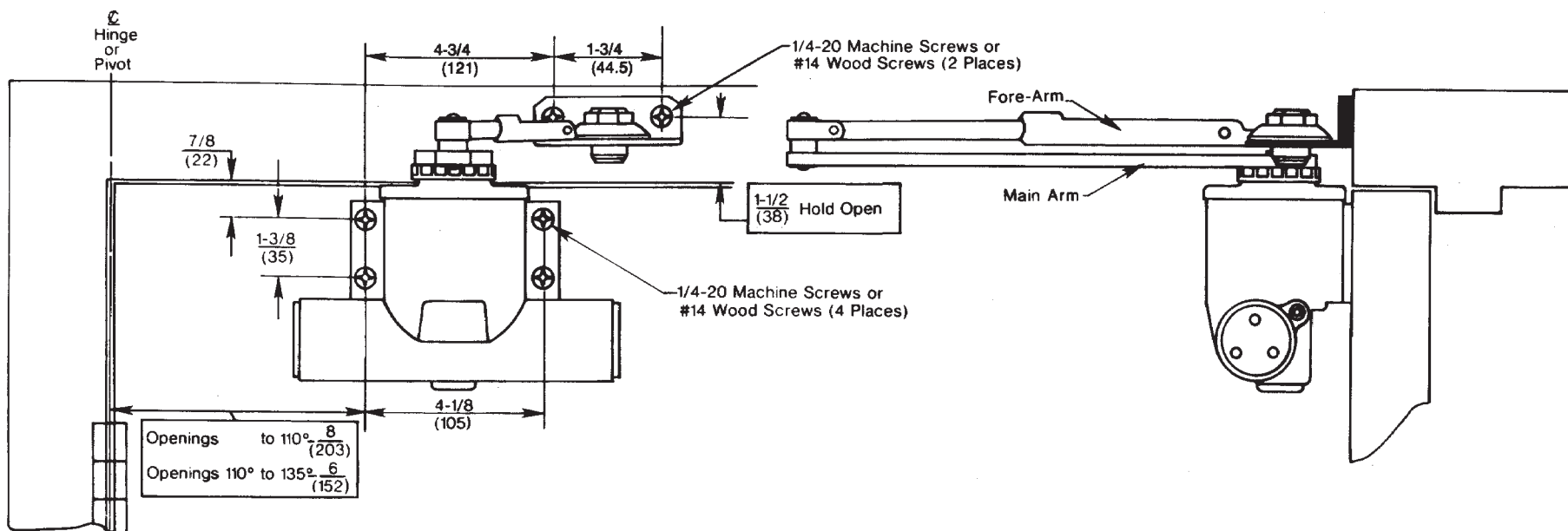
- Notes:**
- Do not scale drawing.
  - Right hand door shown.
  - Dimensions are in inches (mm).
  - This template covers all regular arm installations to 135°.

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

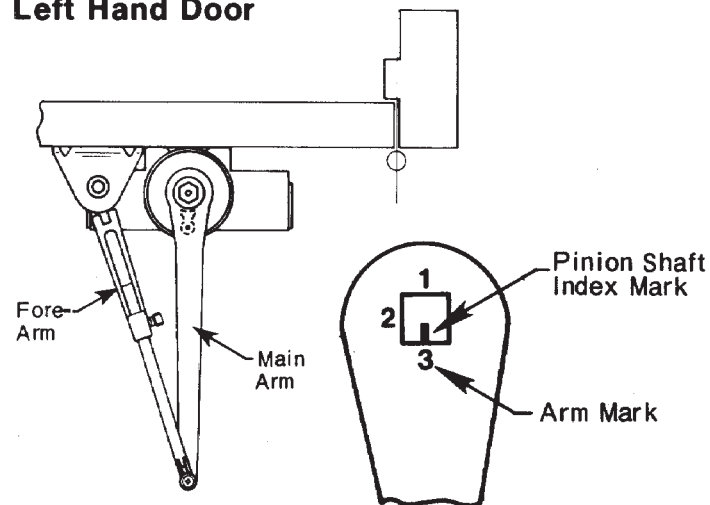
ASSA ABLOY

www.nortondoorcontrols.com

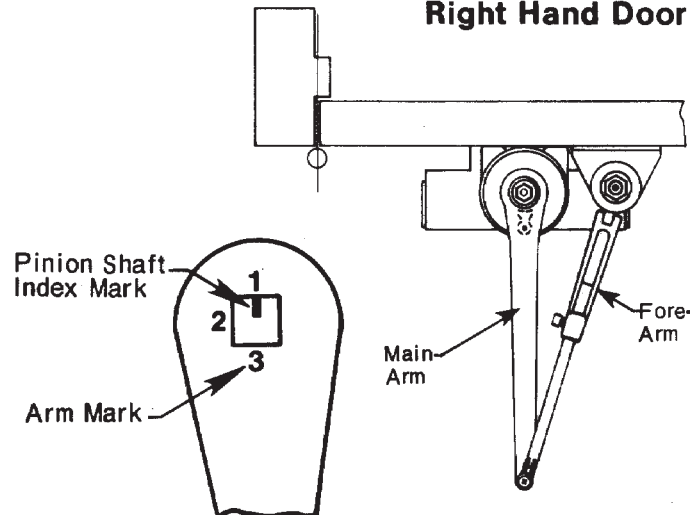


### Indexing of Main Arm

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

**Norton**

ASSA ABLOY

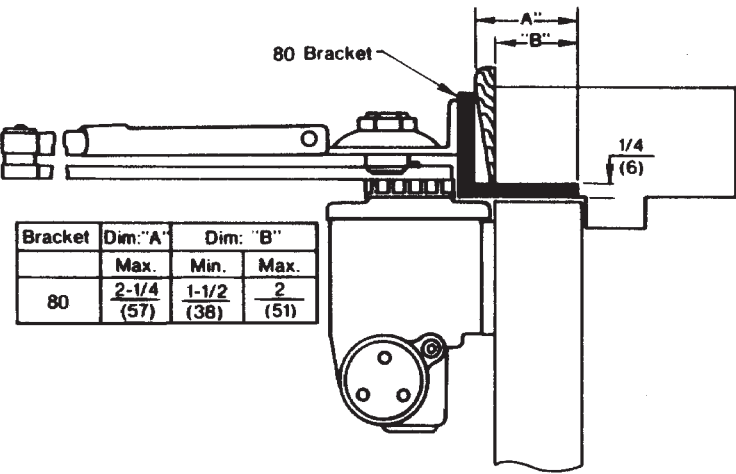
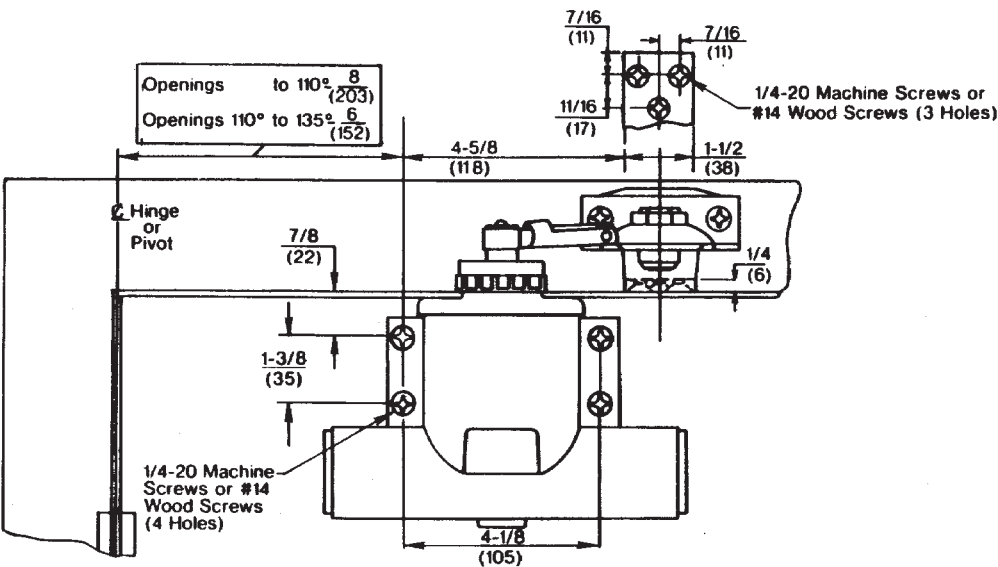
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0103**

DATE

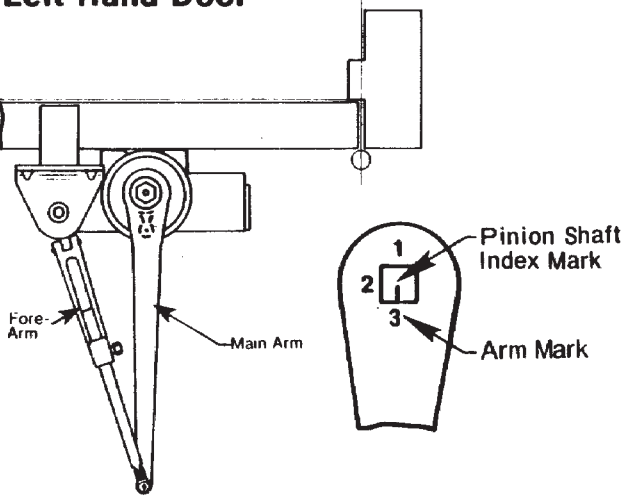
**02-09**



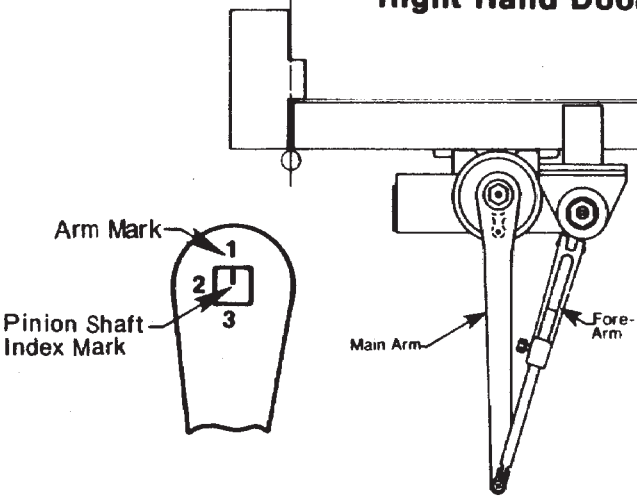
Bracket	Dim: "A"		Dim: "B"	
	Max.	Min.	Max.	
80	2-1/4 (57)	1-1/2 (38)	2 (51)	

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

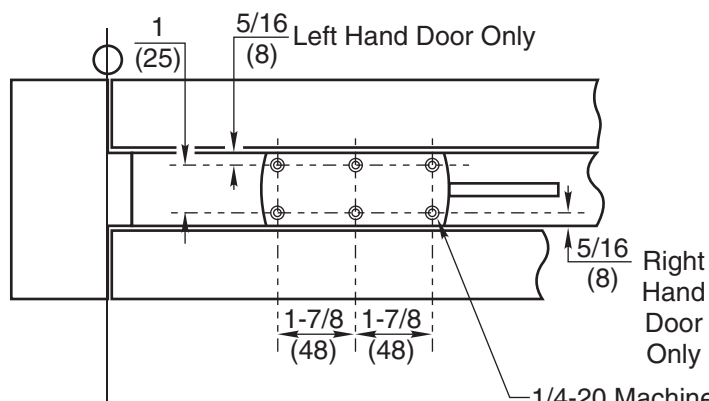
Do Not Scale Drawing  
Right Hand Door Shown

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.nortondoорcontrols.com

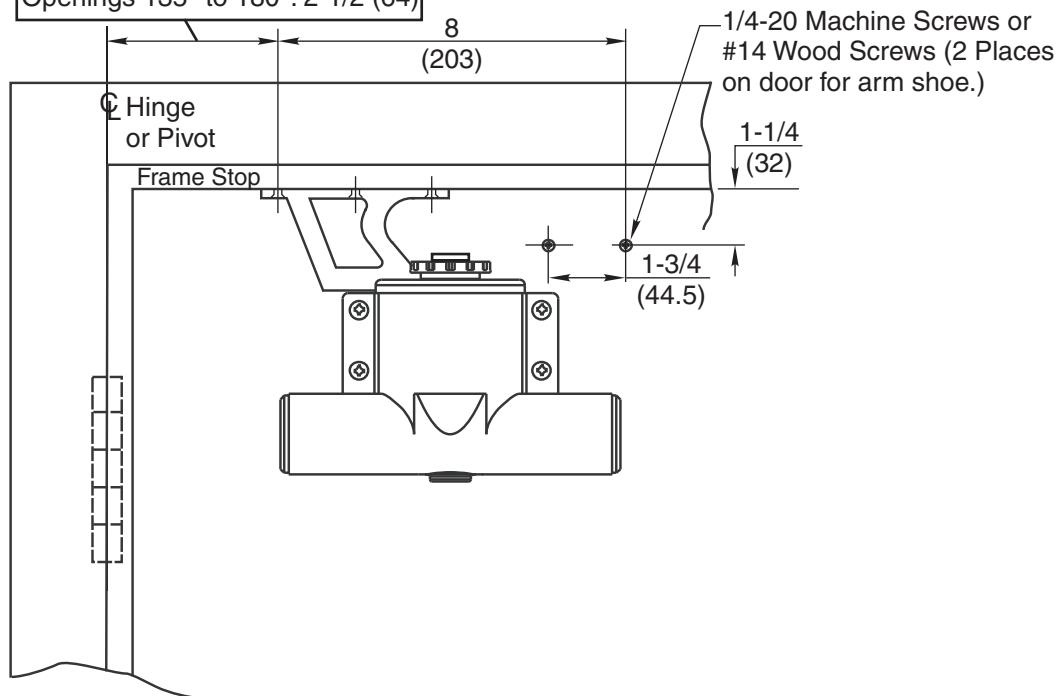


#### Notes:

- 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.

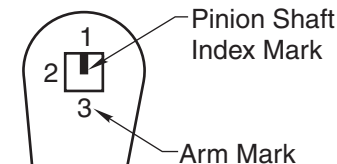
1/4-20 Machine Screws or #14 Wood Screws (6 Places on frame for bracket.)

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

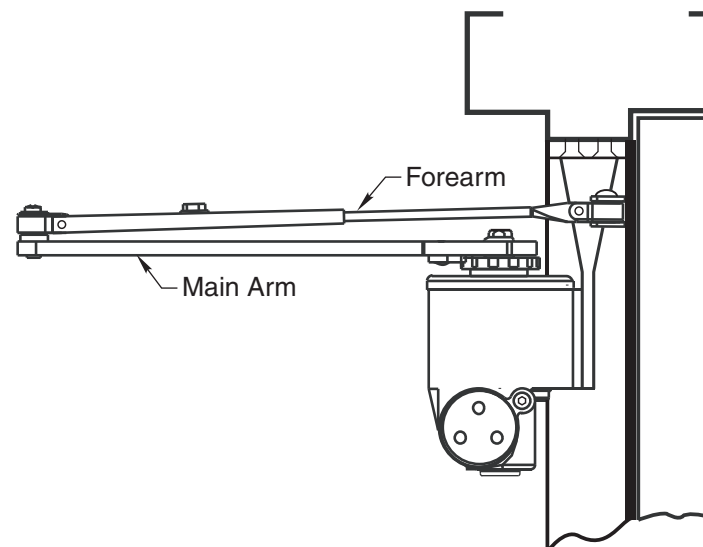
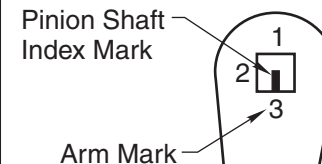


#### Indexing of Main Arm

##### Left Hand Door



##### Right Hand Door



**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

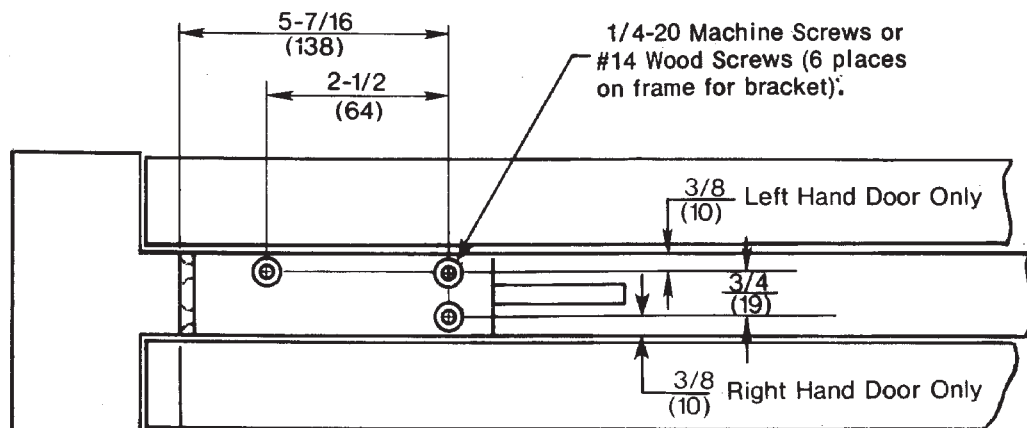
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

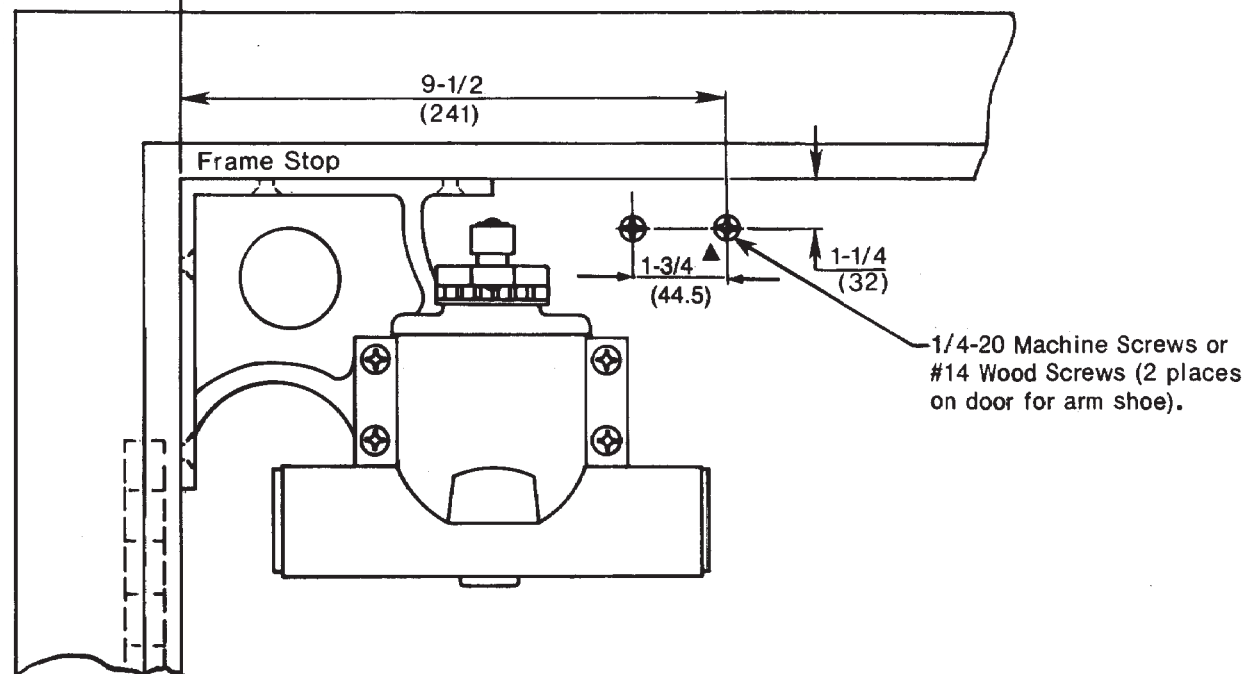
**7349-0142**

DATE

**01-09**



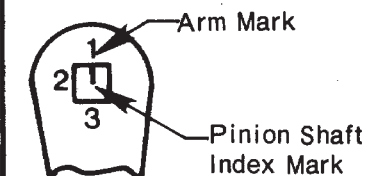
**NOTE: WHEN USING HOLDER ARM**  
Holder Adjusting Nut Up for Left Hand Door. Holder Adjusting Nut Down for Right Hand Door.  
Hand of Arm Must Be Opposite Hand of Door.



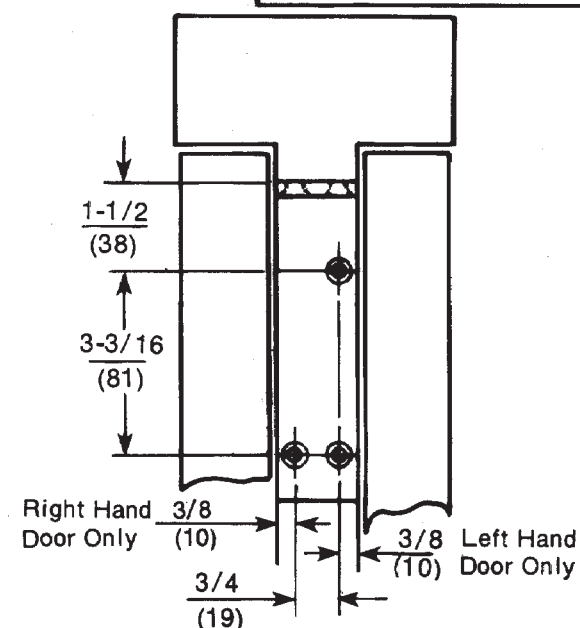
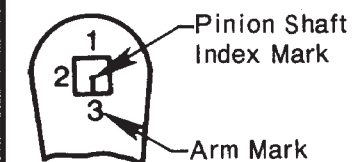
This Template Covers Installations to 180°

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



Do Not Scale Drawing  
Left Hand Door Shown

**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

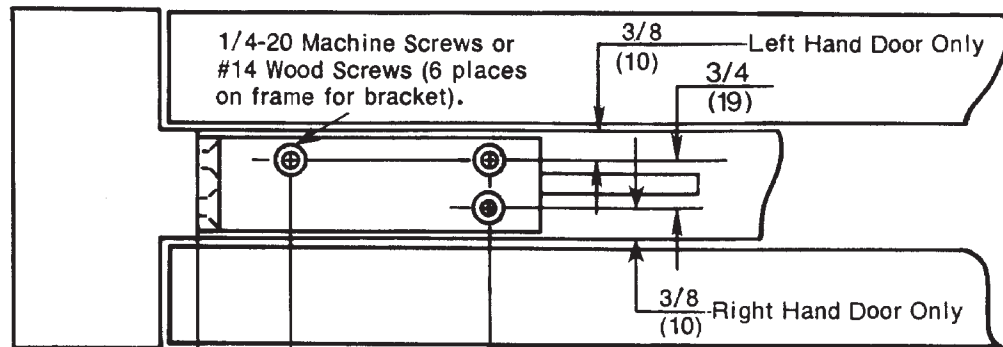
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

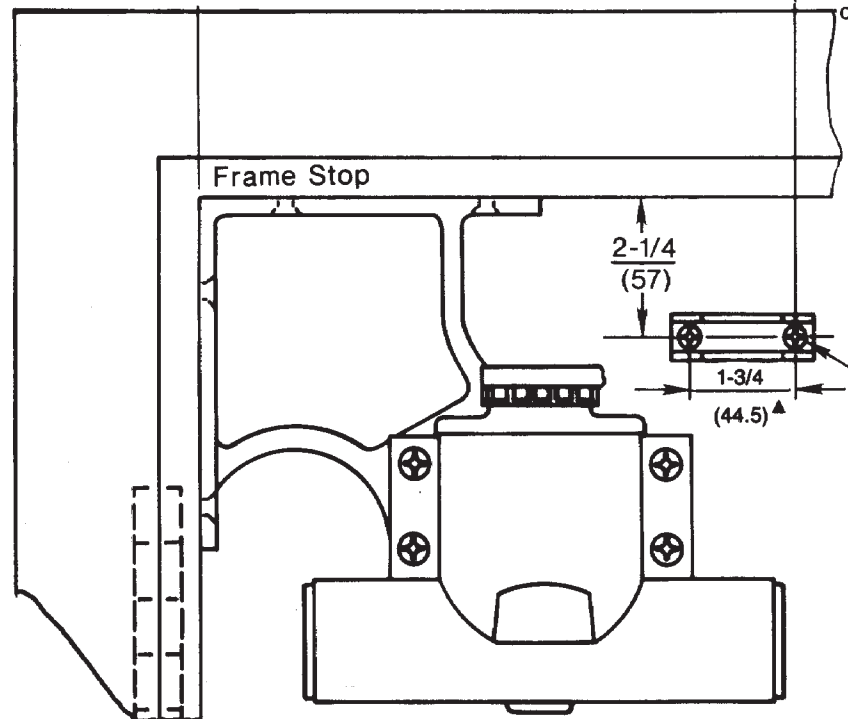
**7349-0143**

DATE

**02-09**



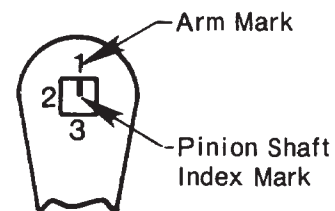
**NOTE: WHEN USING HOLDER ARM**  
Holder Adjusting Nut Up for Left Hand Door. Holder Adjusting Nut Down for Right Hand Door.  
Hand of Arm Must Be Opposite Hand of Door.



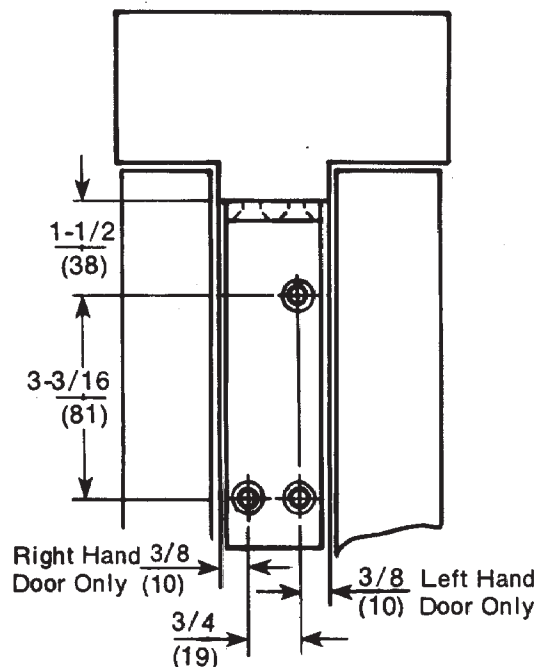
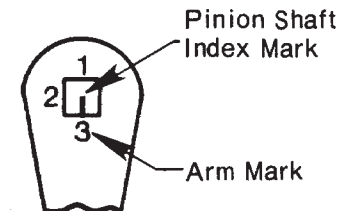
1/4-20 Machine Screws or #14 Wood Screws (2 places on door for arm shoe).

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown

**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

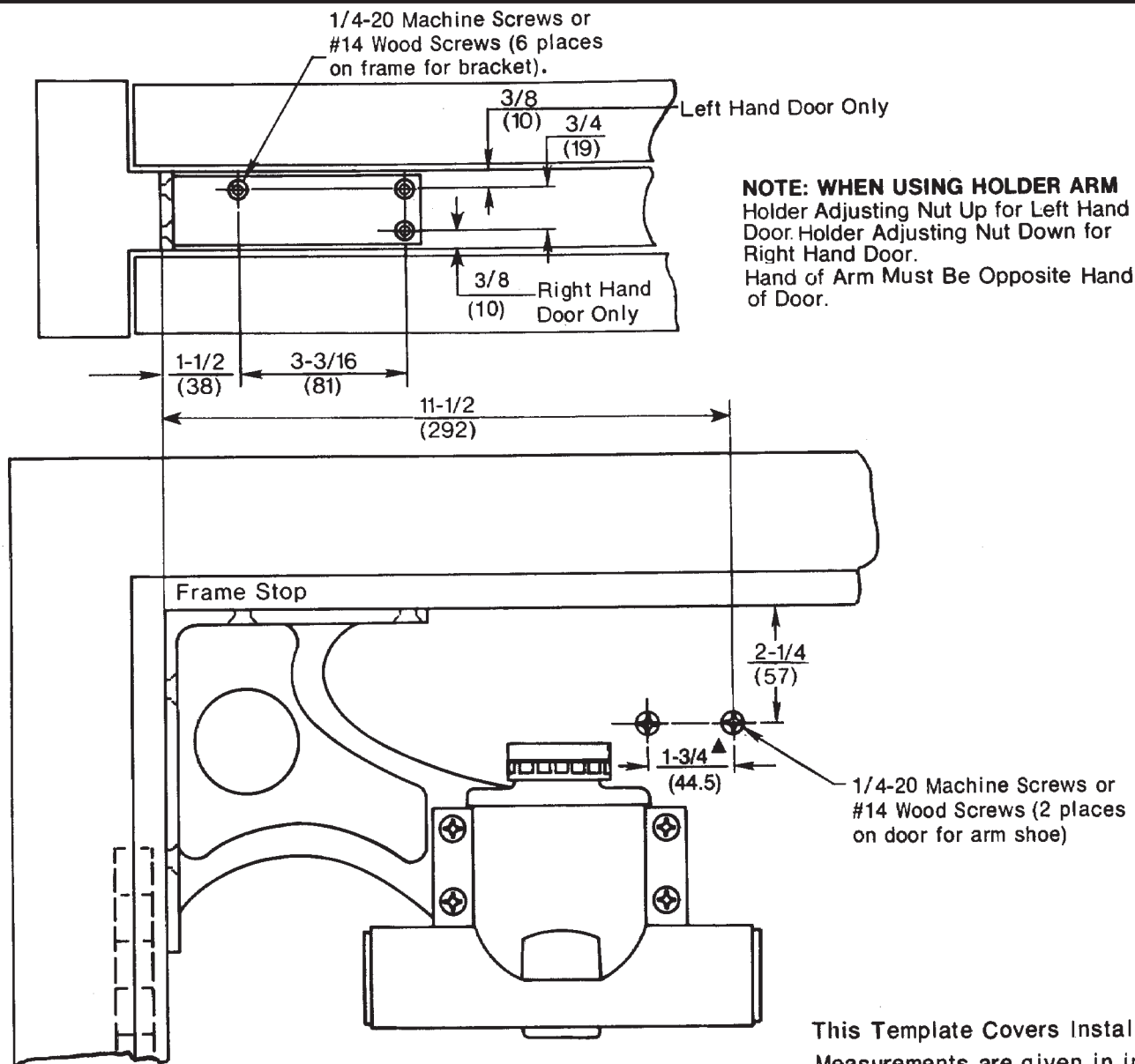
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-0144**

DATE

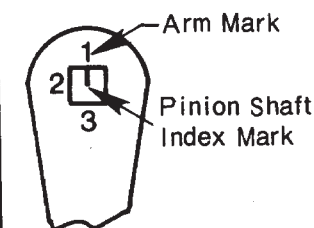
**02-09**



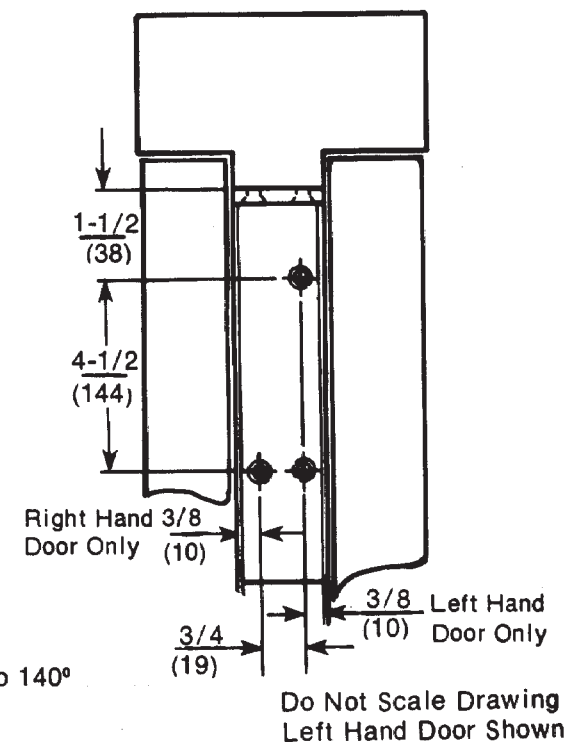
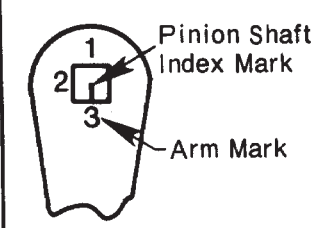
**NOTE: WHEN USING HOLDER ARM**  
Holder Adjusting Nut Up for Left Hand Door. Holder Adjusting Nut Down for Right Hand Door.  
Hand of Arm Must Be Opposite Hand of Door.

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



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

**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**

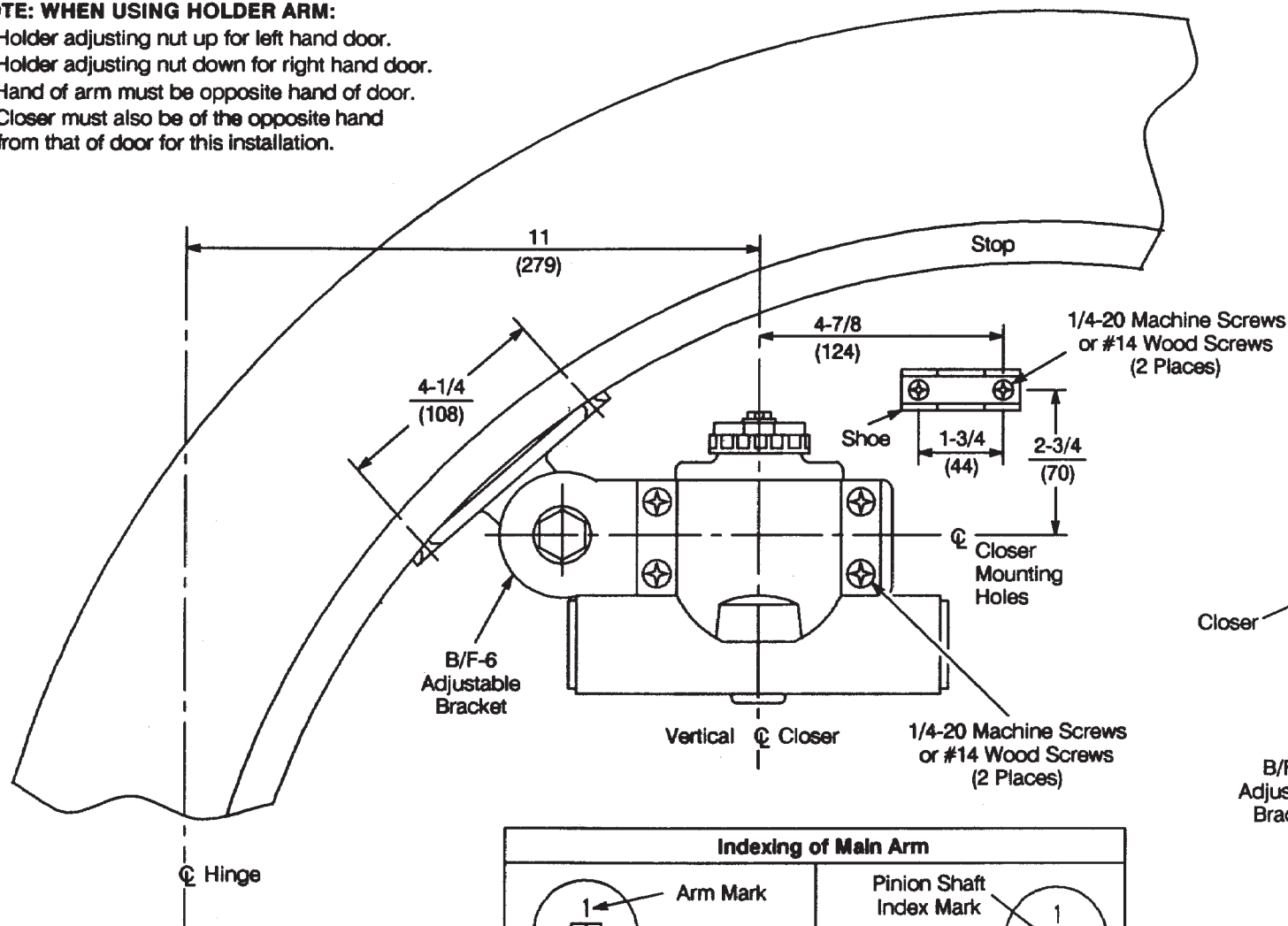
DATE

**02-09**



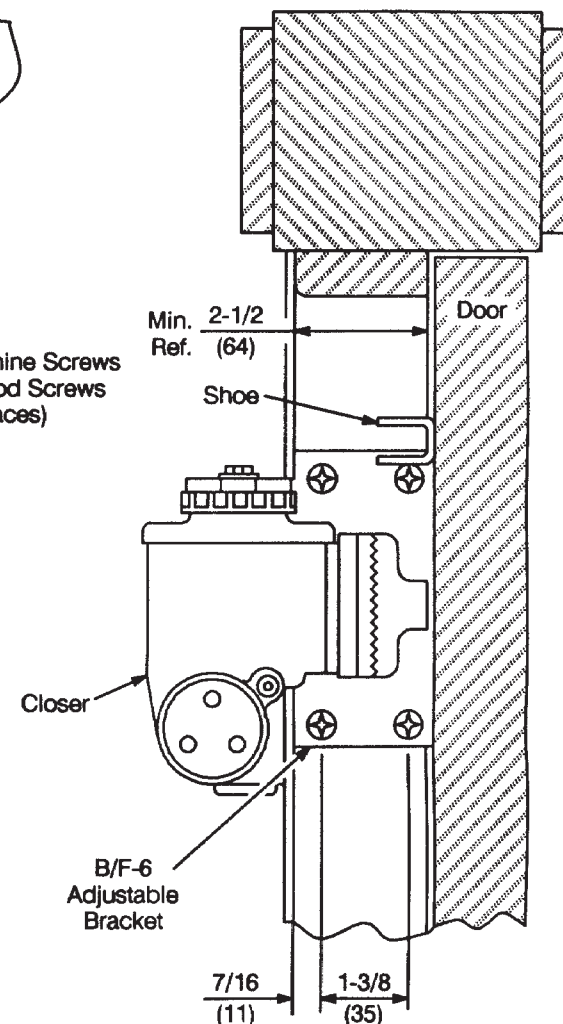
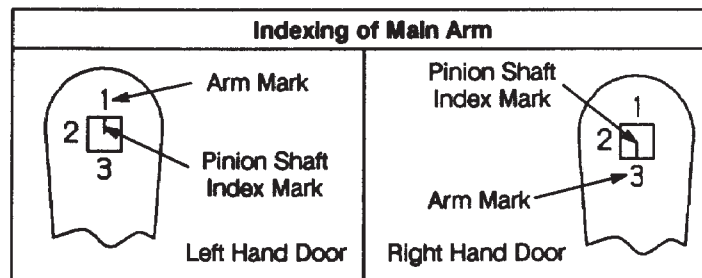
**NOTE: WHEN USING HOLDER ARM:**

- 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**

**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

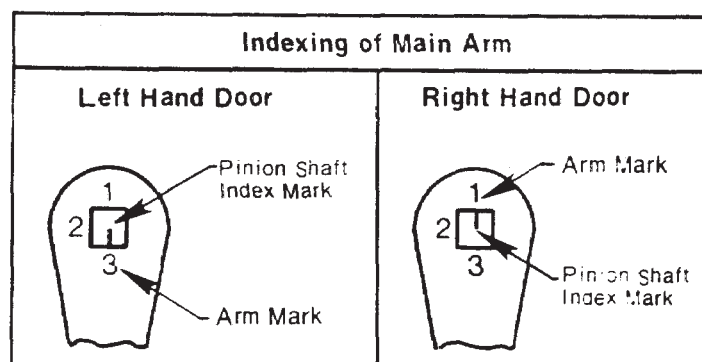
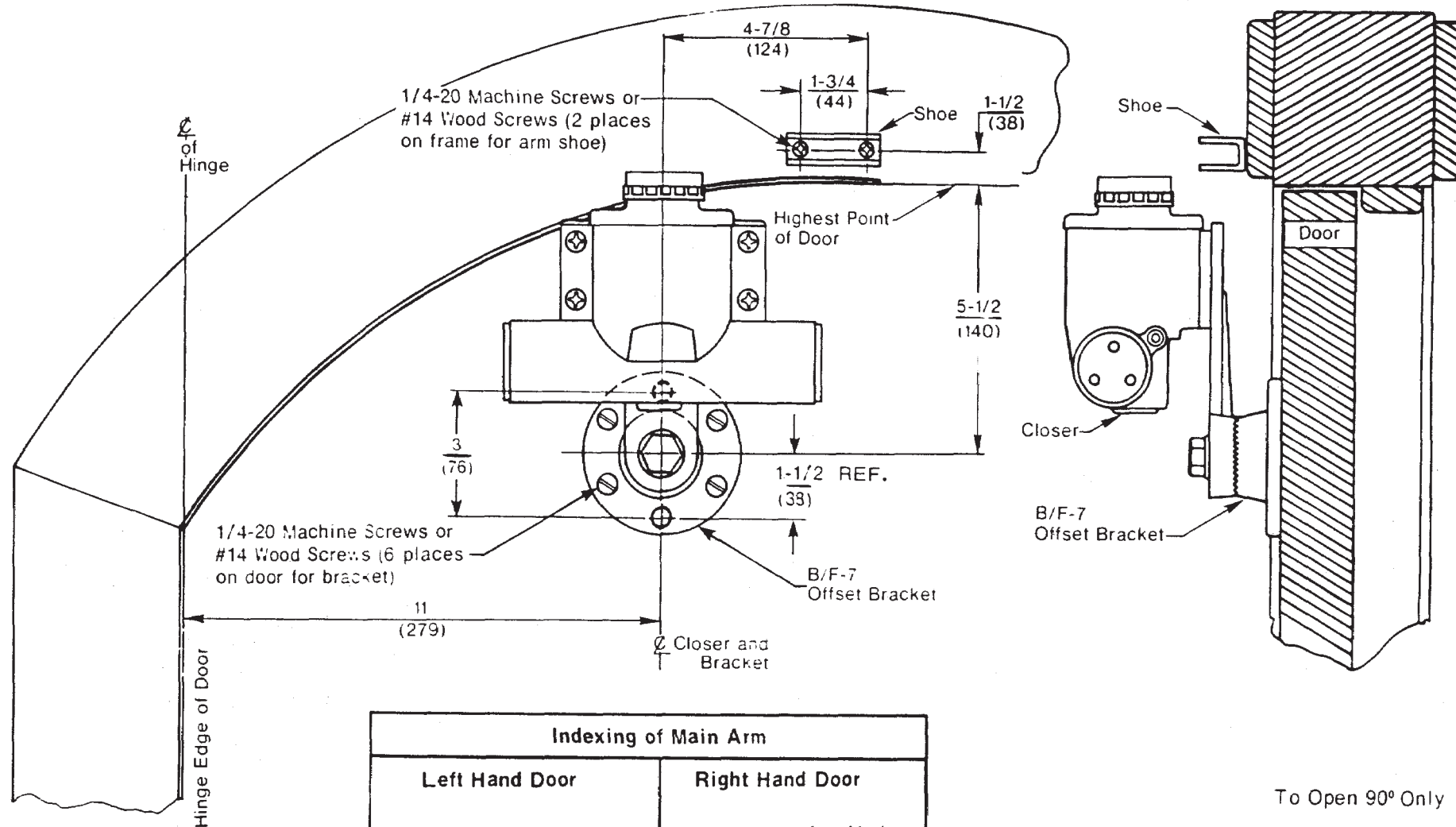
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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

**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

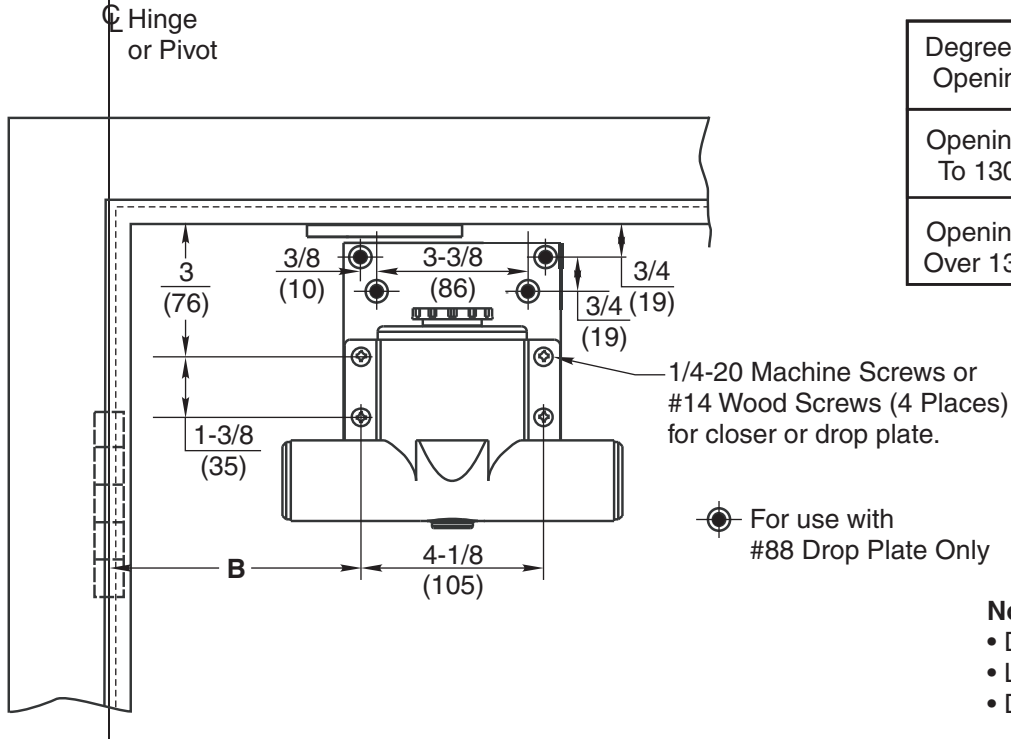
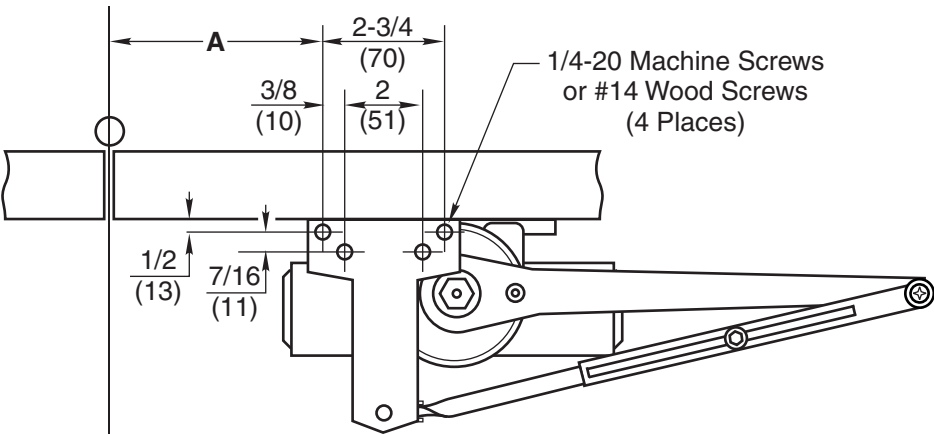
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0149**

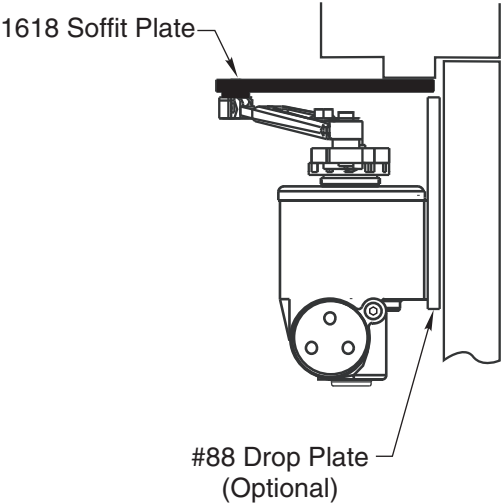
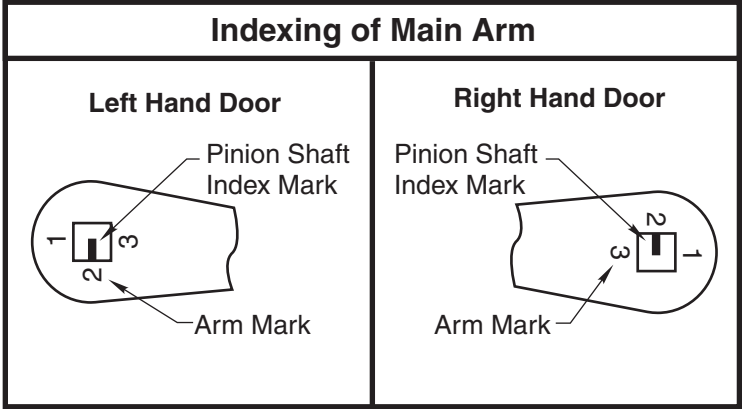
DATE

**02-09**

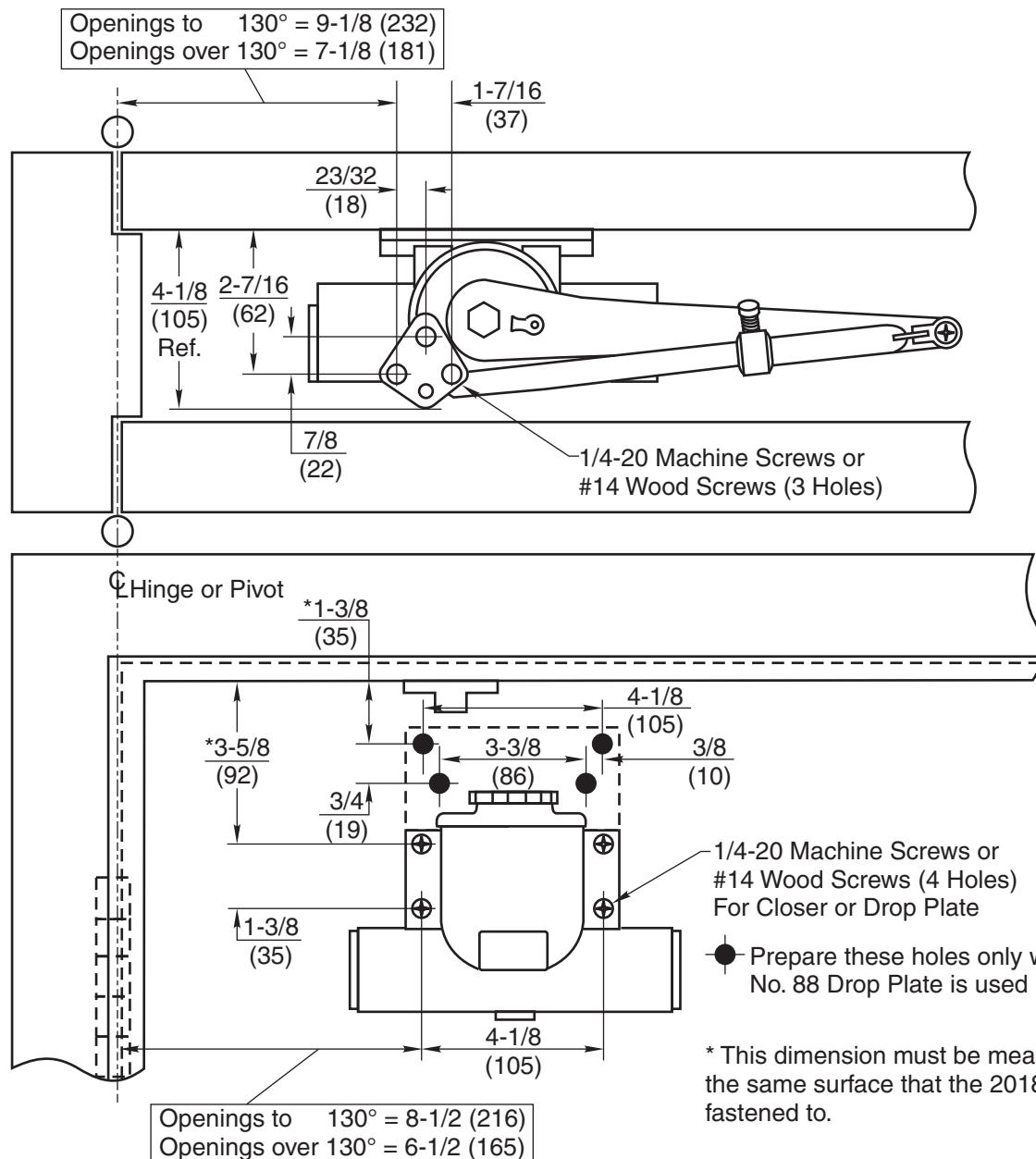


Degree of Opening	Dim. A	Dim. B
Openings To 130°	7-3/4 (197)	8-1/2 (216)
Openings Over 130°	5-3/4 (146)	6-1/2 (165)

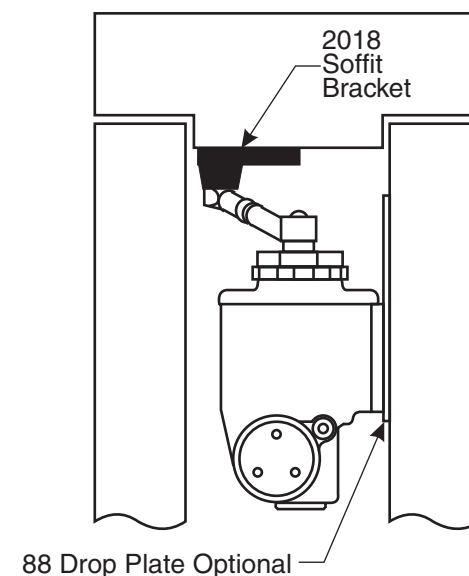
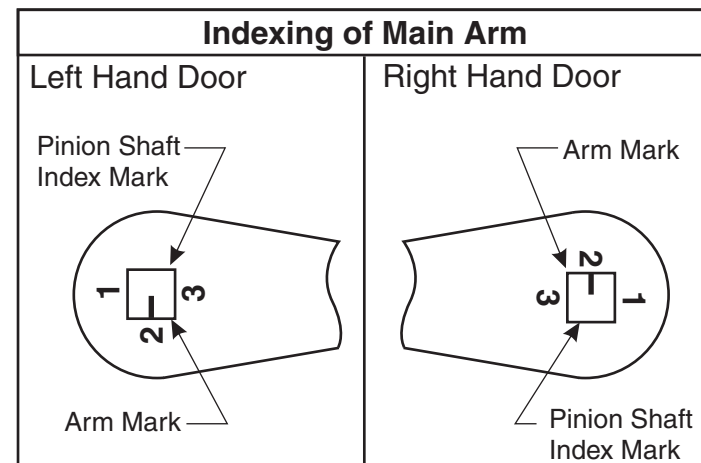
- Notes:**
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).



**Series 78-B/F-PA Door Closers with 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**



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



#### NOTE:

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

## 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

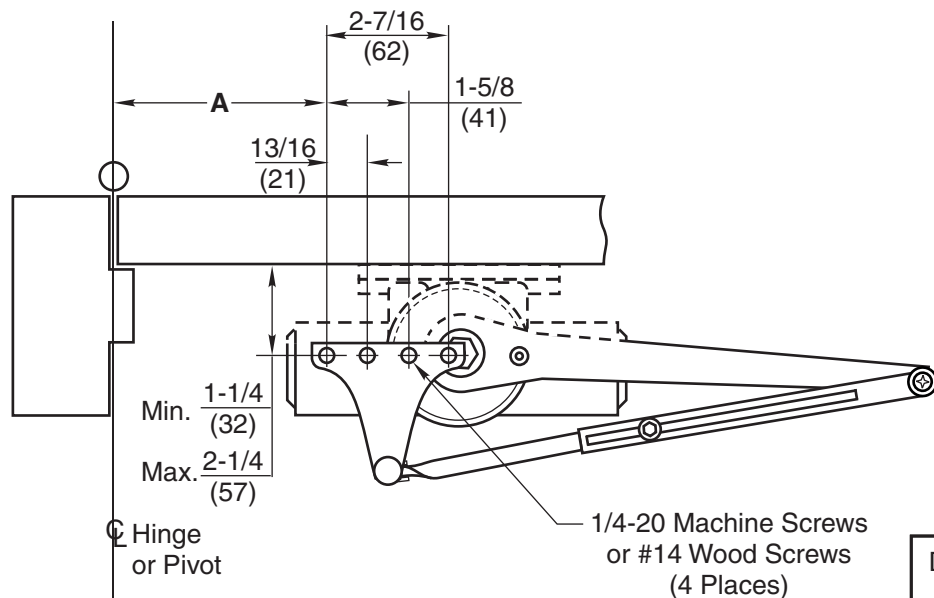
www.nortondoорcontrols.com

TEMPLATE NUMBER

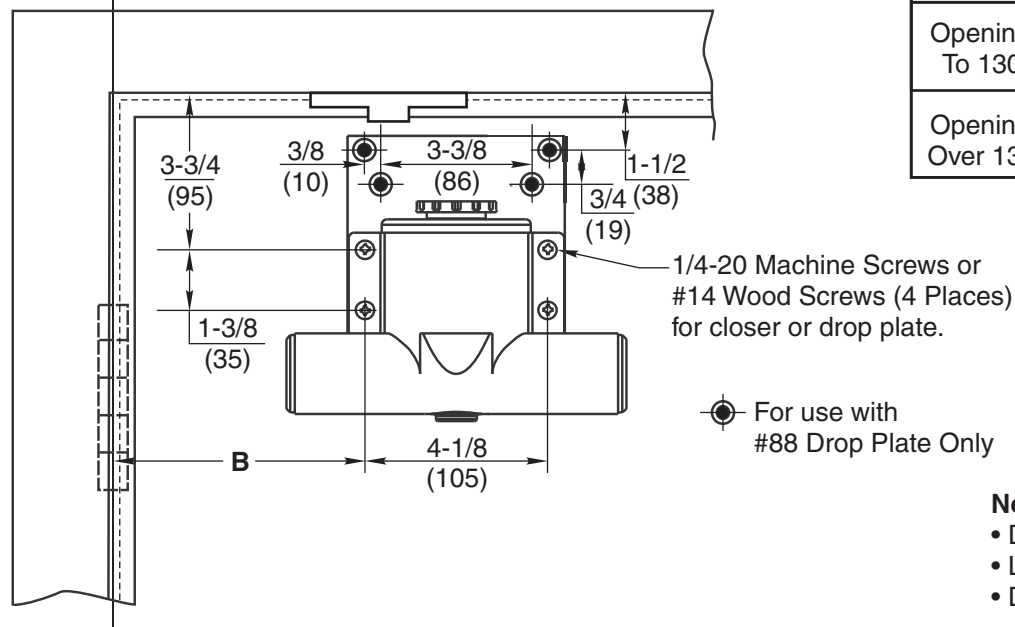
**7349-0202**


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)

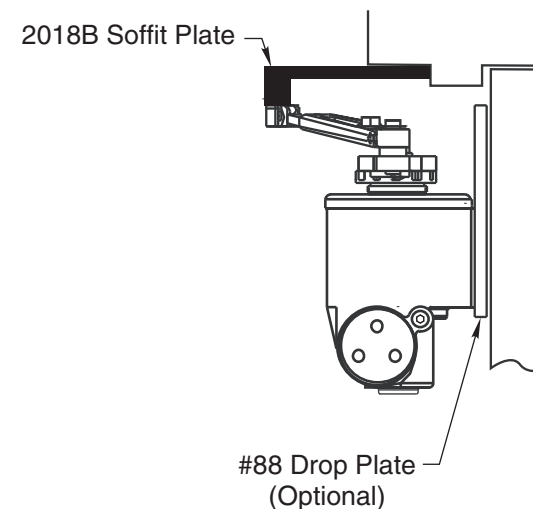
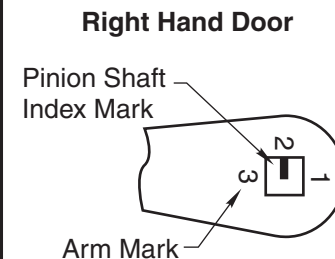
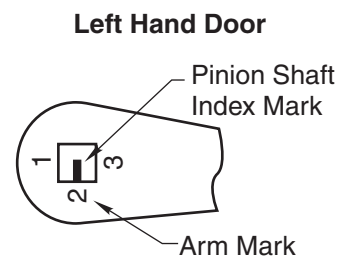


 For use with  
#88 Drop Plate Only

**Notes:**

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

## Indexing of Main Arm



**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**



ASSA ABLOY

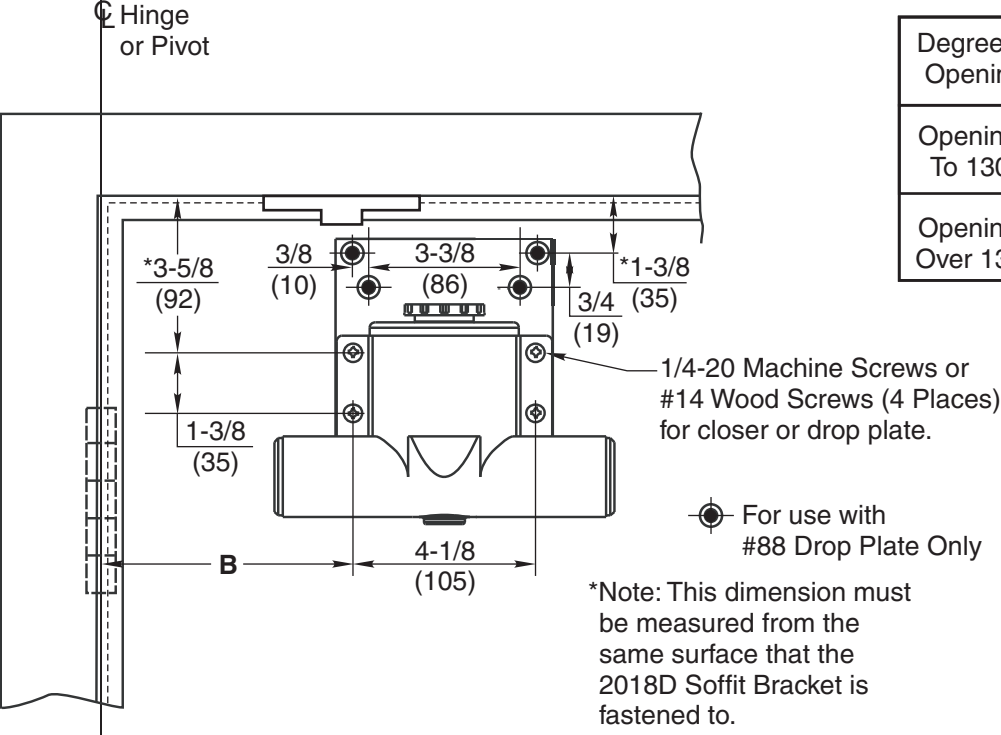
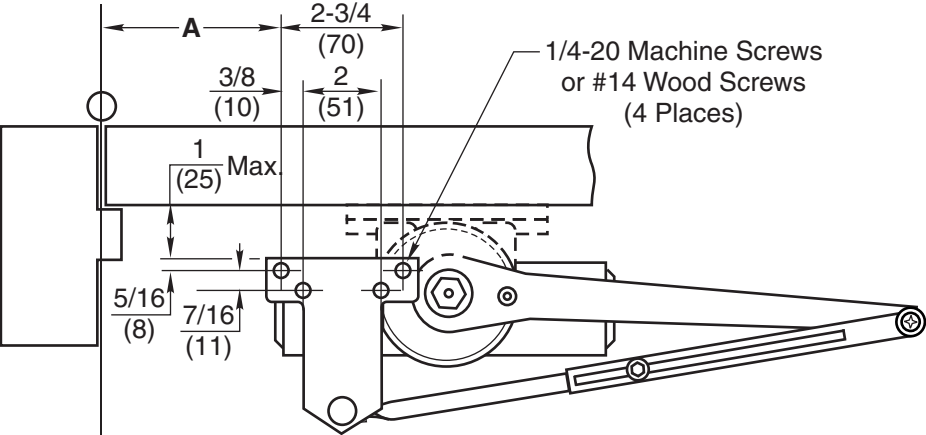
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

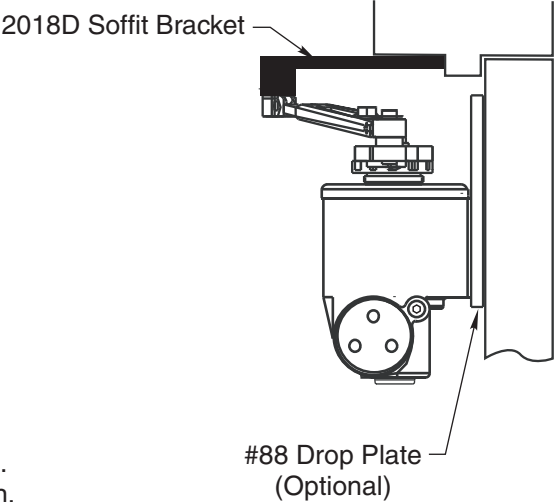
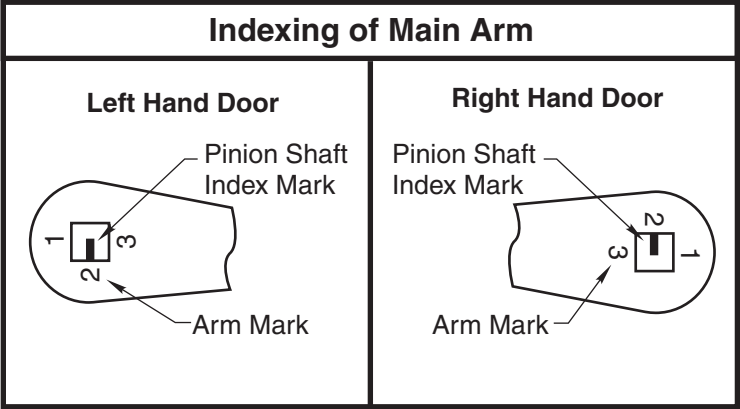
**7349-0203**

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)



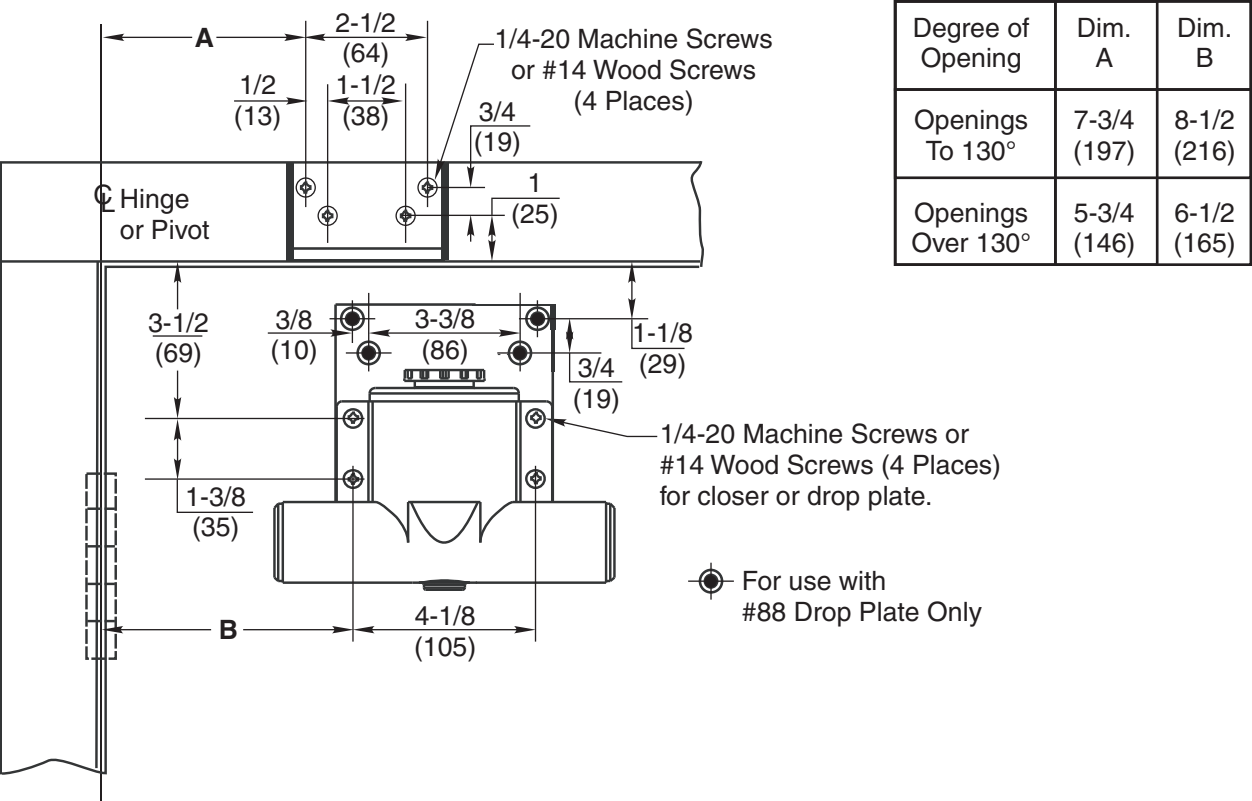
- Notes:**
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).

**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**

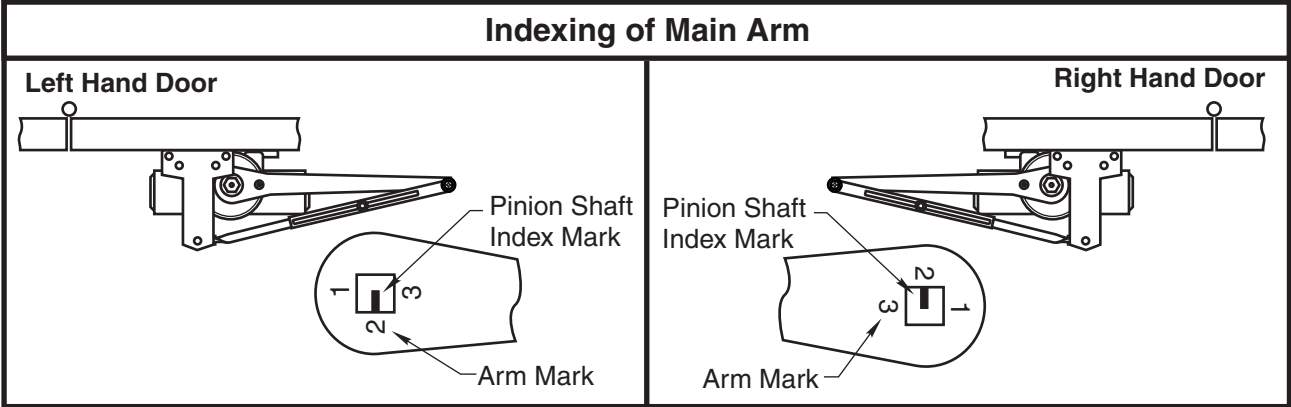
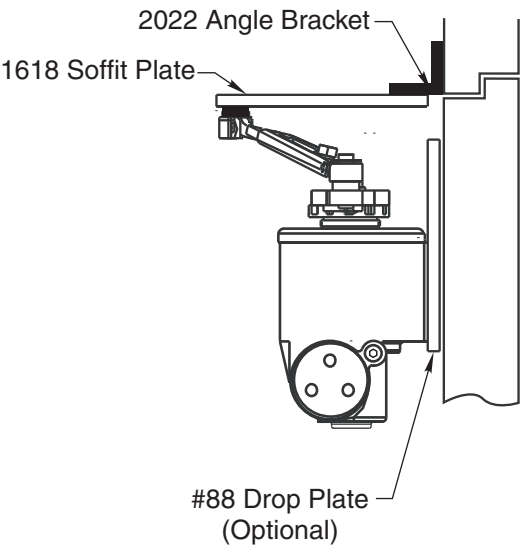
  
ASSA ABLOY  
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER  
**7349-0204**

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)



- 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

Norton

ASSA ABLOY

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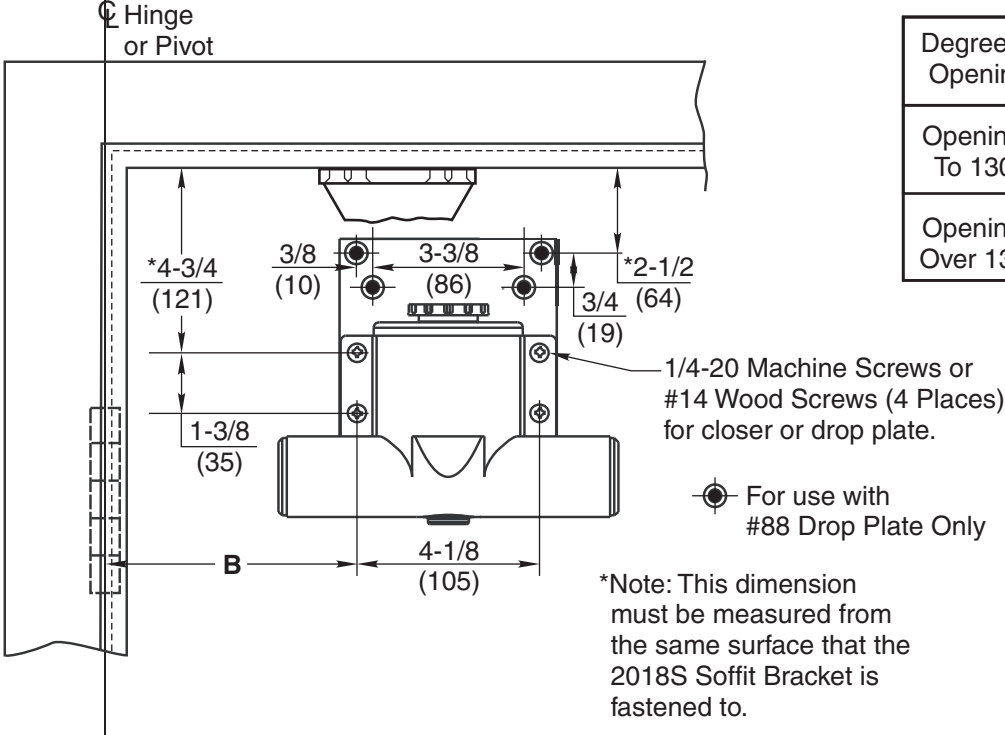
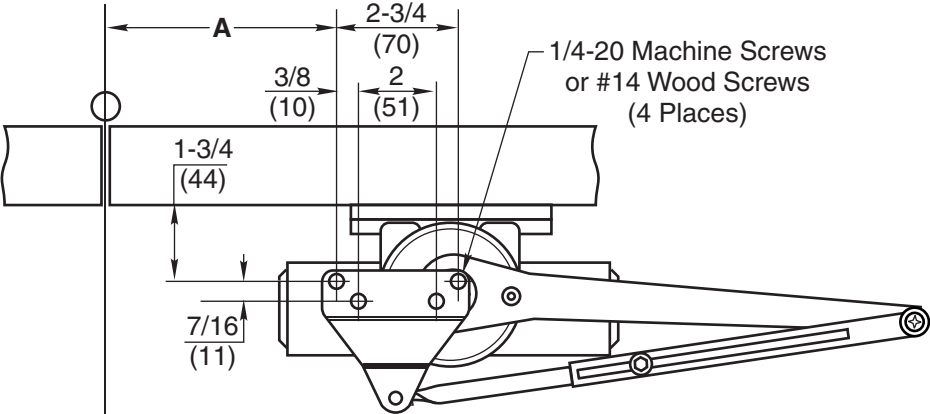
TEMPLATE NUMBER

DATE

7349-0205

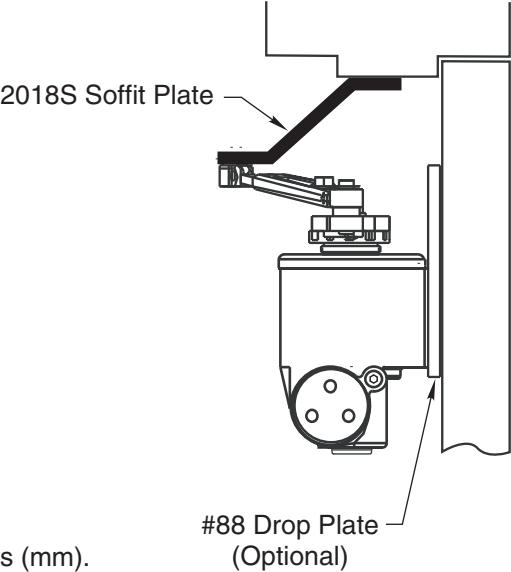
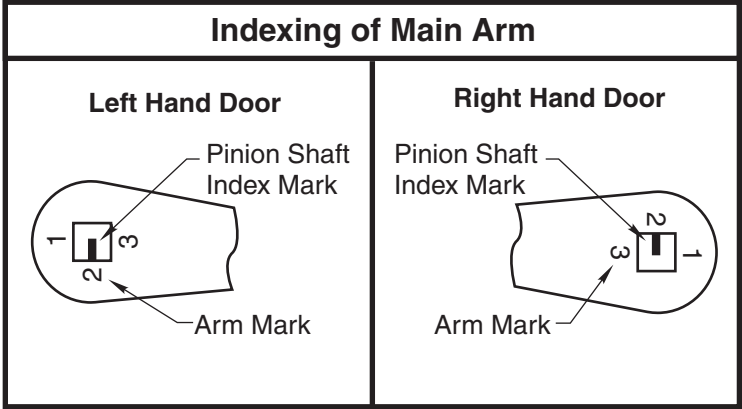
02-09





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)

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

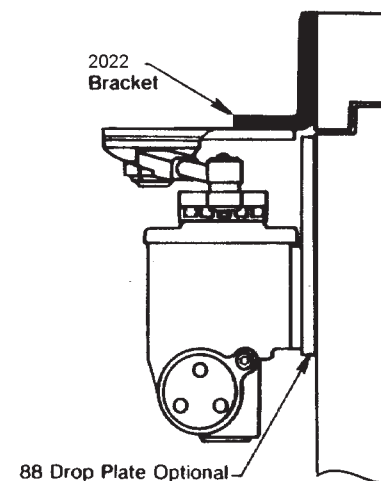
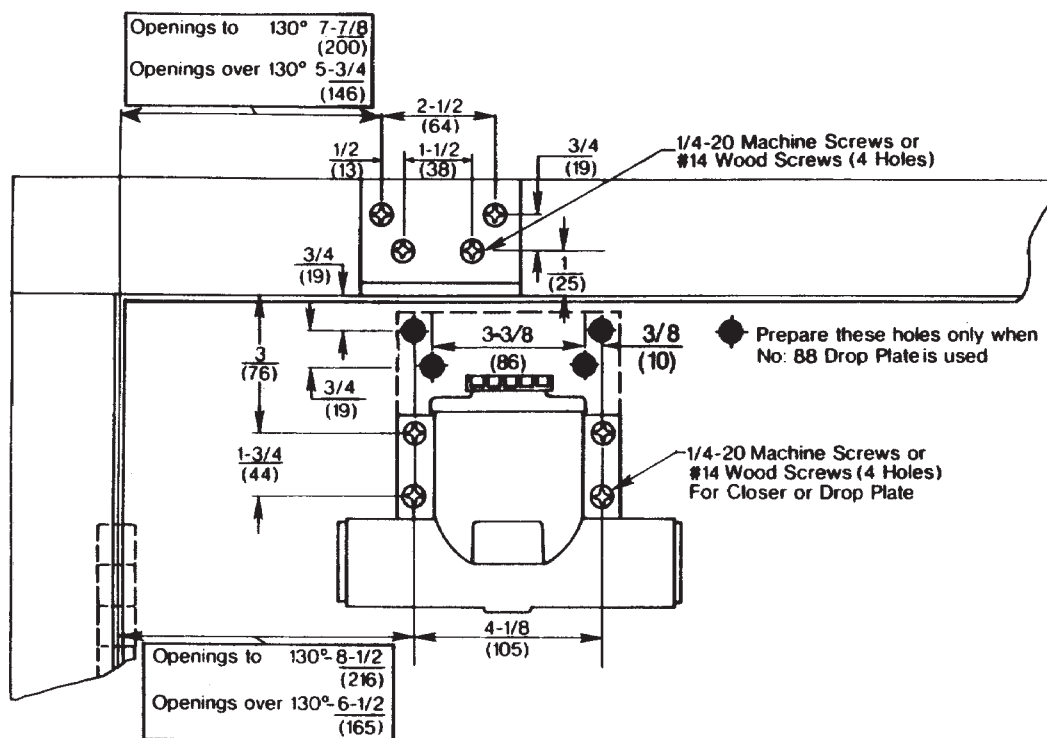


**Series 78-B/F-PA Door Closers with 2018S Soffit Plate**  
**Non-Hold Open Parallel Arm Installation**  
**With or Without No. 88 Drop Plate**  
**Closer Sizes 78-B/D-PA or 78-E/F-PA**

**Norton**  
ASSA ABLOY  
www.nortondoorcontrols.com

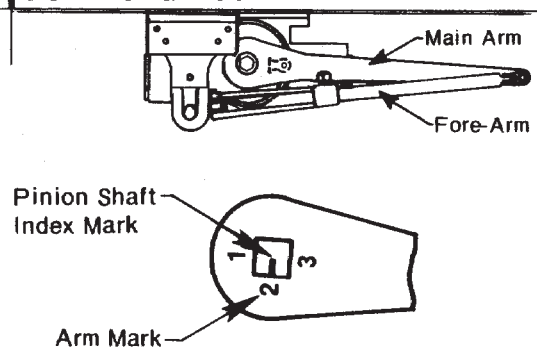
TEMPLATE NUMBER  
**7349-0206**

DATE  
**02-09**

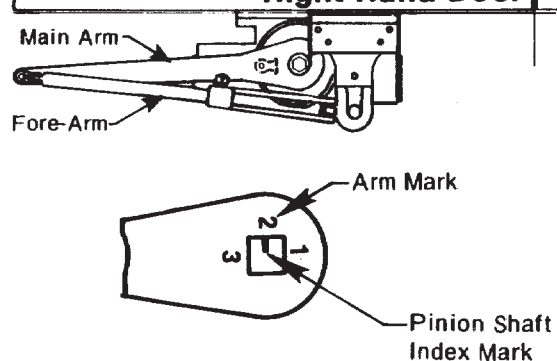


### Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown

**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

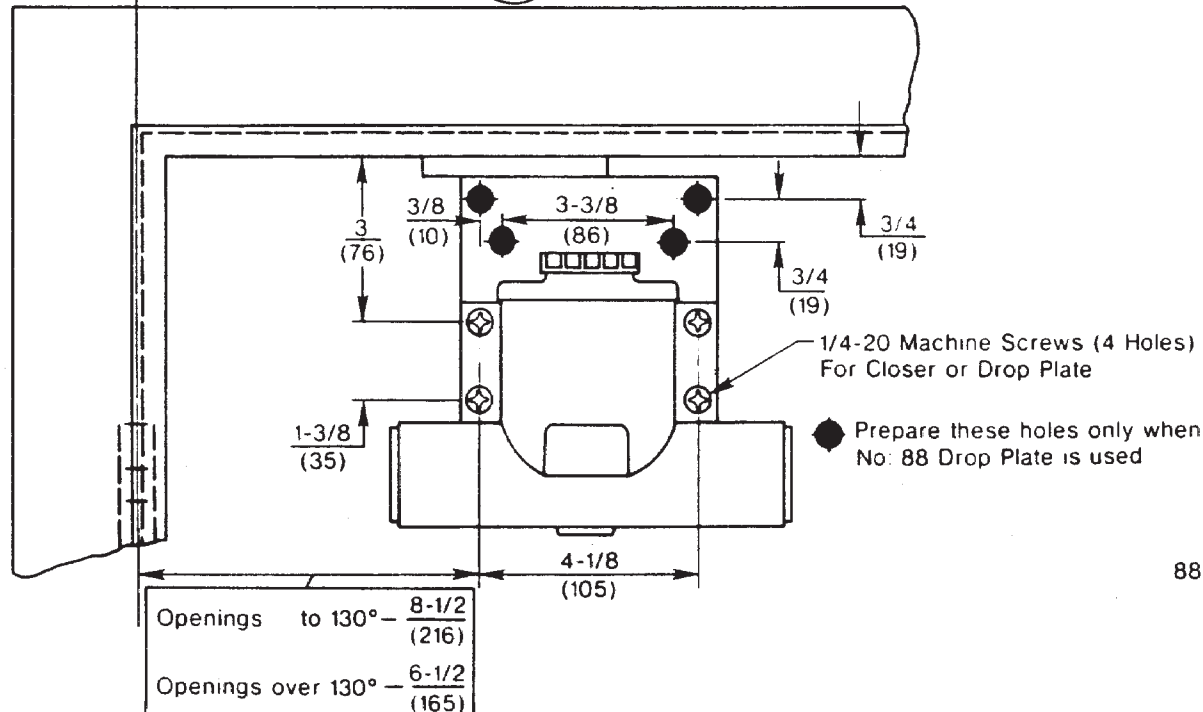
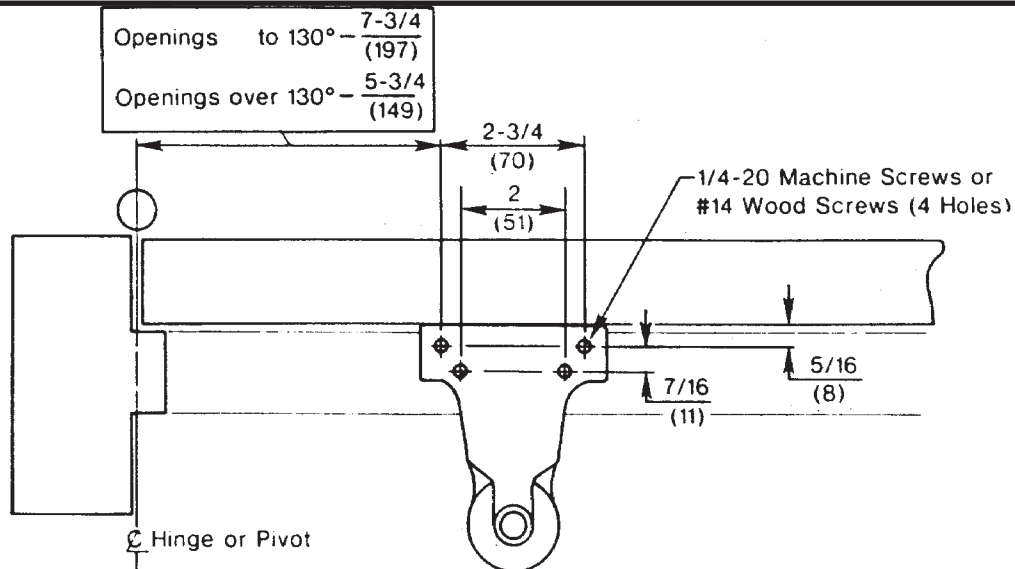
www.nortondoorcontrols.com

TEMPLATE NUMBER

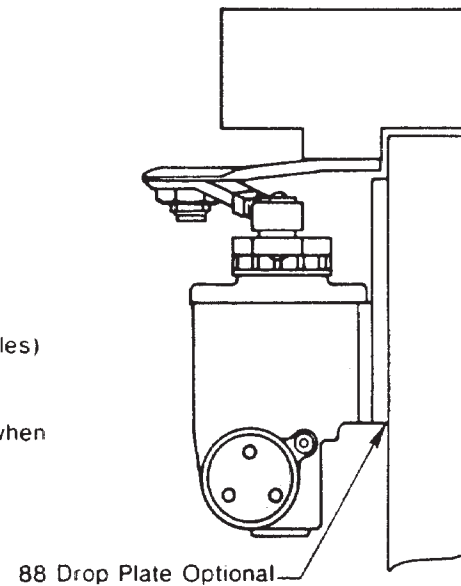
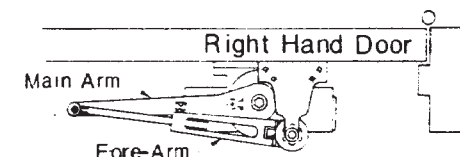
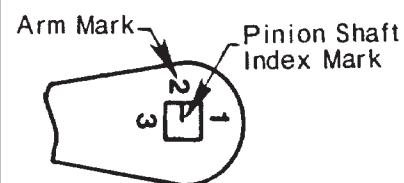
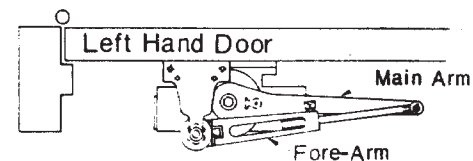
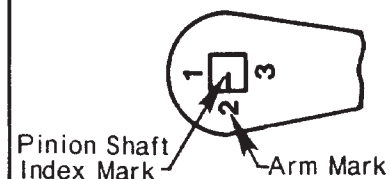
**7349-0208**

DATE

**02-09**



## Indexing of Main Arm



Measurements are given in inches (mm)

Do Not Scale Drawing  
 Left Hand Door Shown

**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

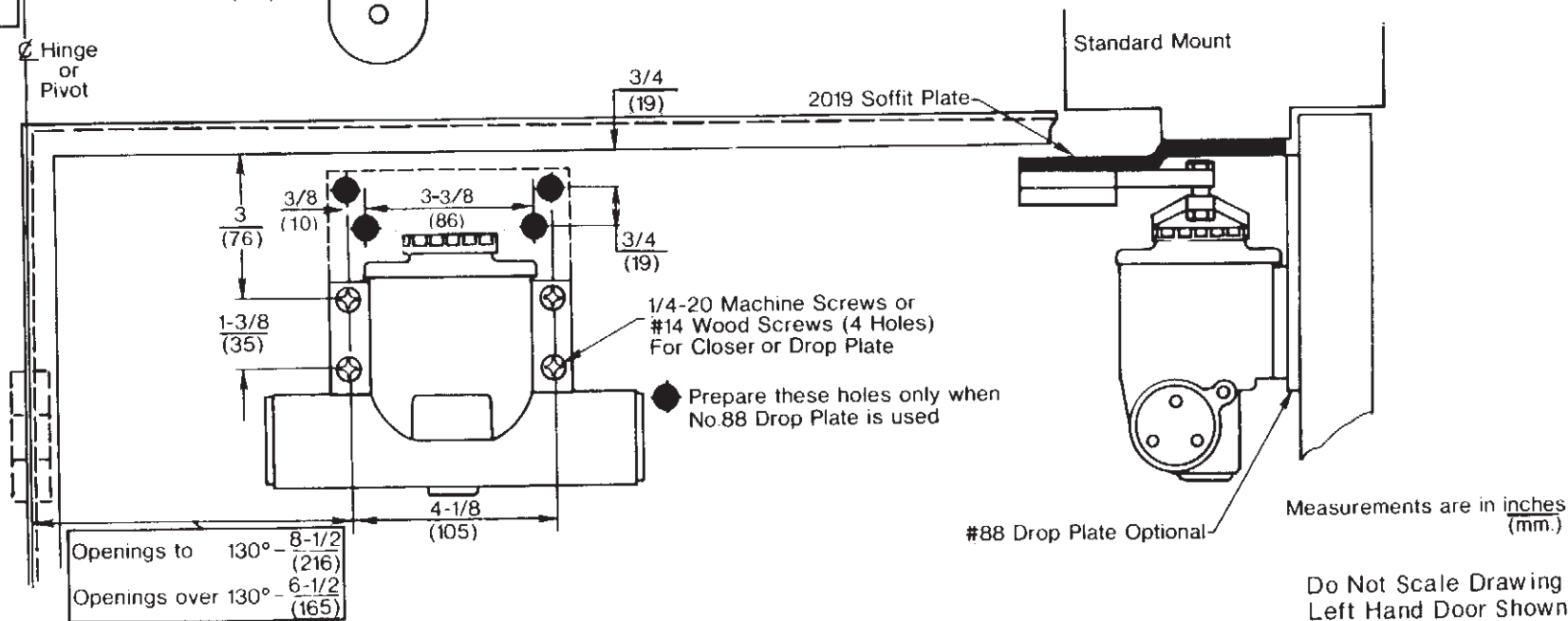
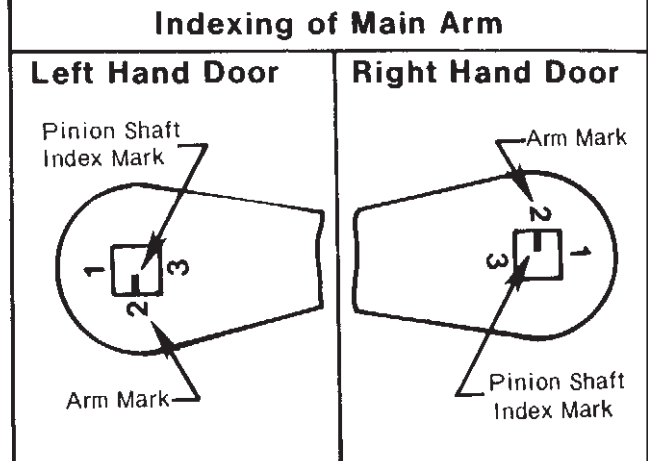
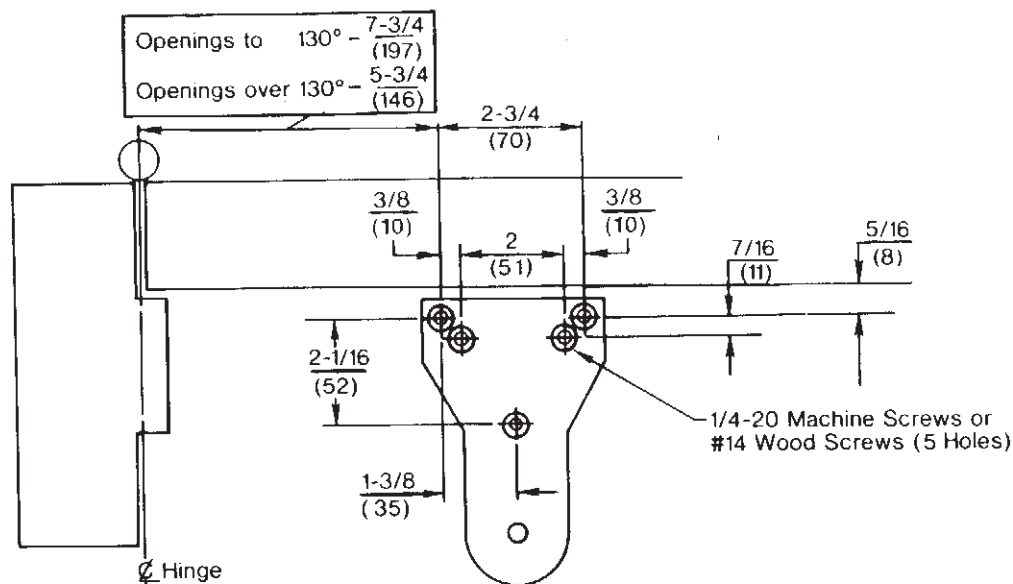
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0209**

DATE

**02-09**



**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

www.nortondoorcontrols.com

TEMPLATE NUMBER

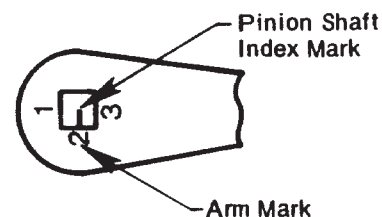
**7349-0251**

DATE

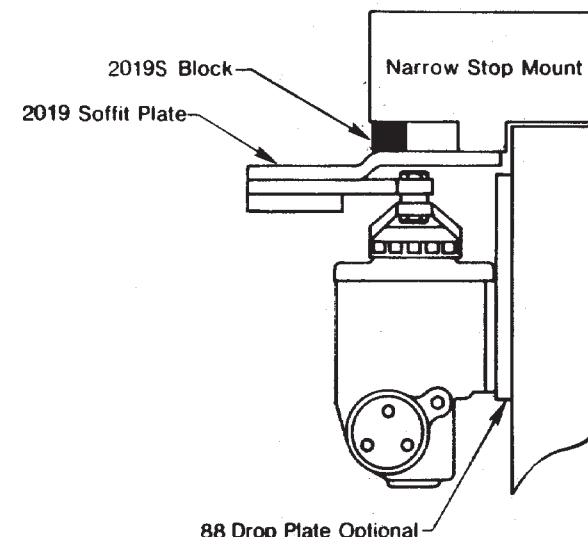
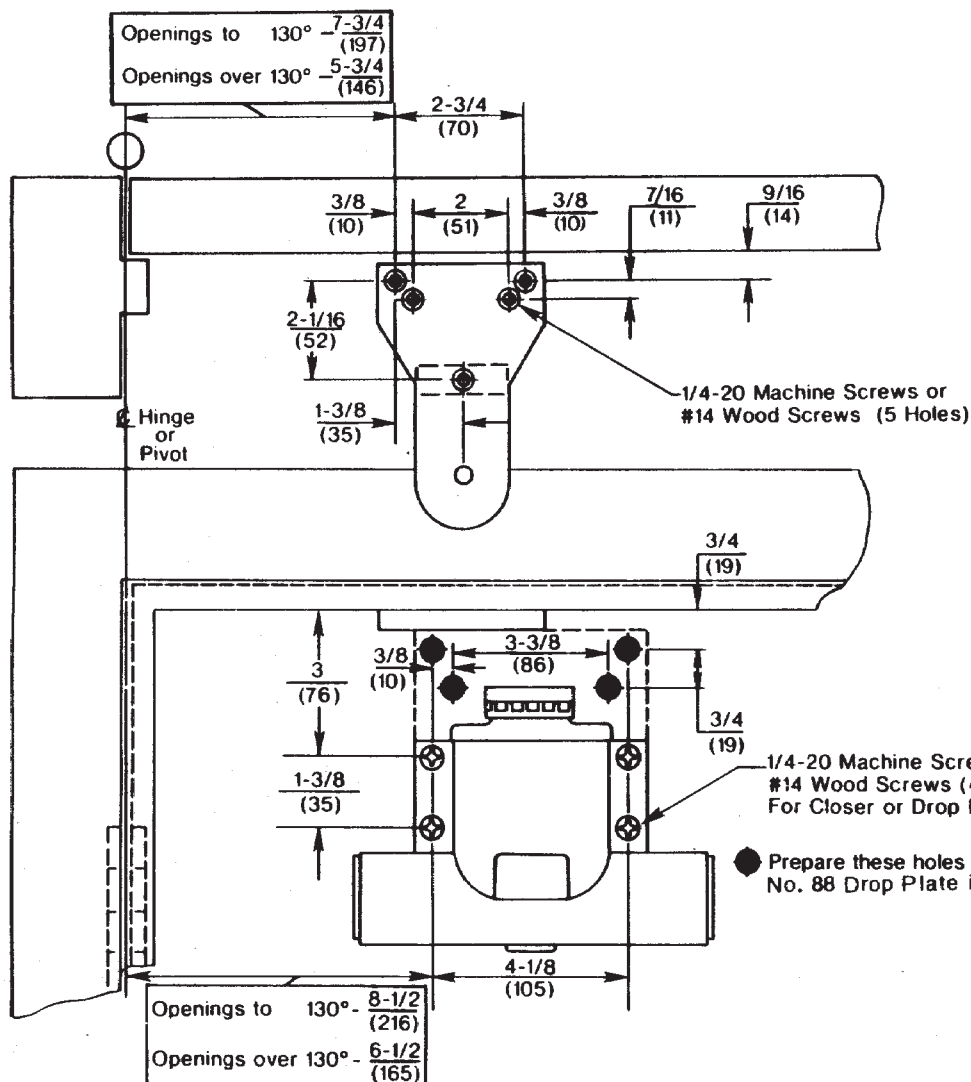
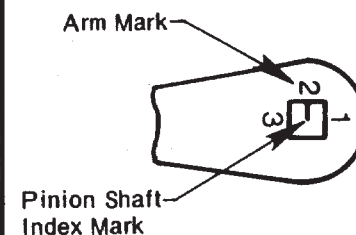
**02-09**

## Indexing of Main Arm

### Left Hand Door



### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown

**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

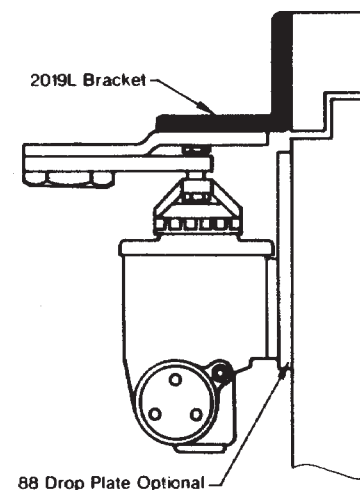
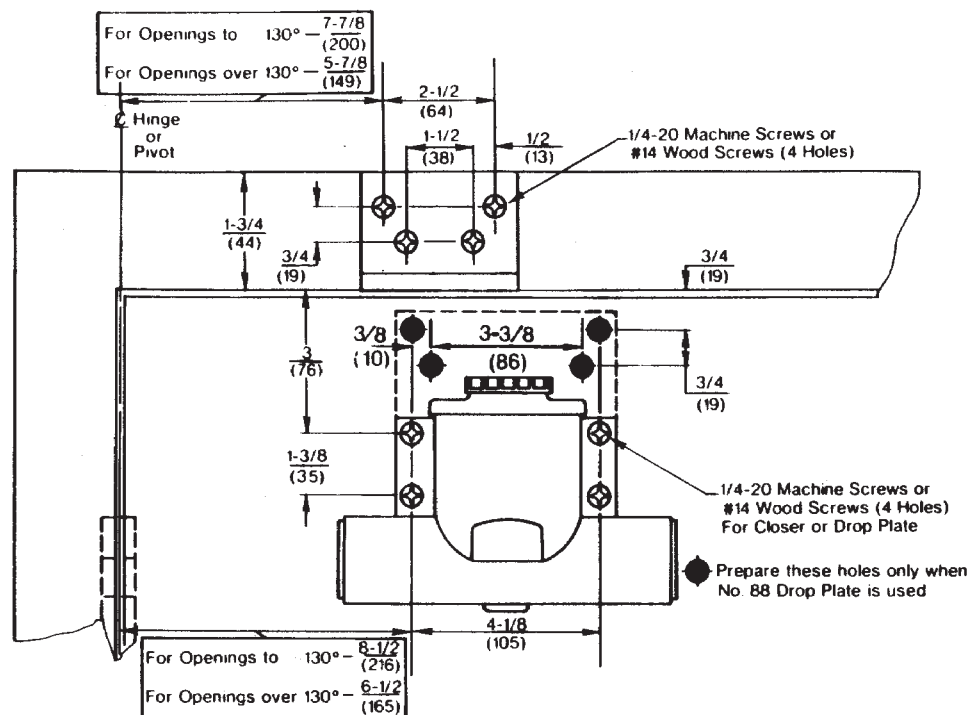
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-0252**

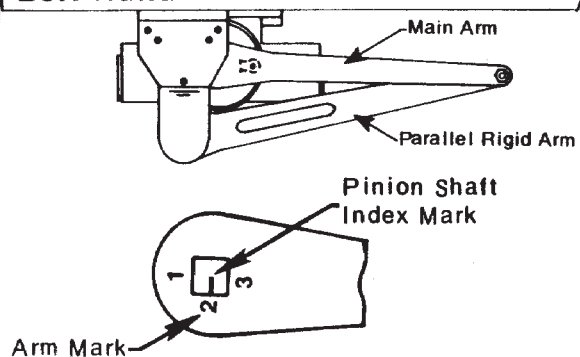
DATE

**02-09**

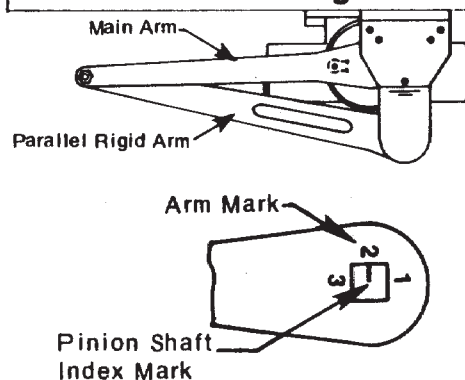


### Indexing of Main Arm

#### Left Hand Door



#### Right Hand Door



Measurements are given in inches  
mm

Do Not Scale Drawing  
Left Hand Door Shown

**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

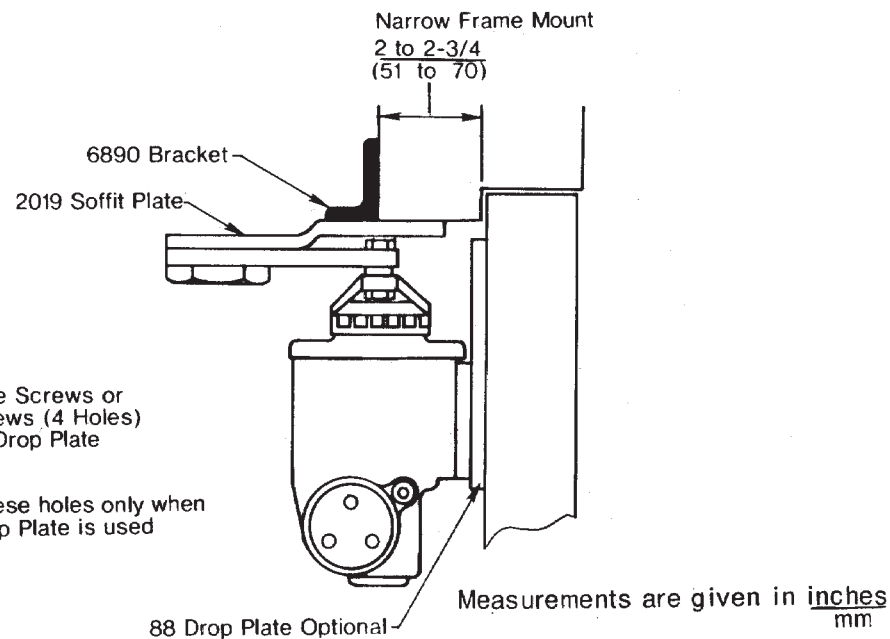
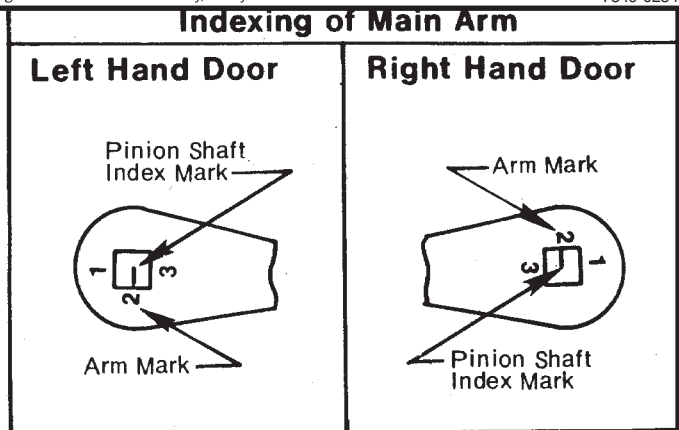
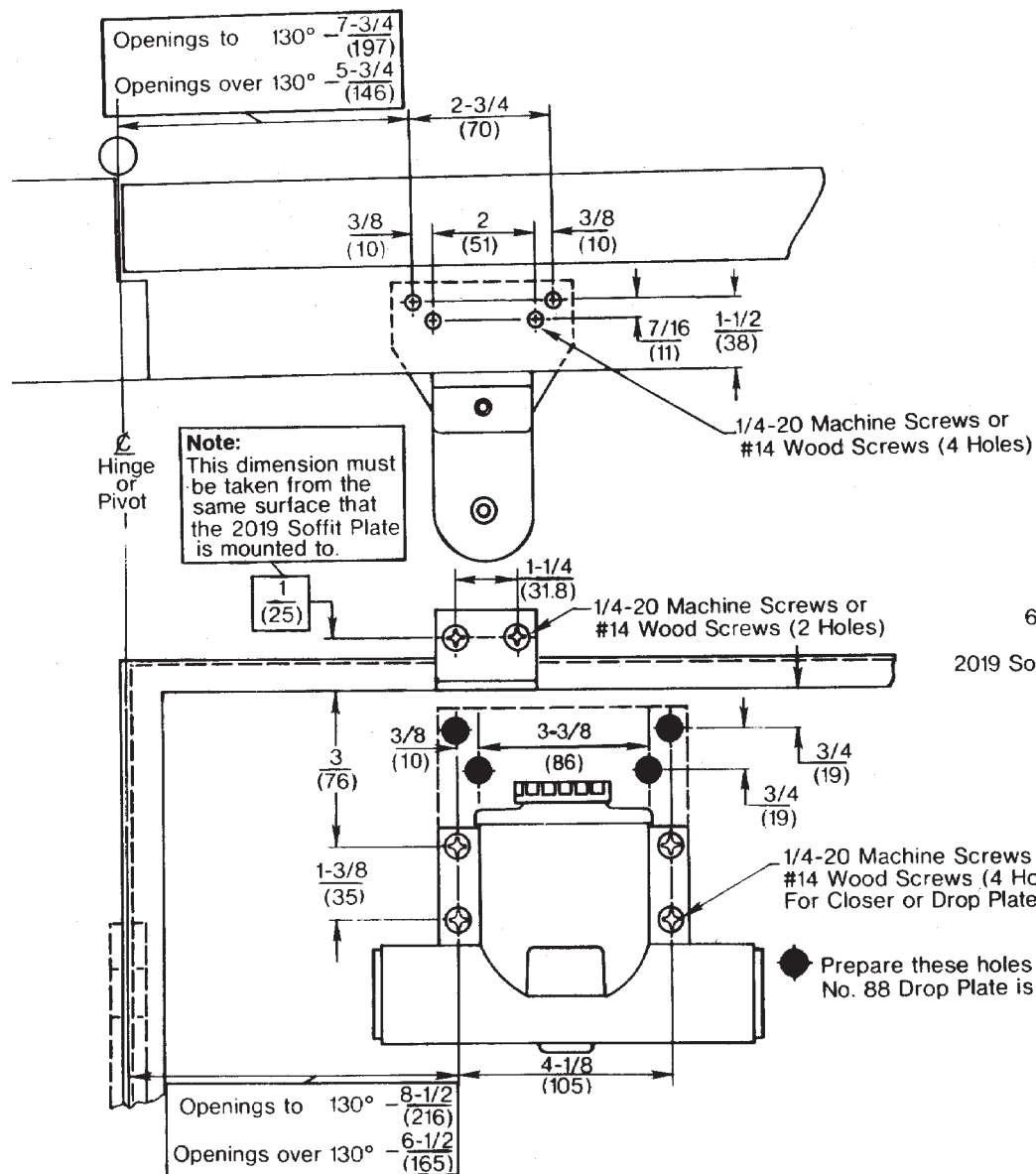
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7349-0253**

DATE

**02-09**



Do Not Scale Drawing  
 Left Hand Door Shown

**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)

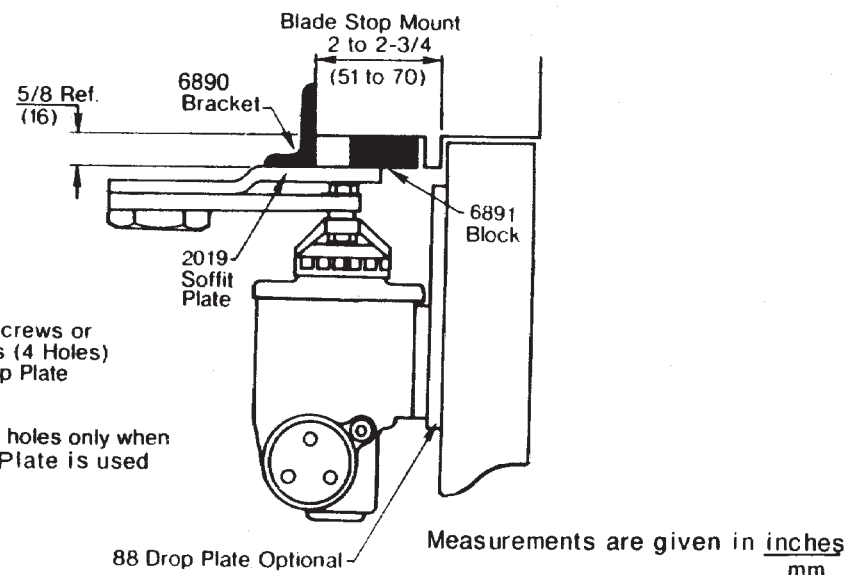
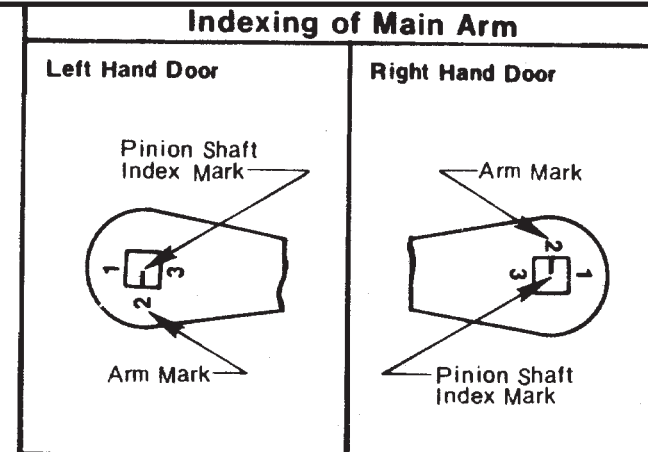
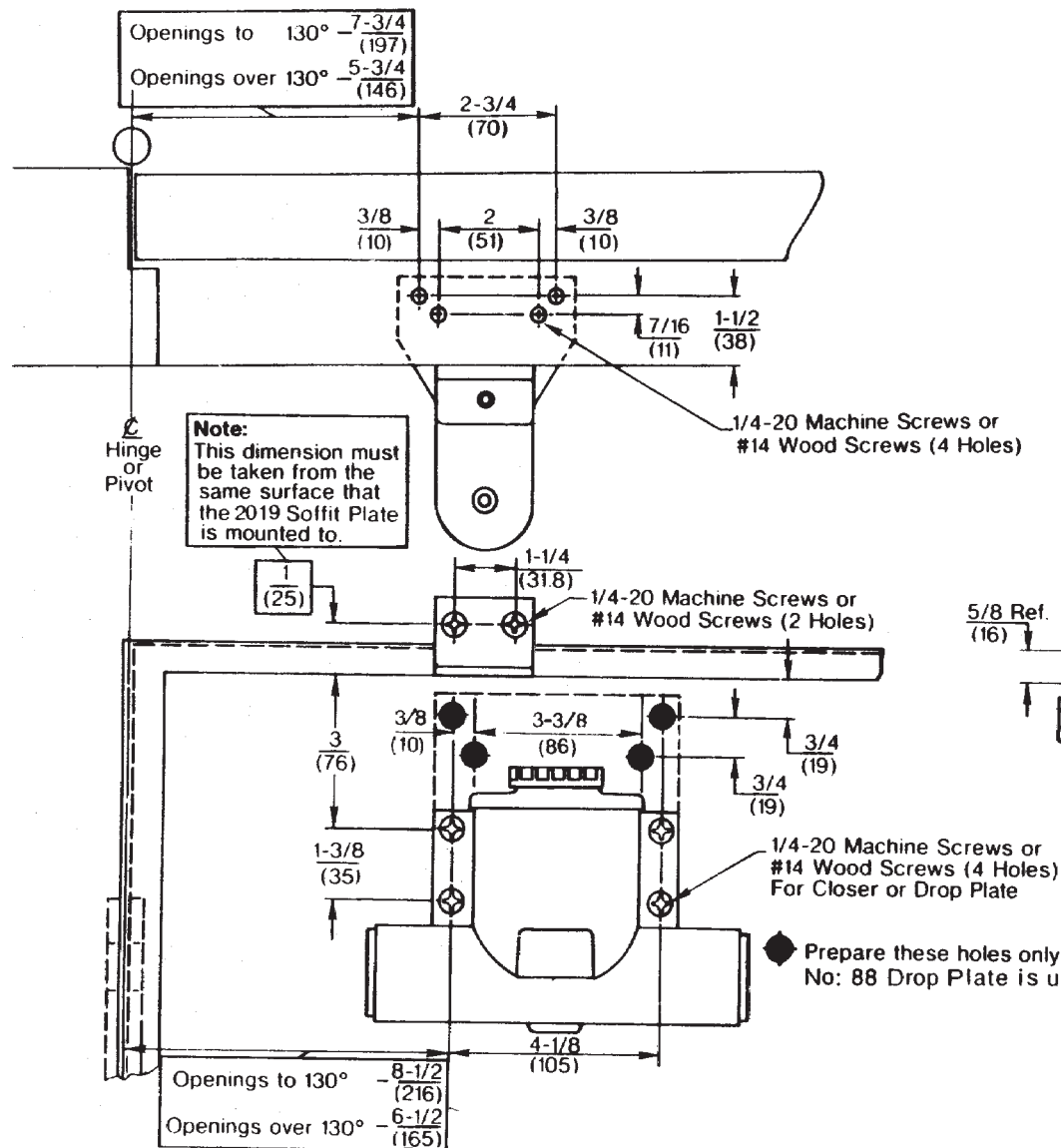
TEMPLATE NUMBER

**7349-0254**

DATE

**02-09**





Do Not Scale Drawing  
Left Hand Door Shown

**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

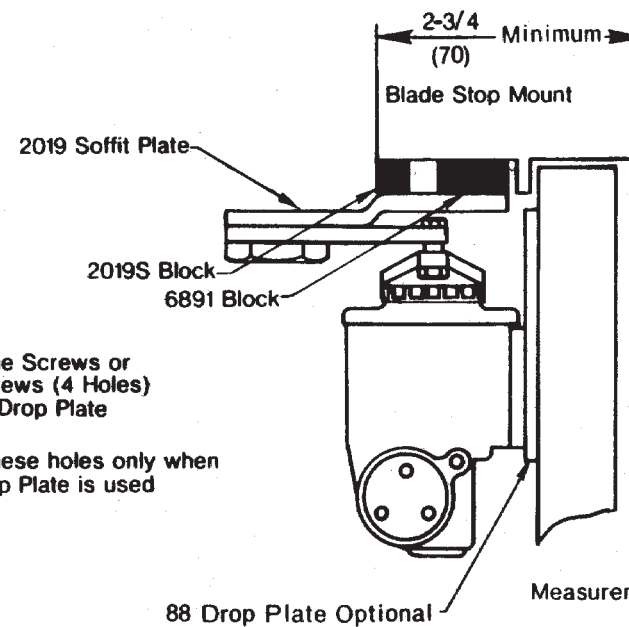
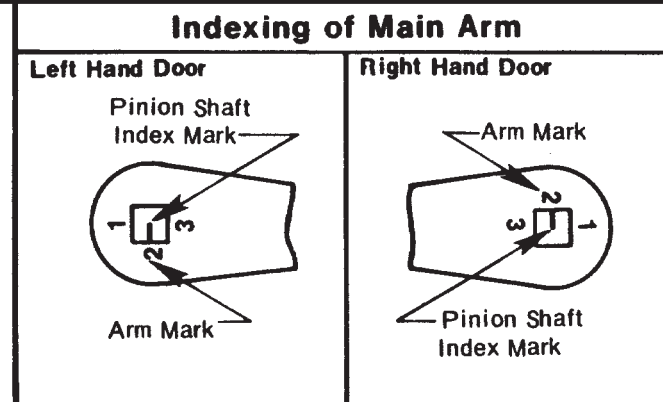
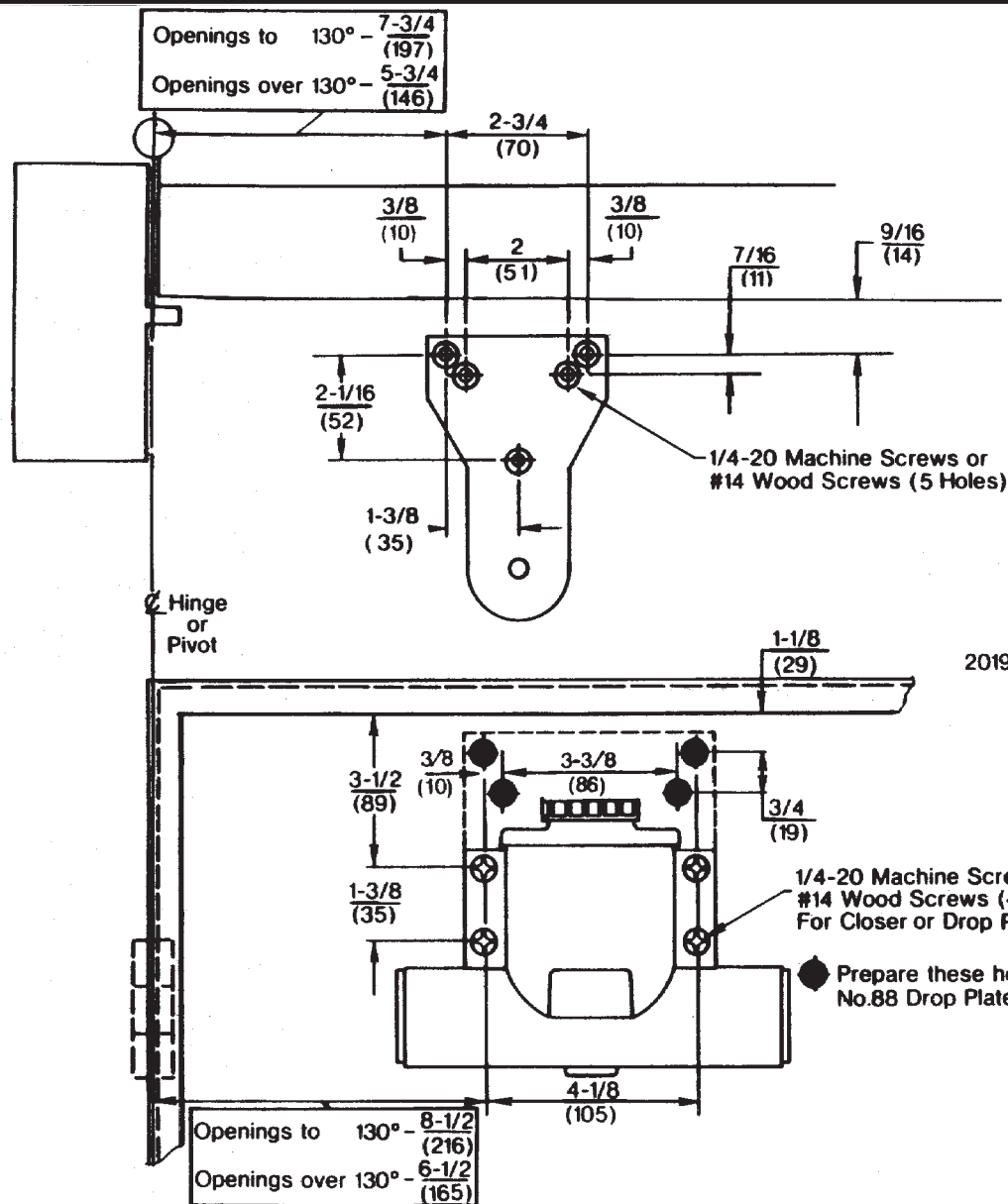
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-0255**

DATE

**02-09**



Do Not Scale Drawing  
Left Hand Door Shown

**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

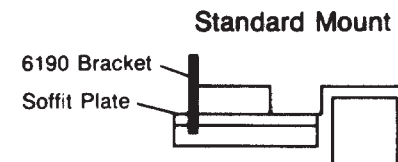
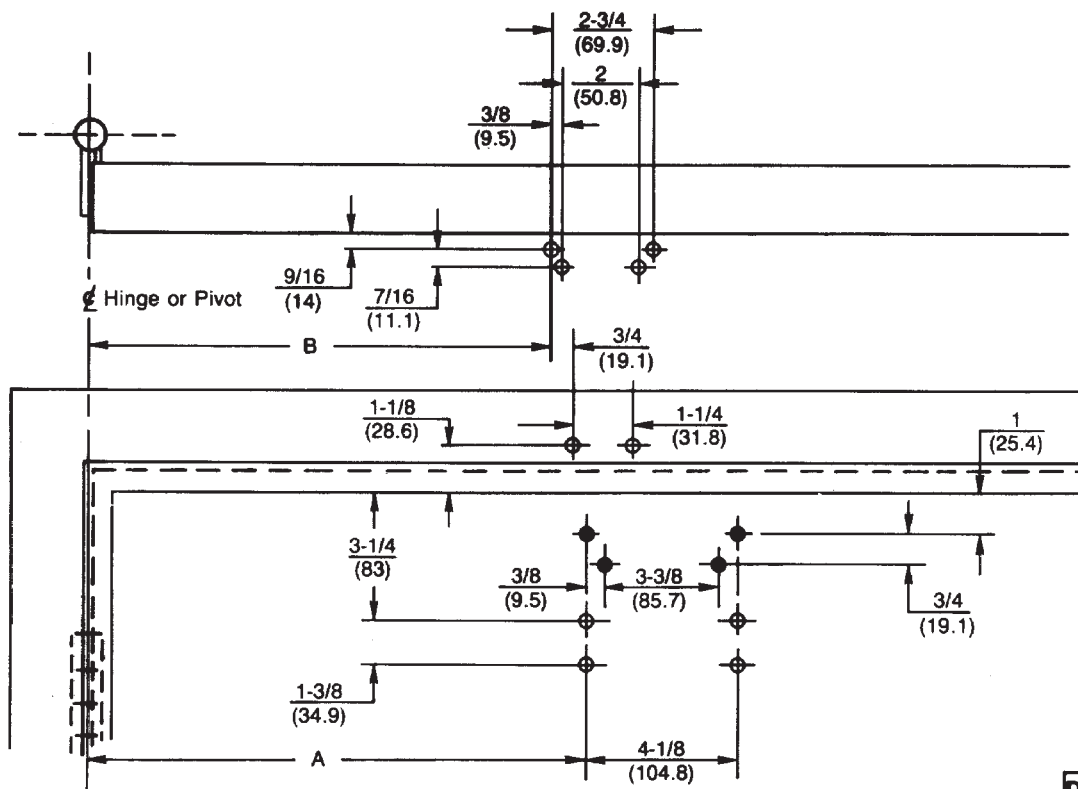
www.nortondoorcontrols.com

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

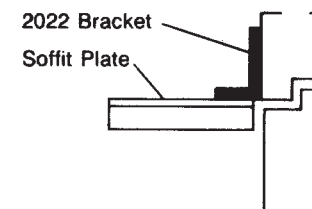
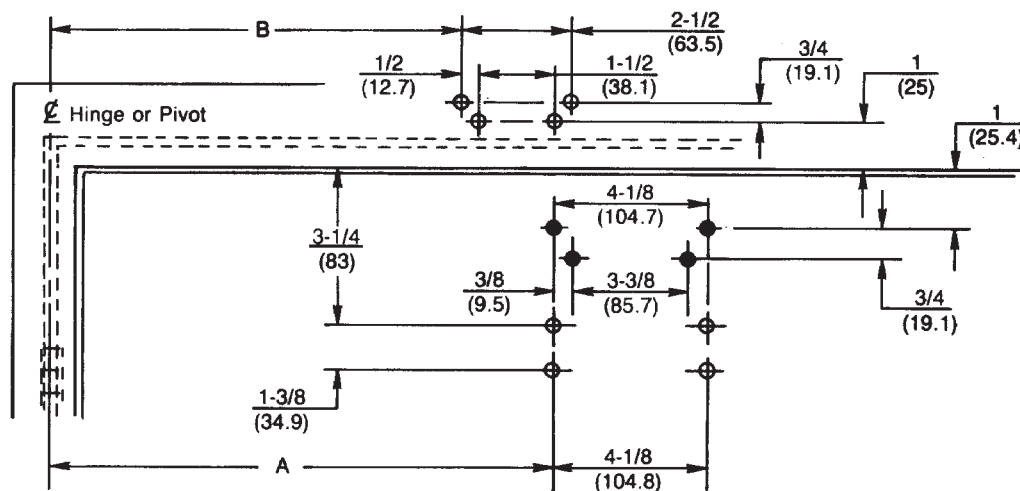
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-1351**

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. 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 <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
90°	95°	11	279	9 <sup>7</sup> / <sub>8</sub>	251	11 <sup>3</sup> / <sub>4</sub>	298	10 <sup>5</sup> / <sub>8</sub>	270
95°	100°	10 <sup>1</sup> / <sub>2</sub>	266	9 <sup>1</sup> / <sub>2</sub>	241	11 <sup>1</sup> / <sub>4</sub>	286	10 <sup>1</sup> / <sub>8</sub>	257
100°	105°	10	254	8 <sup>7</sup> / <sub>8</sub>	225	10 <sup>3</sup> / <sub>4</sub>	273	9 <sup>5</sup> / <sub>8</sub>	244
105°	110°	9 <sup>1</sup> / <sub>2</sub>	241	8 <sup>3</sup> / <sub>8</sub>	213	10 <sup>1</sup> / <sub>4</sub>	260	9 <sup>1</sup> / <sub>8</sub>	232
110°	115°	9 <sup>1</sup> / <sub>8</sub>	231	8	203	9 <sup>7</sup> / <sub>8</sub>	251	8 <sup>3</sup> / <sub>4</sub>	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

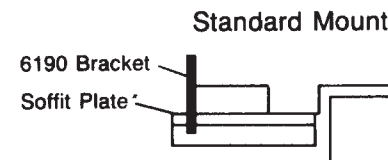
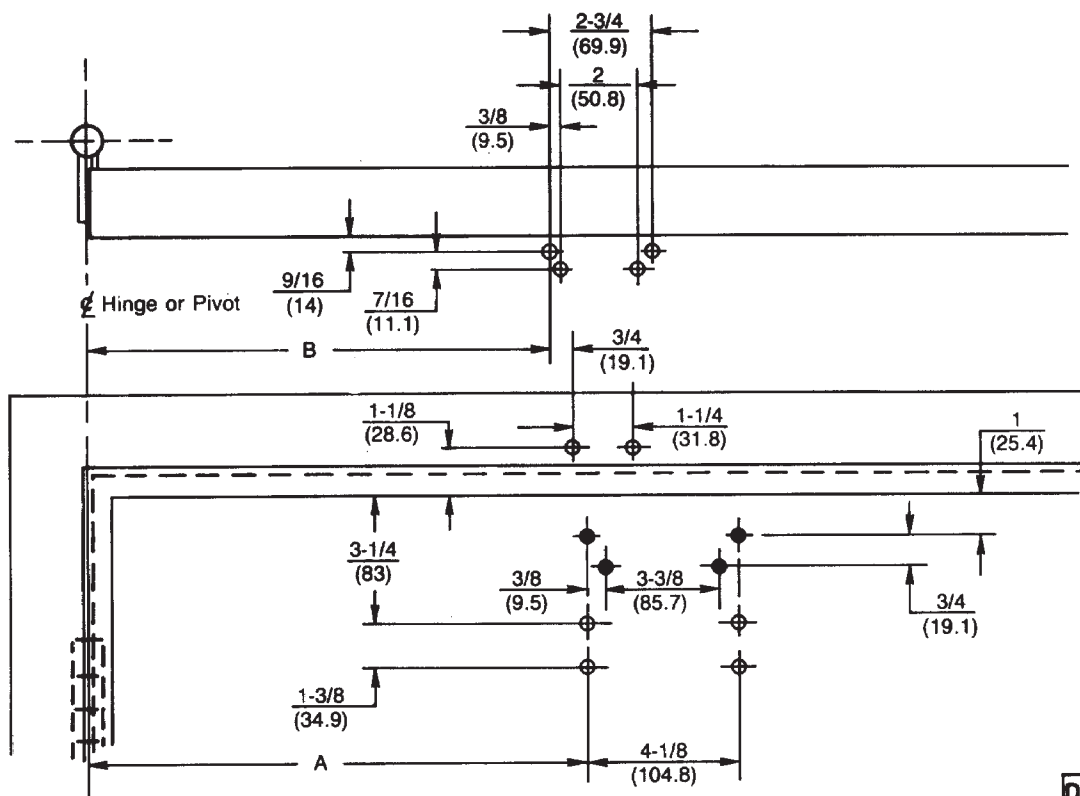
www.nortondoorcontrols.com

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

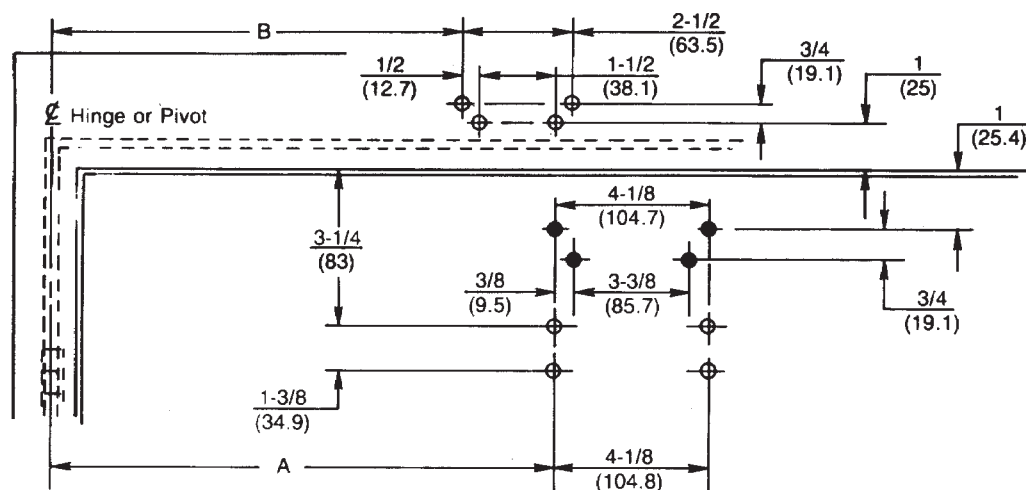
www.nortondoorcontrols.com

TEMPLATE NUMBER

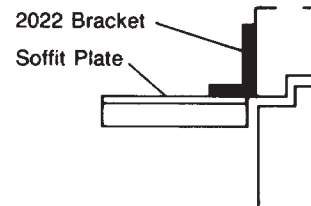
**7349-1353**

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. 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

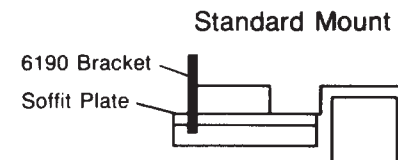
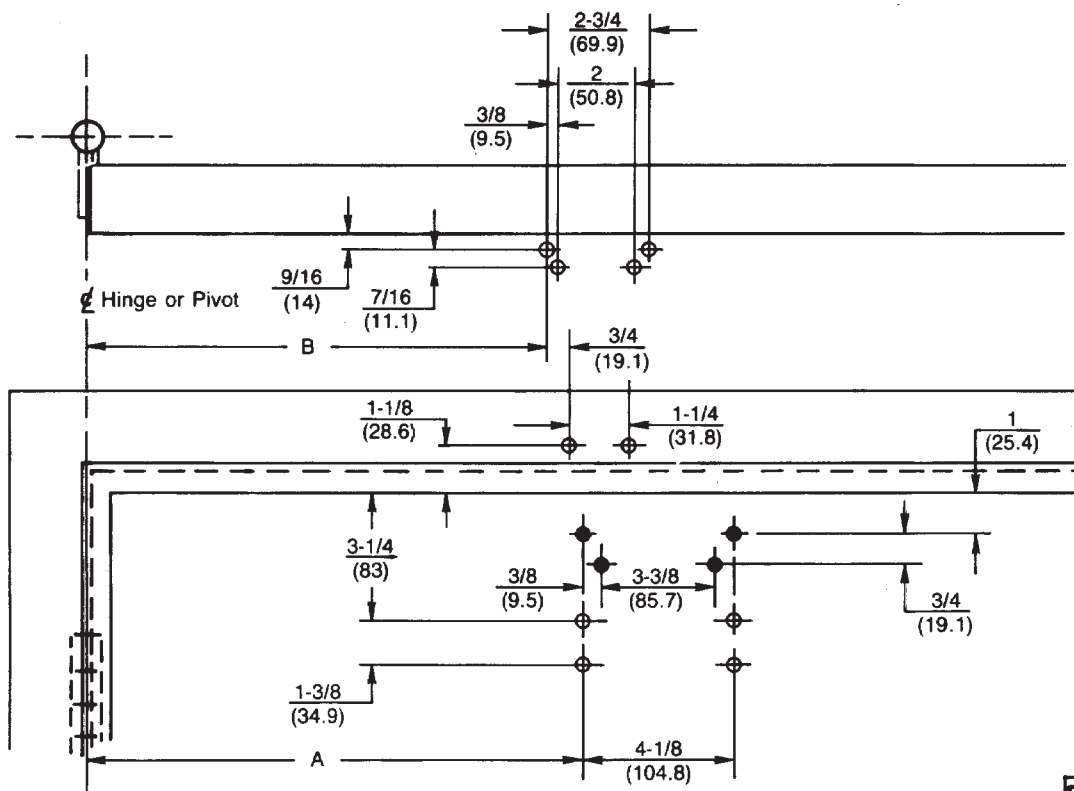
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-1354**

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°	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

www.nortondoorcontrols.com

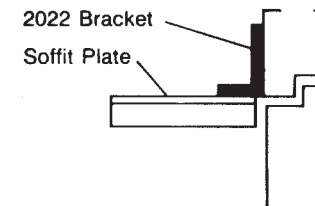
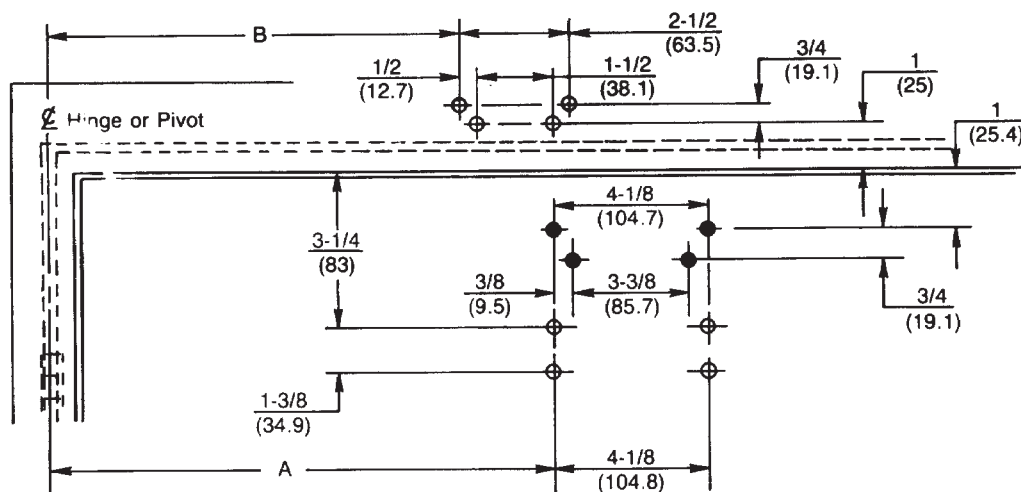
TEMPLATE NUMBER

**7349-1355**

DATE

**02-09**





#### 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**

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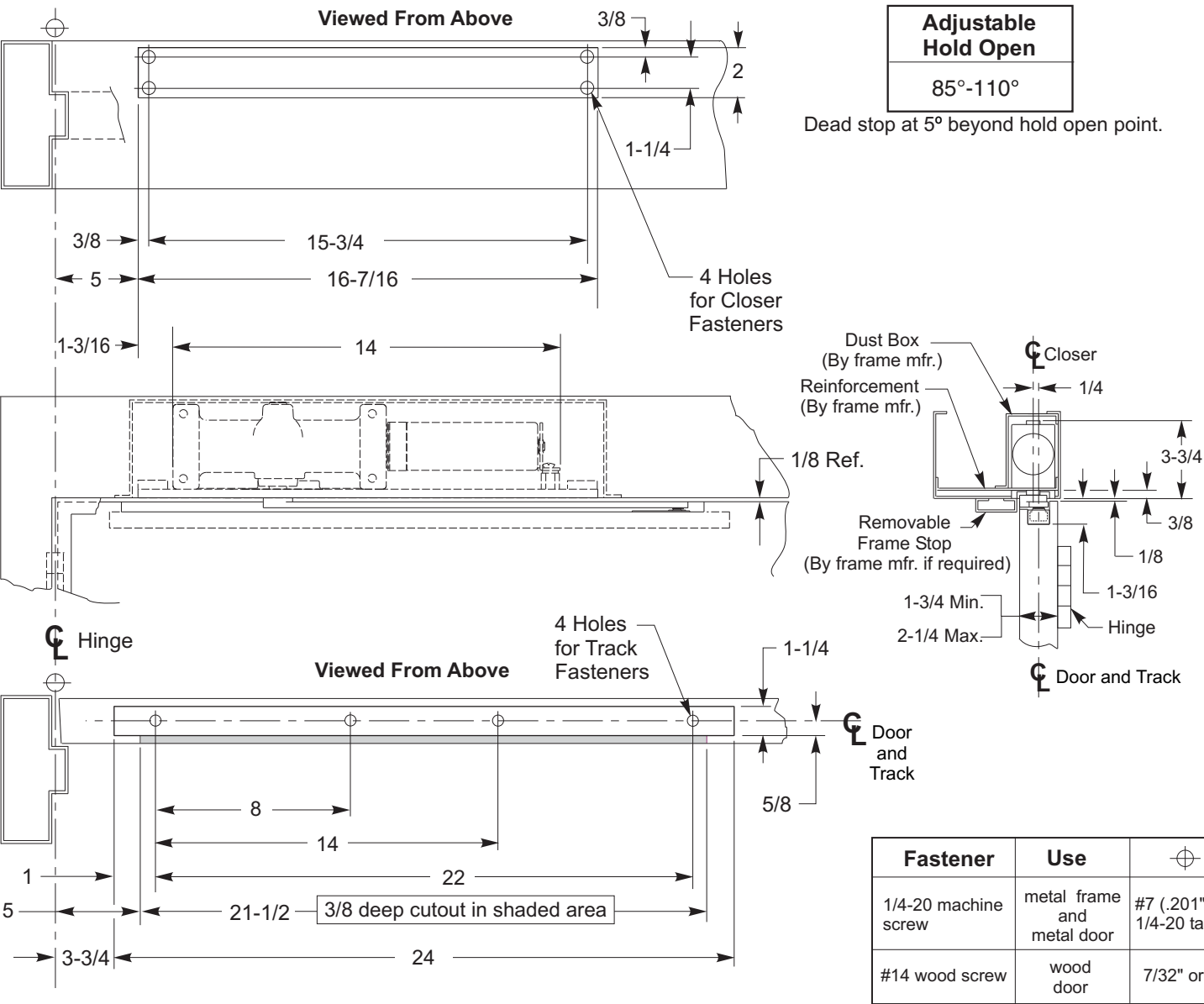
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7349-1356**

DATE

**02-09**



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 29 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.5
21-1/2	546.1
24	609.6
29	736.6

Fastener	Use	Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5mm. drill

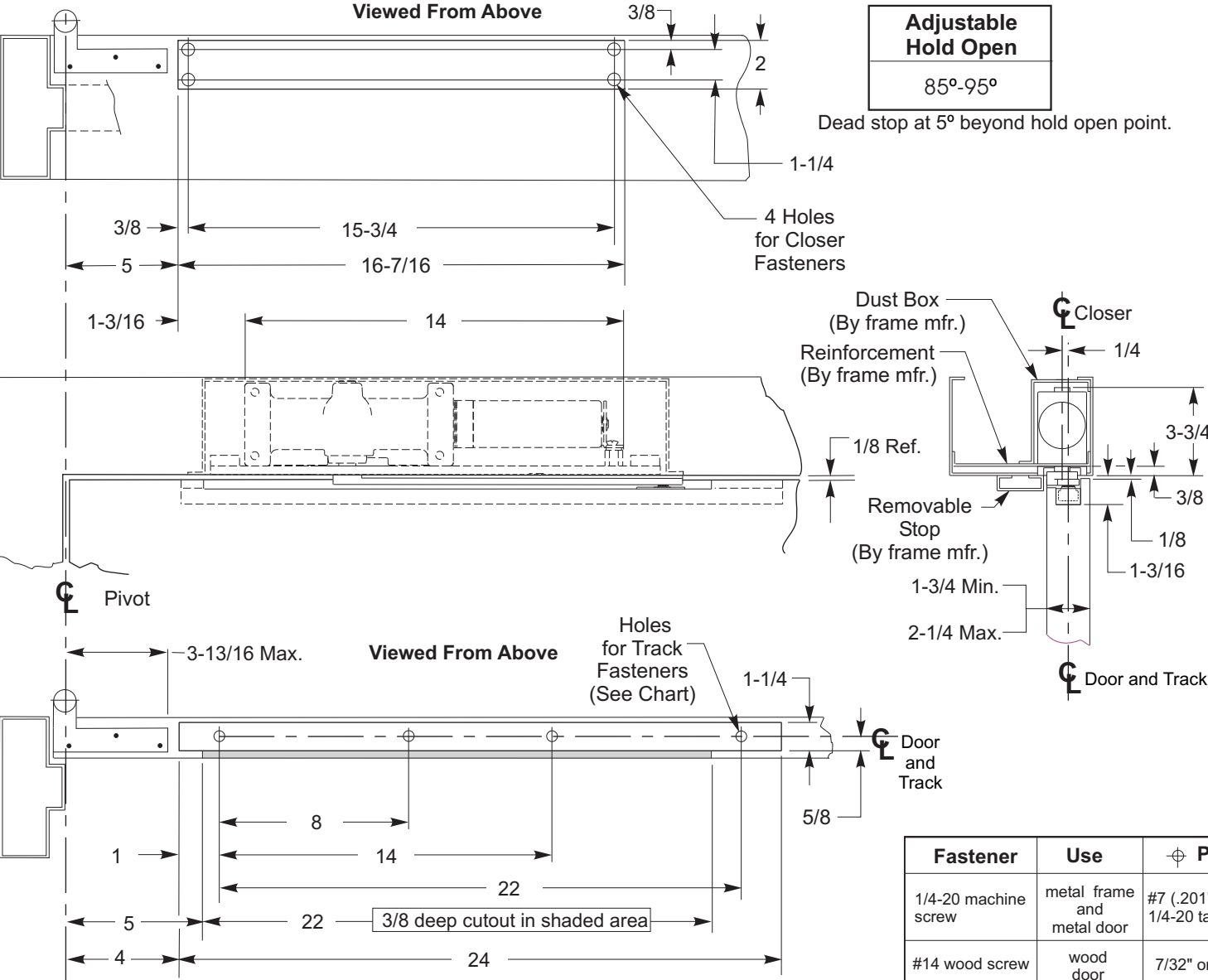
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7900H-B Series Door Closers**  
**For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges**  
**Hold Open Installation**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Track is 24 inches long.
  - For doors less than 30 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.1
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
3-13/16	96.8
4	101.6
5	127.0
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.5
22	558.8
24	609.6
30	762.0

Fastener	Use	Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5 mm. drill

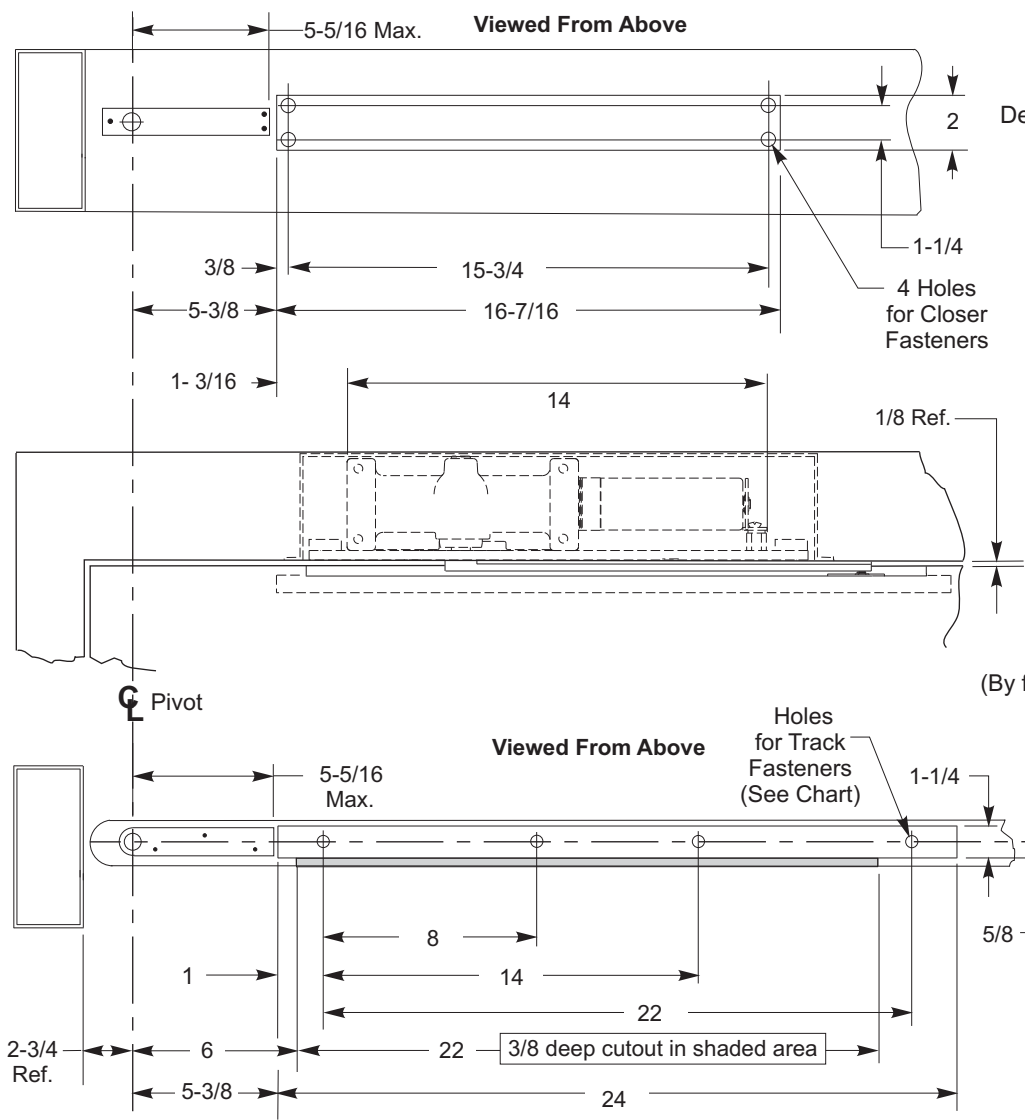
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7900H-OP Series Door Closers**  
**For Use on Doors Hung on 3/4" Offset Pivots**  
**Hold Open Installation**

**Norton**

ASSA ABLOY

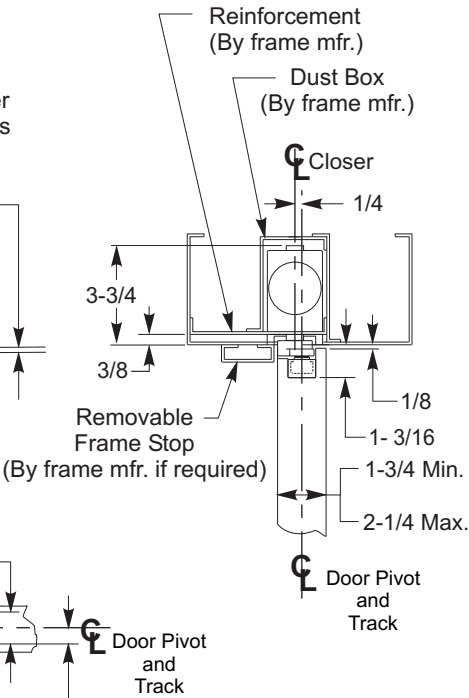
www.nortondoorcontrols.com



**Adjustable  
Hold Open**

85°-110°

Dead stop at 5° beyond hold open point.



Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5 mm. drill

**NOTES:**

- Do not scale drawing.
- Left hand door shown.
- Hardware dimensions shown (not cutout).
- Dimensions are in inches (see chart for metric conversion).
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
- Track is 24 inches long.
- For doors less than 32 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
2-3/4	69.8
3-3/4	95.3
5-5/16	134.9
5-3/8	136.5
6	152.4
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.9
22	558.8
24	609.6
32	812.8

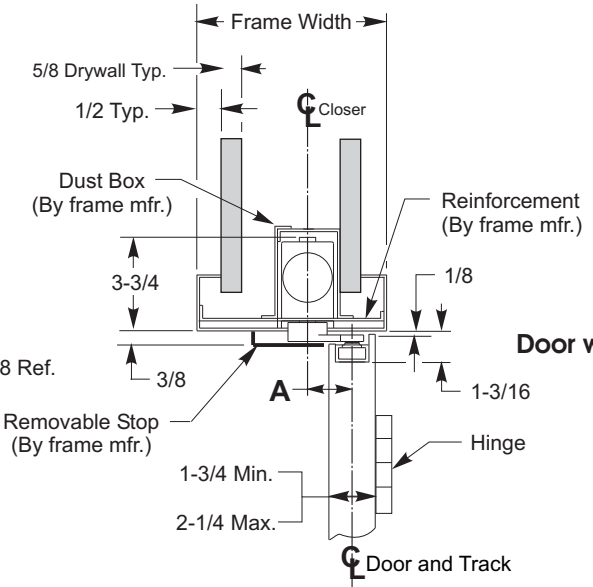
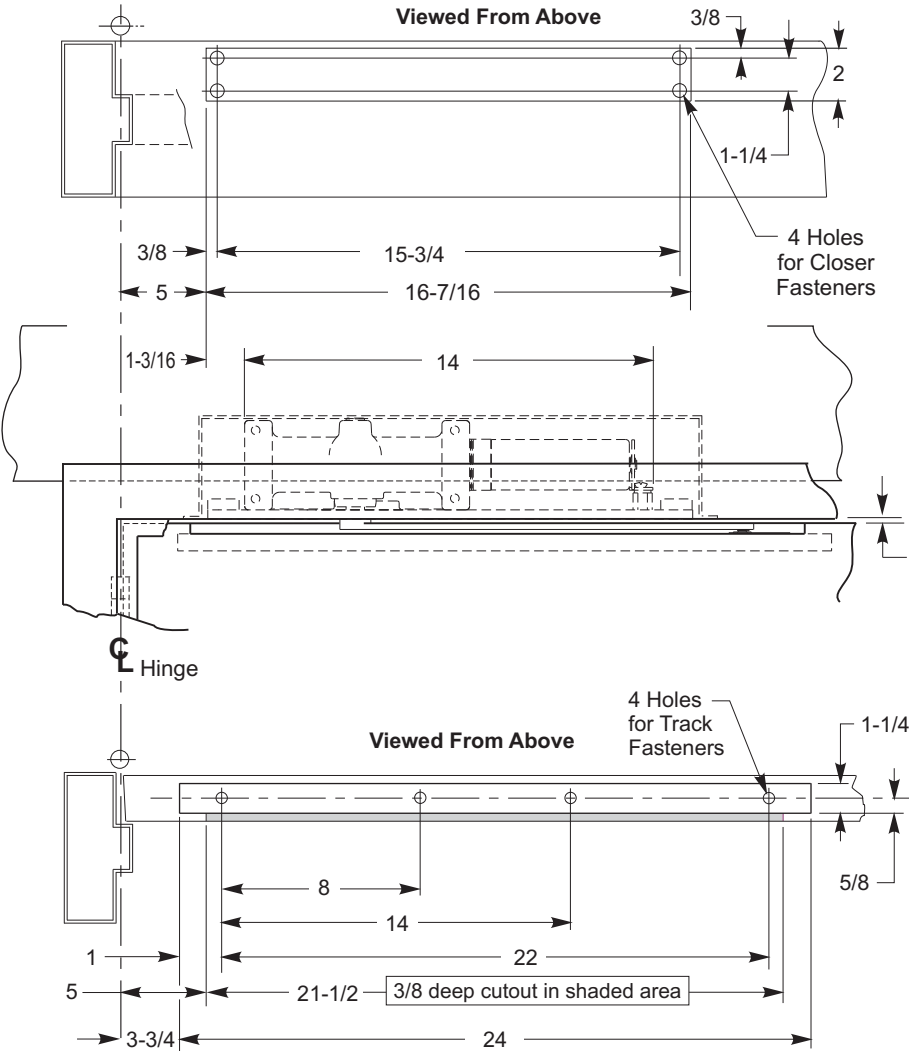
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7900H-CP Series Door Closers**  
**For Use on Doors Hung with Center Pivots**  
**Hold Open Installation**

**Norton**

**ASSA ABLOY**

www.nortondoorcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 29 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.

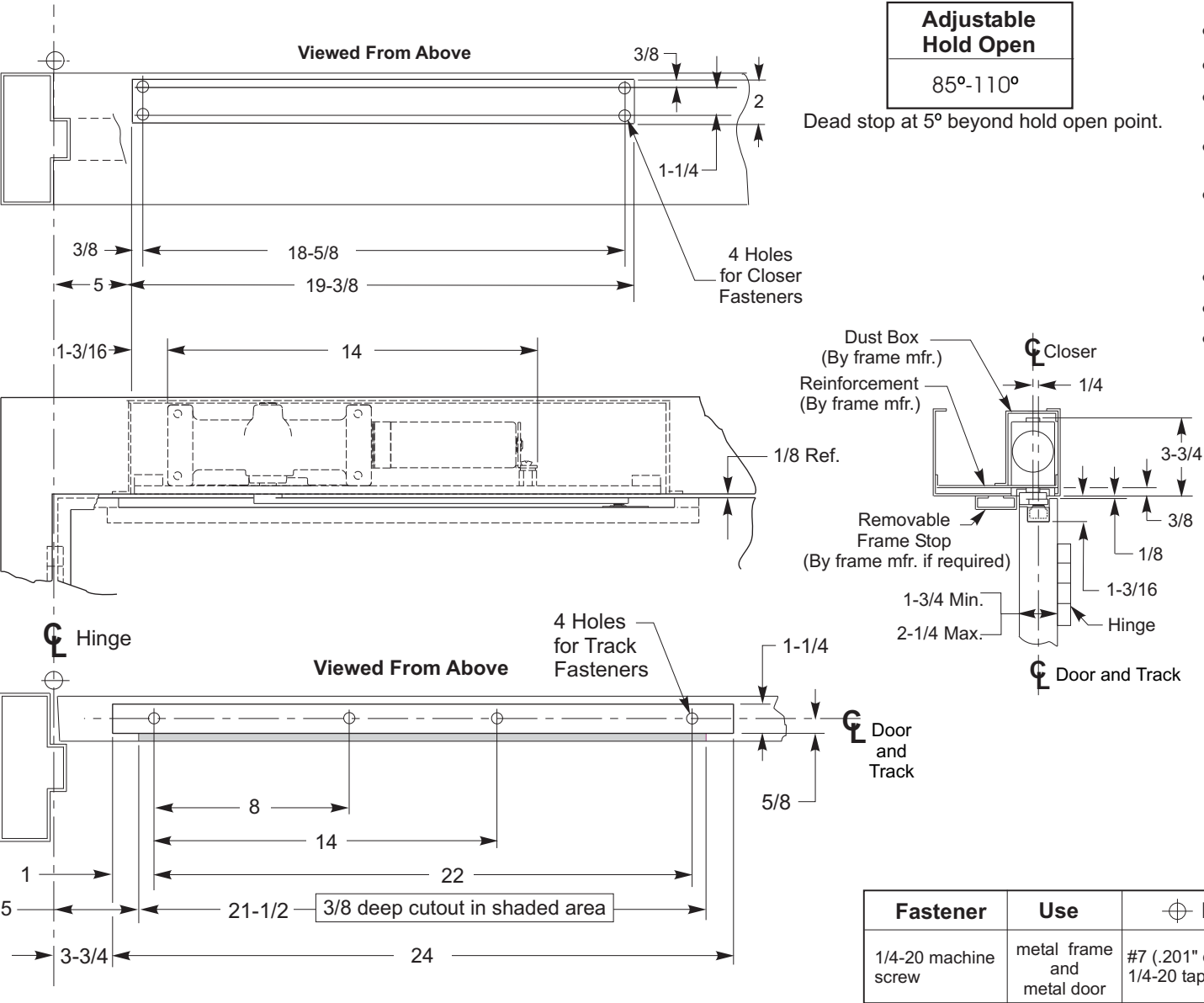
**Adjustable  
Hold Opening**  
85°-110°

Door will travel 5° beyond hold open point

**NOTE:**  
Removable Frame Stop must have the stop Edge nearest the Door removed to permit arm clearance. Remove a section 15" long starting 7" from the centerline of the hinge.

A Offset
3/8
5/8
3/4
7/8
1-1/8
1-1/4
1-3/8
1-1/2
1-5/8

Fastener	Use	⊕ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) Drill 1/4-20 tap
#14 wood screw	wood door	7/32" drill



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 29 inches.
  - Track IS 24 inches long.
  - Maximum width hinge is 5 inches.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
18-5/8	473.1
19-3/8	492.1
21-1/2	546.1
24	609.6
29	736.6

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

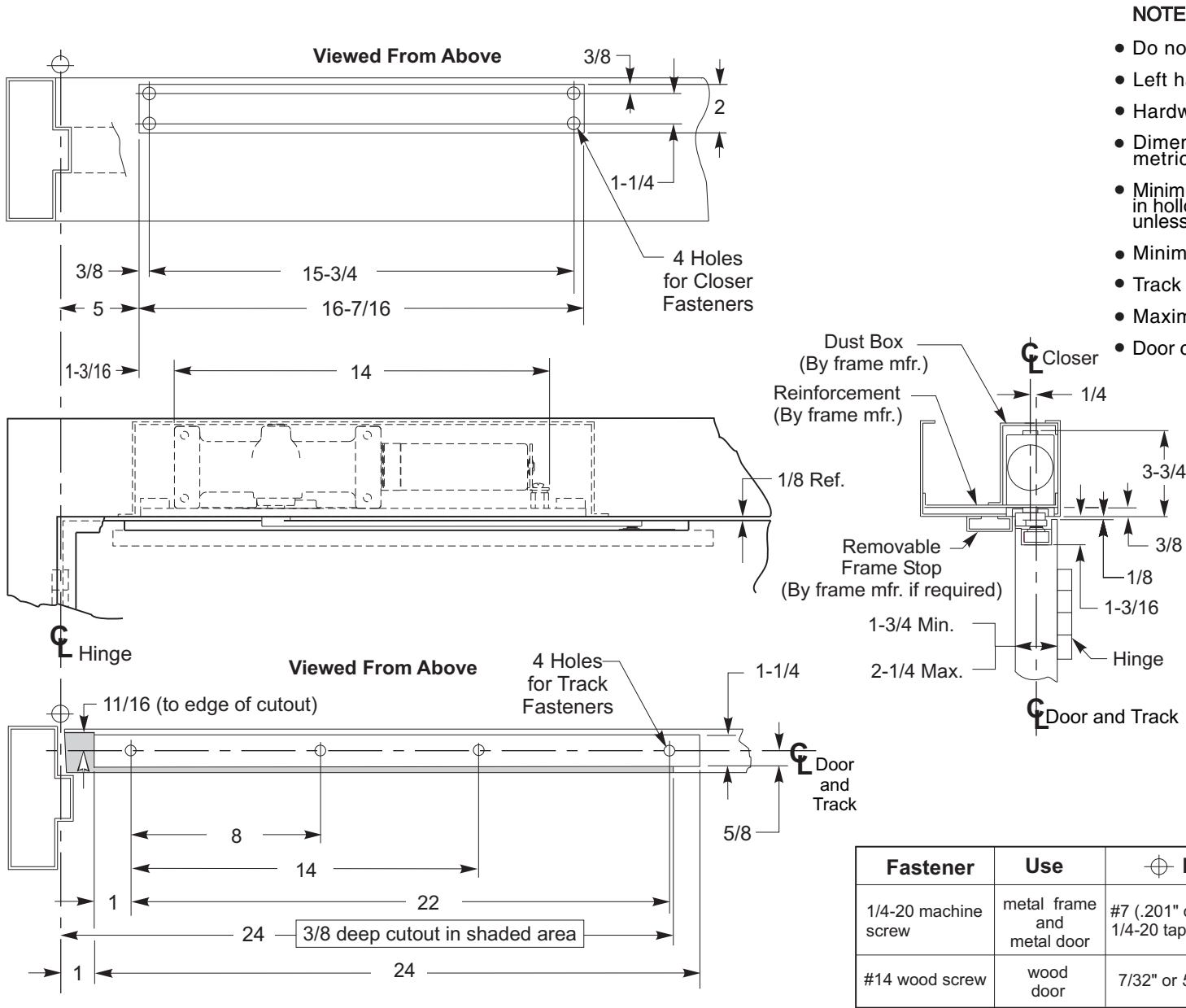
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970H-B Series Security Door Closers**  
**For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges**  
**Hold Open Installation**

**Norton**

ASSA ABLOY

www.nortondoорcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees, conditions permitting.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
11/16	17.5
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.5
22	558.8
24	609.6
27	685.8

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5mm. drill

FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

# 7900B Series Door Closers

## For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges

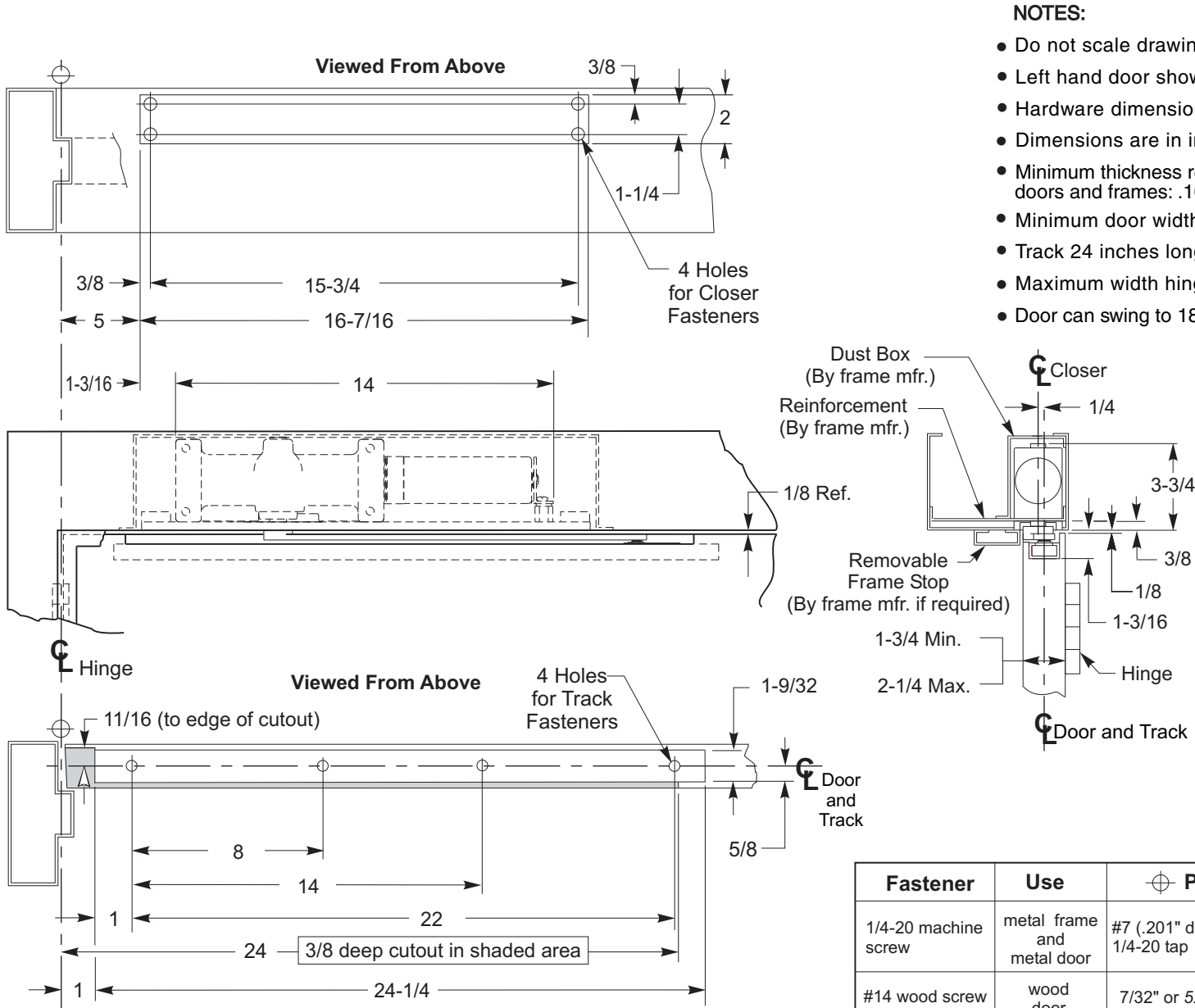
### Non Hold Open Installation



ASSA ABLOY

www.nortondoorcontrols.com





- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees, conditions permitting.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
11/16	17.5
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.5
22	558.8
24	609.6
24-1/4	615.9
27	685.8

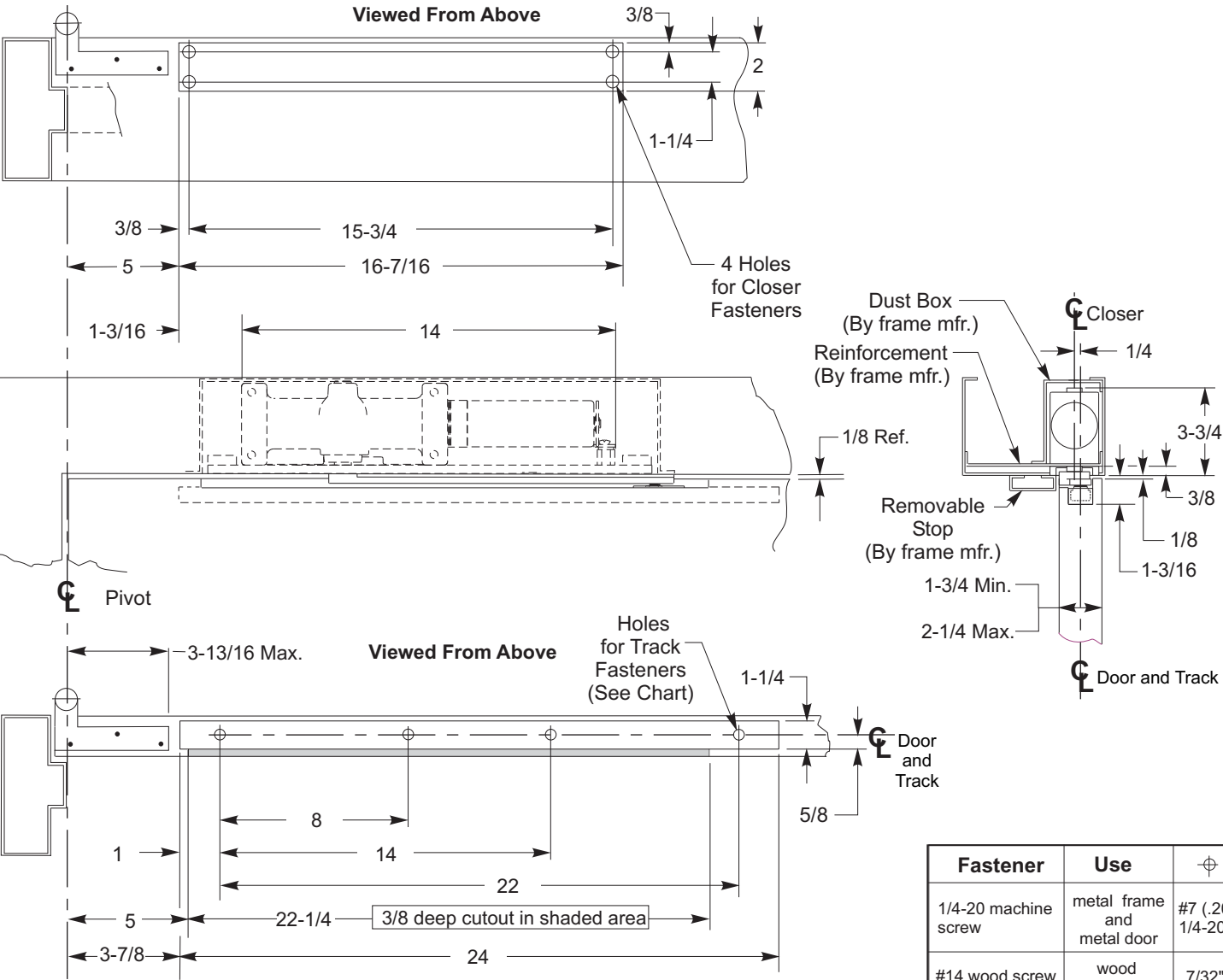
Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5mm. drill

**7900B Series Door Closers With 790 Fire Block**  
**For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges**  
**Non Hold Open Installation**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com



NOTES:

- Do not scale drawing.
- Left hand door shown.
- Hardware dimensions shown (not cutout).
- Dimensions are in inches (see chart for metric conversion).
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
- Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
- Standard track is 24 inches long.
- For doors less than 29 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.1
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
3-13/16	96.8
3-7/8	98.4
5	127.0
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.5
22	558.8
22-1/4	565.1
24	609.6
29	736.6

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5 mm. drill

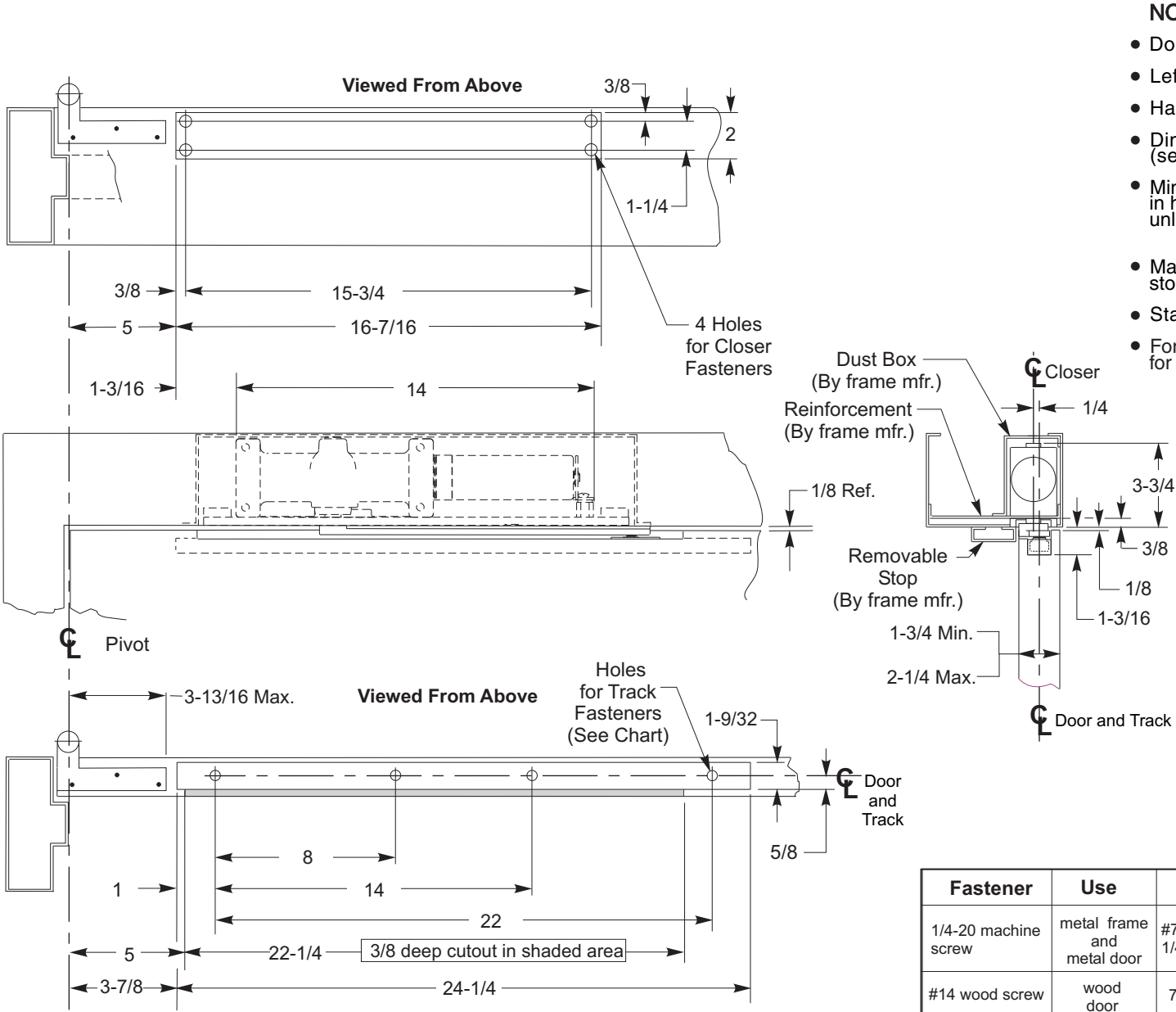
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

7900OP Series Door Closers  
For Use on Doors with 3/4" Offset Pivots  
Non Hold Open Installation

Norton

ASSA ABLOY

www.nortondoorcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
  - Standard track is 24 inches long.
  - For doors less than 29 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.1
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
3-13/16	96.8
3-7/8	98.4
5	127.0
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.5
22	558.8
22-1/4	565.1
24	609.6
24-1/4	615.9
29	736.6

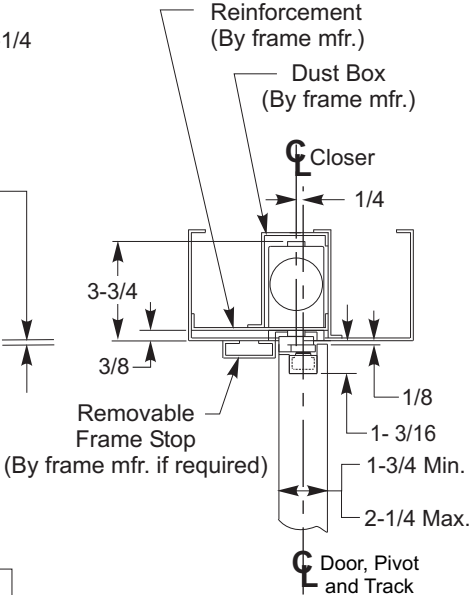
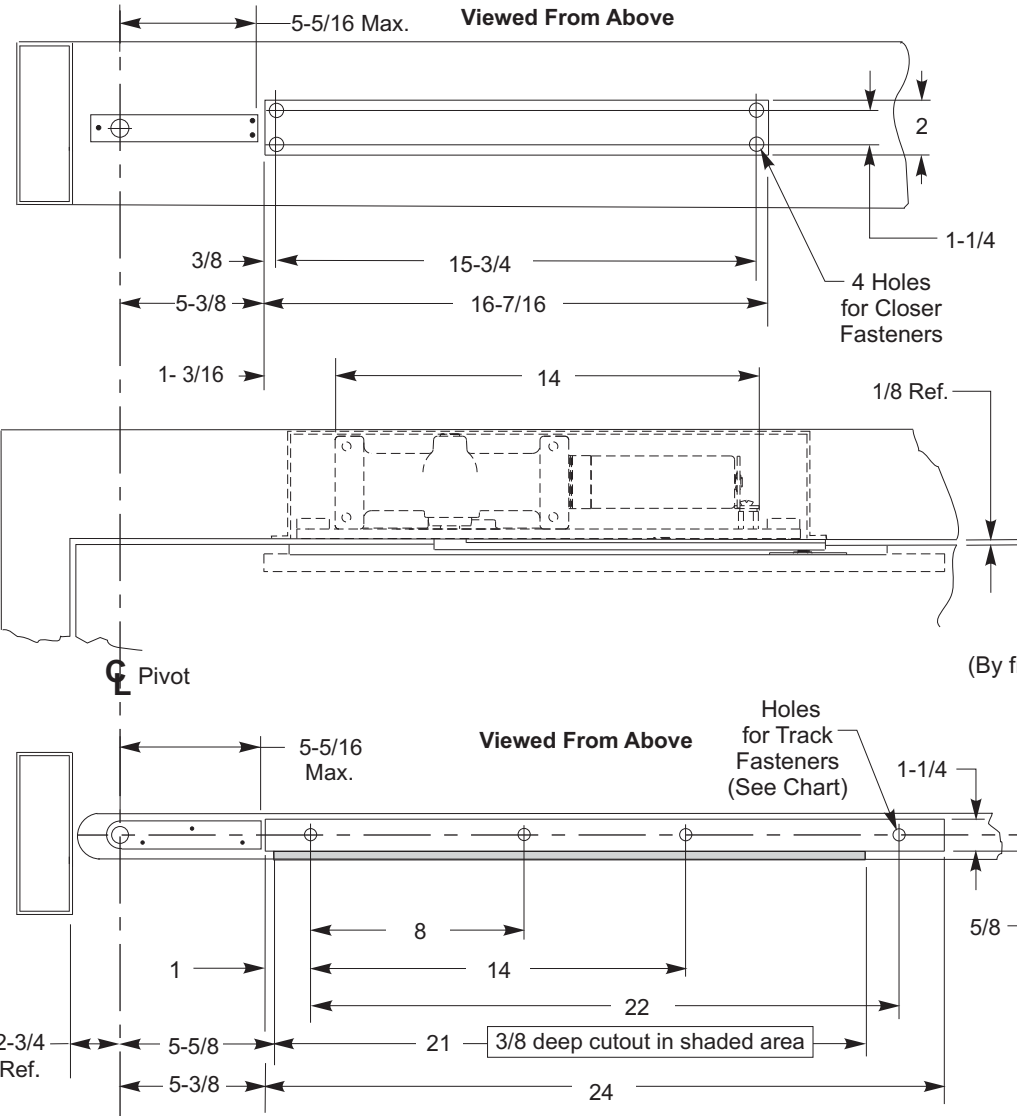
Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5 mm. drill

FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

7900OP Series Door Closers x 790 Fire Bloc  
For Use on Doors with 3/4" Offset Pivots  
Non Hold Open Installation



www.nortondoortcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
  - Standard track is 24 inches long.
  - For doors less than 34" wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
2-3/4	69.8
3-3/4	95.3
5-5/16	134.9
5-3/8	136.5
5-5/8	142.9
8	203.2
14	355.6
15-3/4	400.0
16-7/16	417.9
21	533.4
22	558.8
24	609.6
34	863.6

Fastener	Use	Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap
#14 wood screw	wood door	7/32" or 5.5 mm. drill

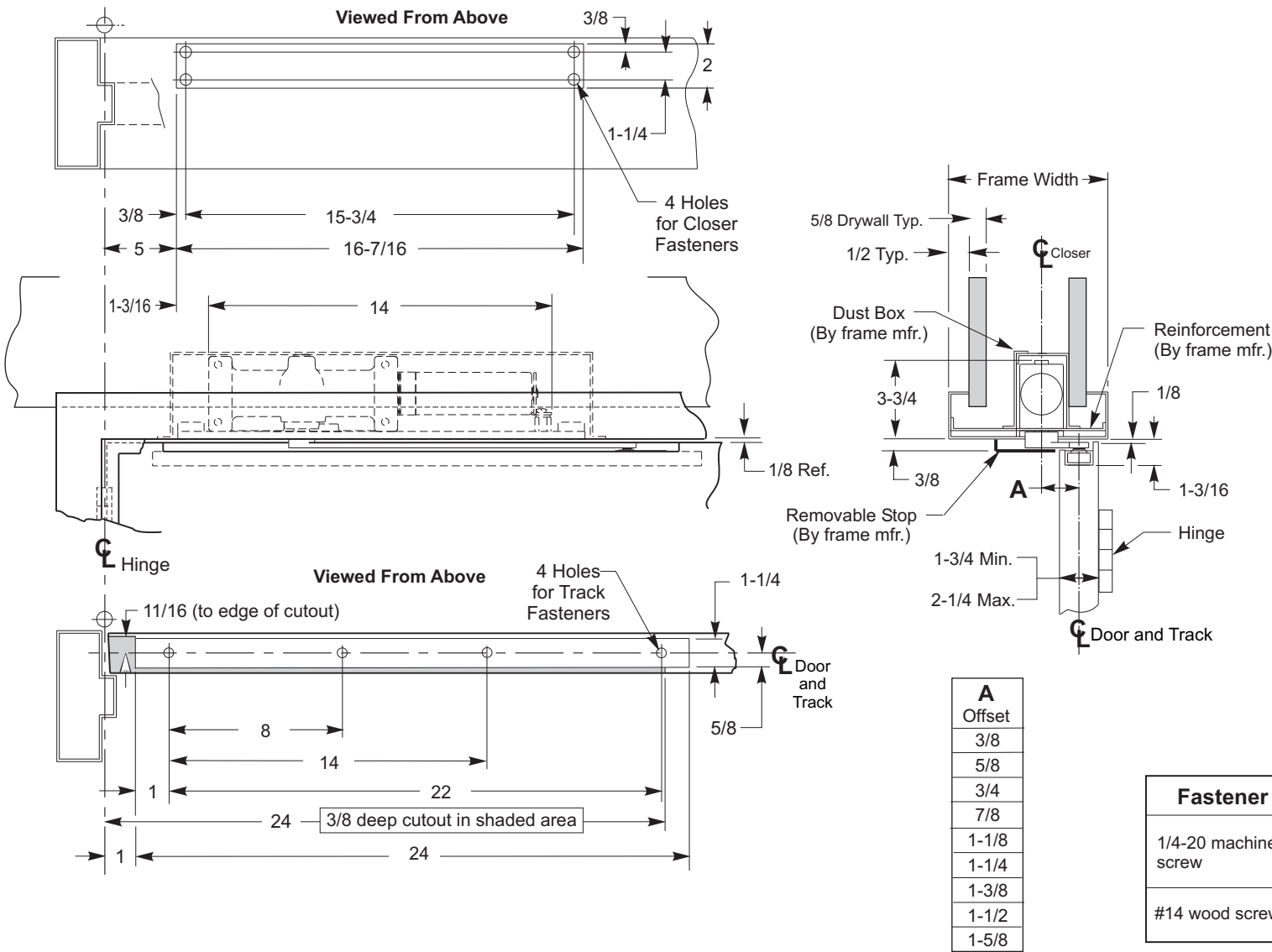
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7900CP Series Door Closers**  
**For Use on Doors with Center Pivots**  
**Non Hold Open Installation**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.

**NOTE:**  
Removable Frame Stop must have the stop Edge nearest the Door removed to permit arm clearance. Remove a section 15" long starting 7" from the centerline of the hinge.

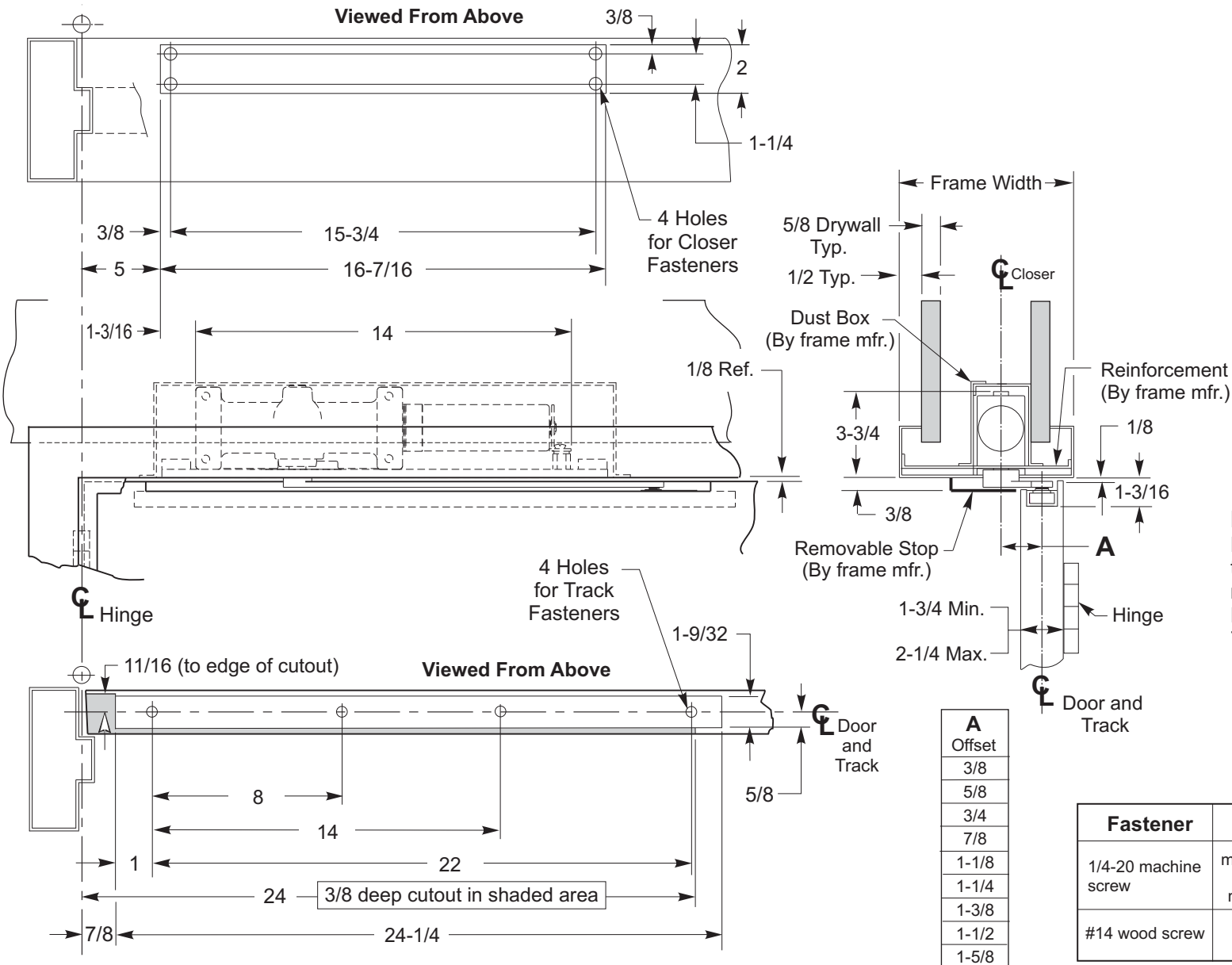
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

# 7900B Series Door Closers

## For Use on Doors with 4½" or 5" Wide Butt Hinges

## Non Hold Open- Hinge Mounted Installation

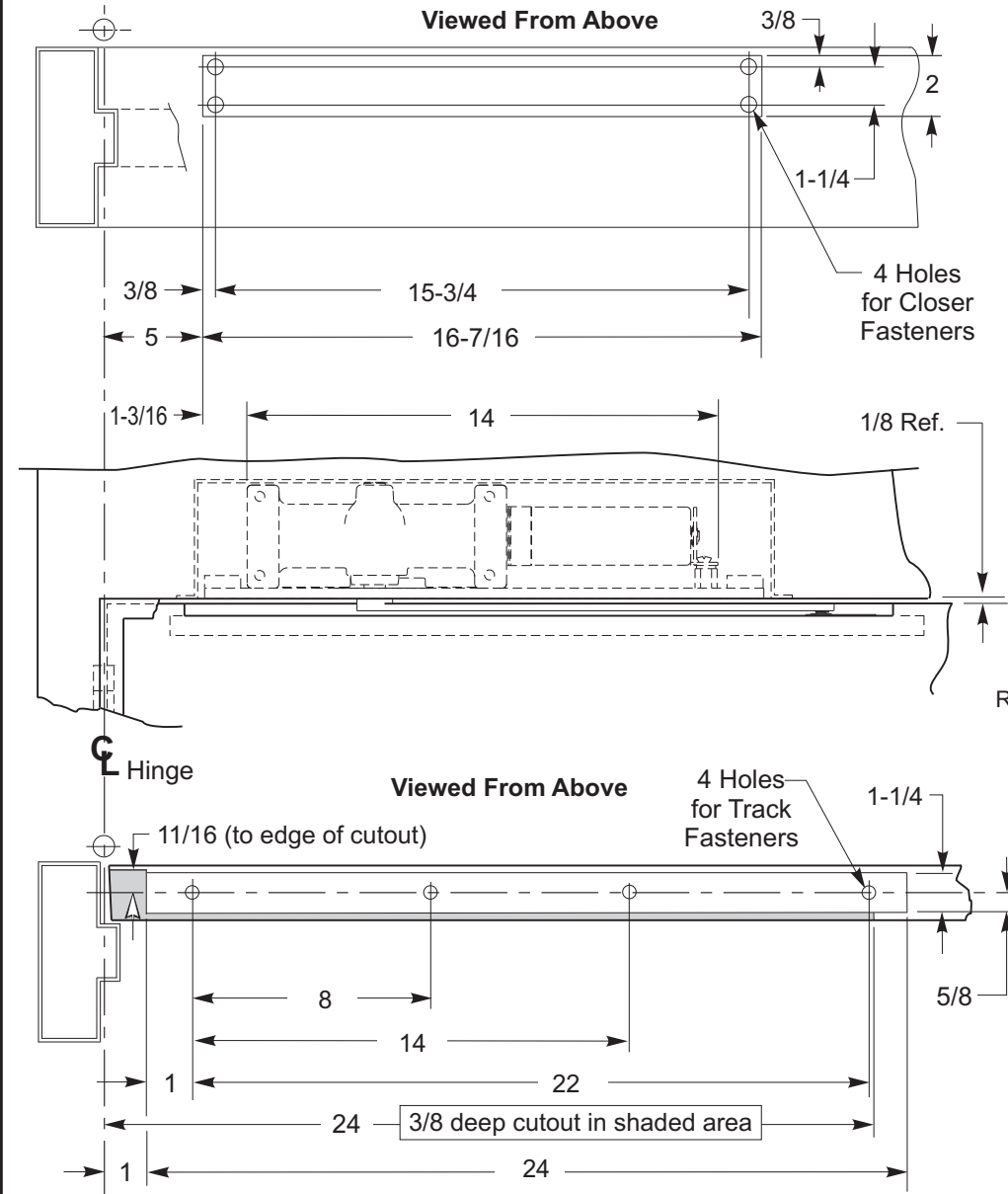
## With Closer Body offset in Hollow Metal Frame



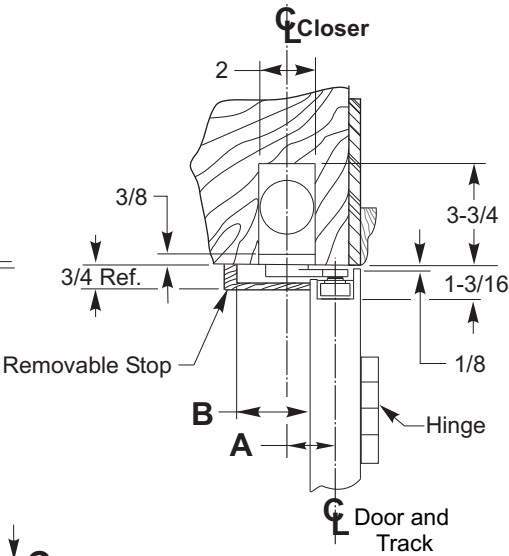
- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches.
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.

**NOTE:**  
Removable Frame Stop must have the stop edge nearest the Door removed to permit arm clearance. Remove a section 15" long starting 7" from the centerline of the hinge.

Fastener	Use	⊕ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) Drill 1/4-20 tap
#14 wood screw	wood door	7/32" drill



A Offset	B Cutout for arm clearance
5/8	1-3/8
3/4	1-1/2
7/8	1-5/8
1-1/8	1-7/8
1-1/4	2
1-3/8	2-1/8
1-1/2	2-1/4
1-5/8	2-3/8



NOTES:

- Do not scale drawing.
- Left hand door shown.
- Hardware dimensions shown (not cutout).
- Dimensions are in inches.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
- Minimum door width 27 inches.
- Track is 24 inches long.
- Maximum width hinge is 5 inches.
- Door can swing to 180 degrees conditions permitting.

NOTE:

Removable Frame Stop must have the stop Edge nearest the Door removed to permit arm clearance. Remove a section 15" long starting 7" from the centerline of the hinge.

3/4" high frame stop at head is recommended.

Fastener	Use	⊕ Preparation
1/4-20 machine screw	Metal door	#7 (.201" dia.) Drill 1/4-20 tap
#14 wood screw	wood door	7/32" drill

FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

# 7900B Series Door Closers for 1-3/4" Thick Doors

## For Use on Doors Hung on 5" Wide Butt Hinges Maximum

### Non Hold Open Installation

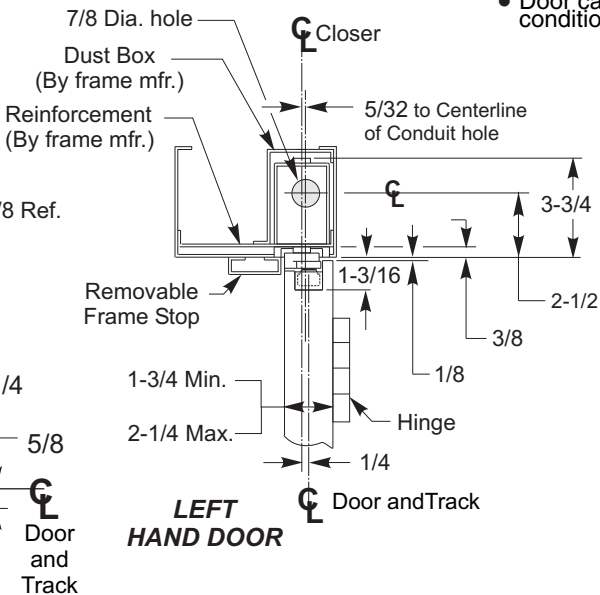
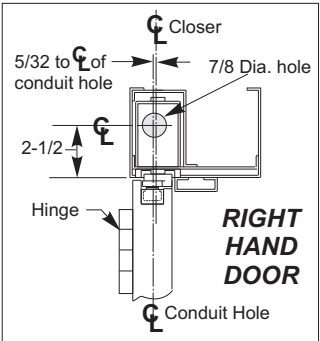
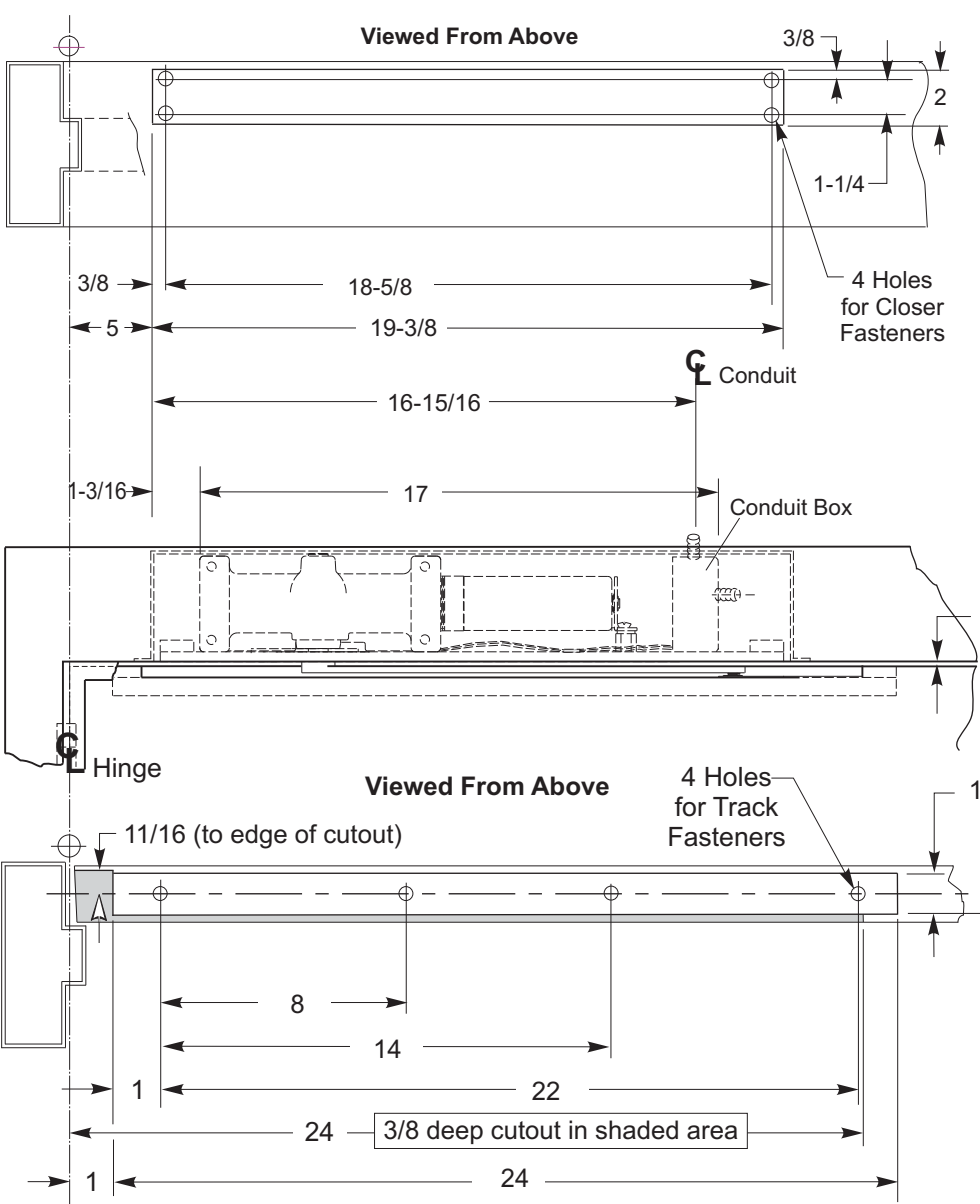
### With Special offset Mounting in Wood Frame

Norton

ASSA ABLOY

www.nortondoorcontrols.com





- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
11/16	17.5
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
24	609.6
27	685.8

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

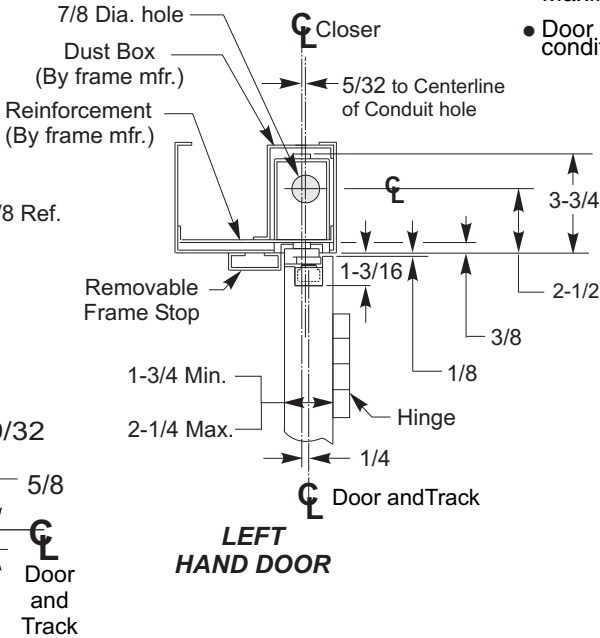
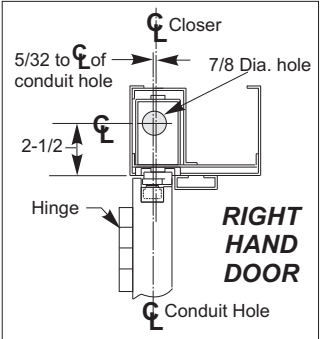
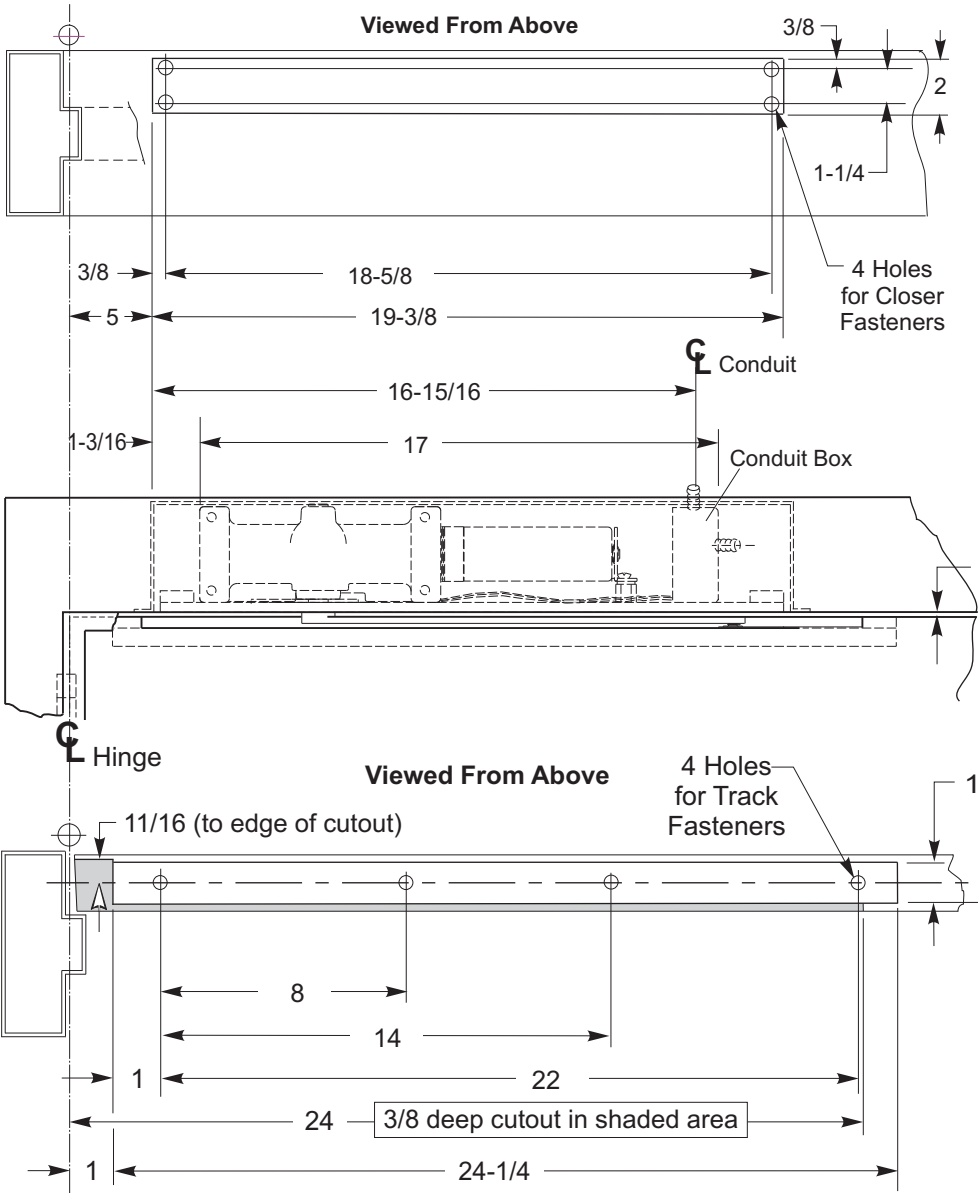
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970DPS-B Series Security Door Closers**  
**For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges**  
**Non Hold Open Installation**

**Norton**

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- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
11/16	17.5
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
24	609.6
24-1/4	615.9
27	685.8

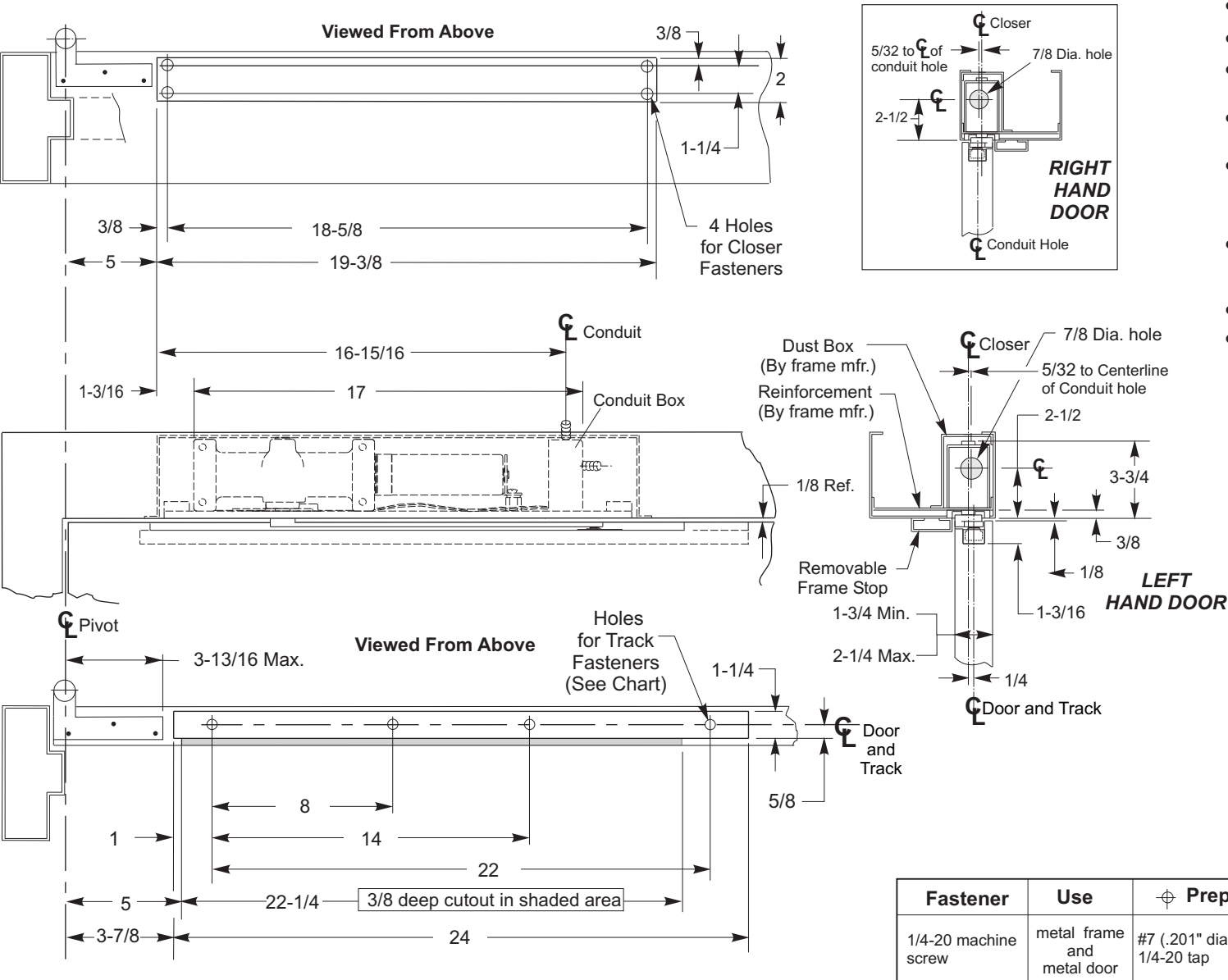
Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970DPS-B Series Security Door Closers x 790 Fire Bloc**  
**For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges**  
**Non Hold Open Installation**

**Norton**  
ASSA ABLOY

www.nortondoorcontrols.com



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
  - Track is 24 inches long.
  - For doors less than 29 inches wide, contact factory for modification requirements.

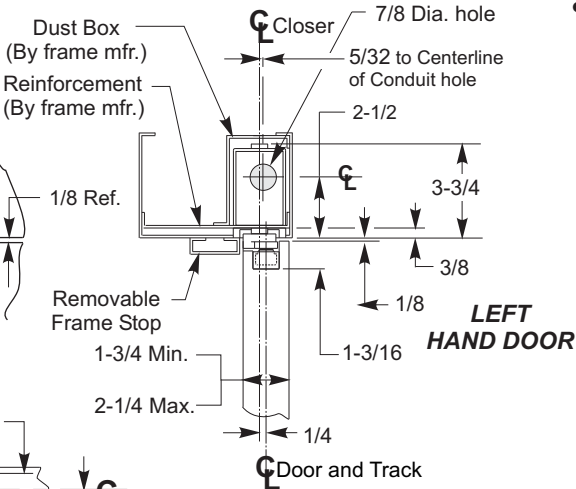
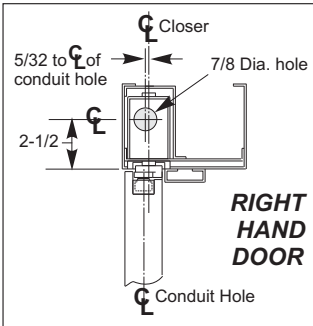
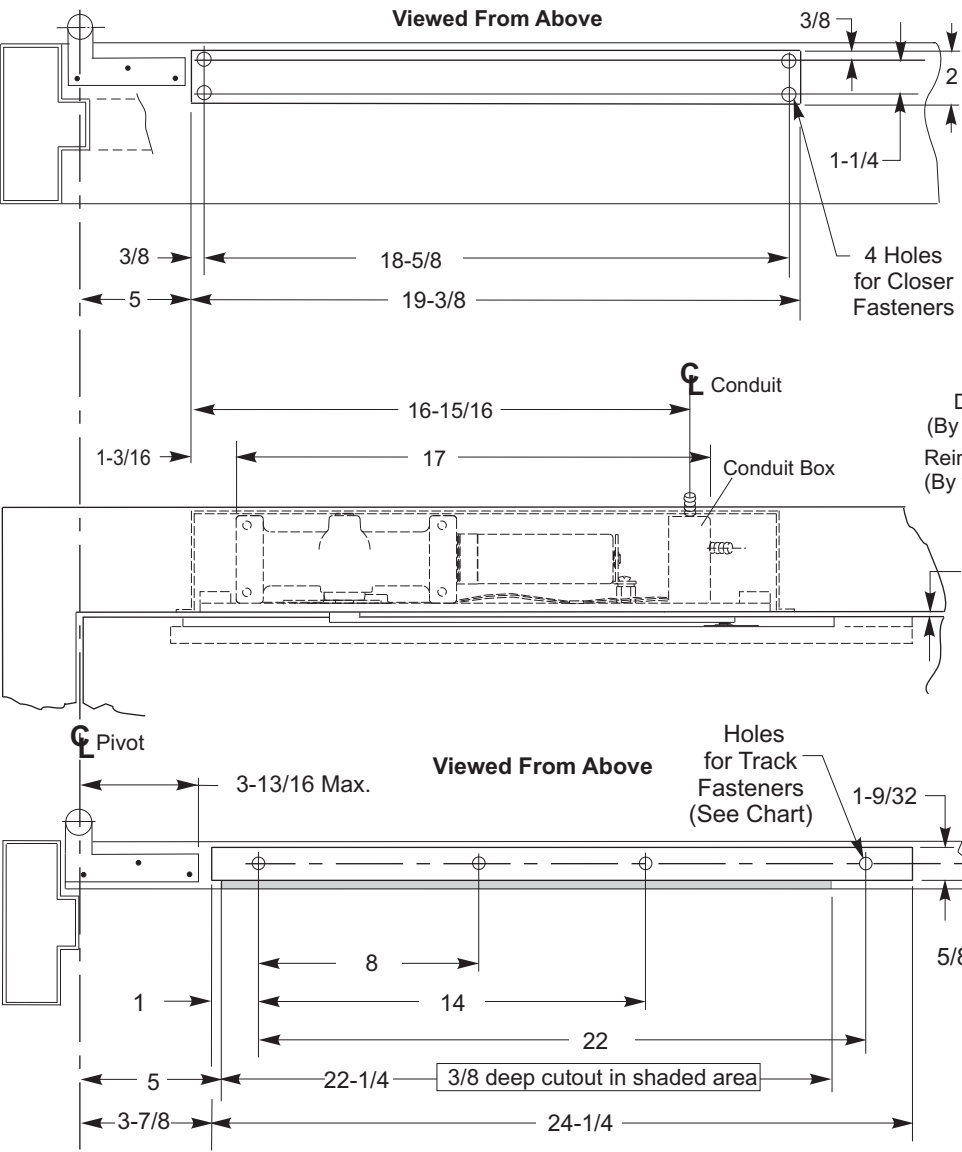
METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.1
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
3-13/16	96.8
3-7/8	98.4
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
22-1/4	565.1
24	609.6
29	736.6

Fastener	Use	Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970DPS-OP Series Security Door Closers**  
**For Use on Doors Hung on 3/4" Offset Pivots**  
**Non Hold Open Installation**





Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
  - Track is 24 inches long.
  - For doors less than 29 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.1
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
3-13/16	96.8
3-7/8	98.4
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
22-1/4	565.1
24	609.6
24-1/4	615.9
29	736.6

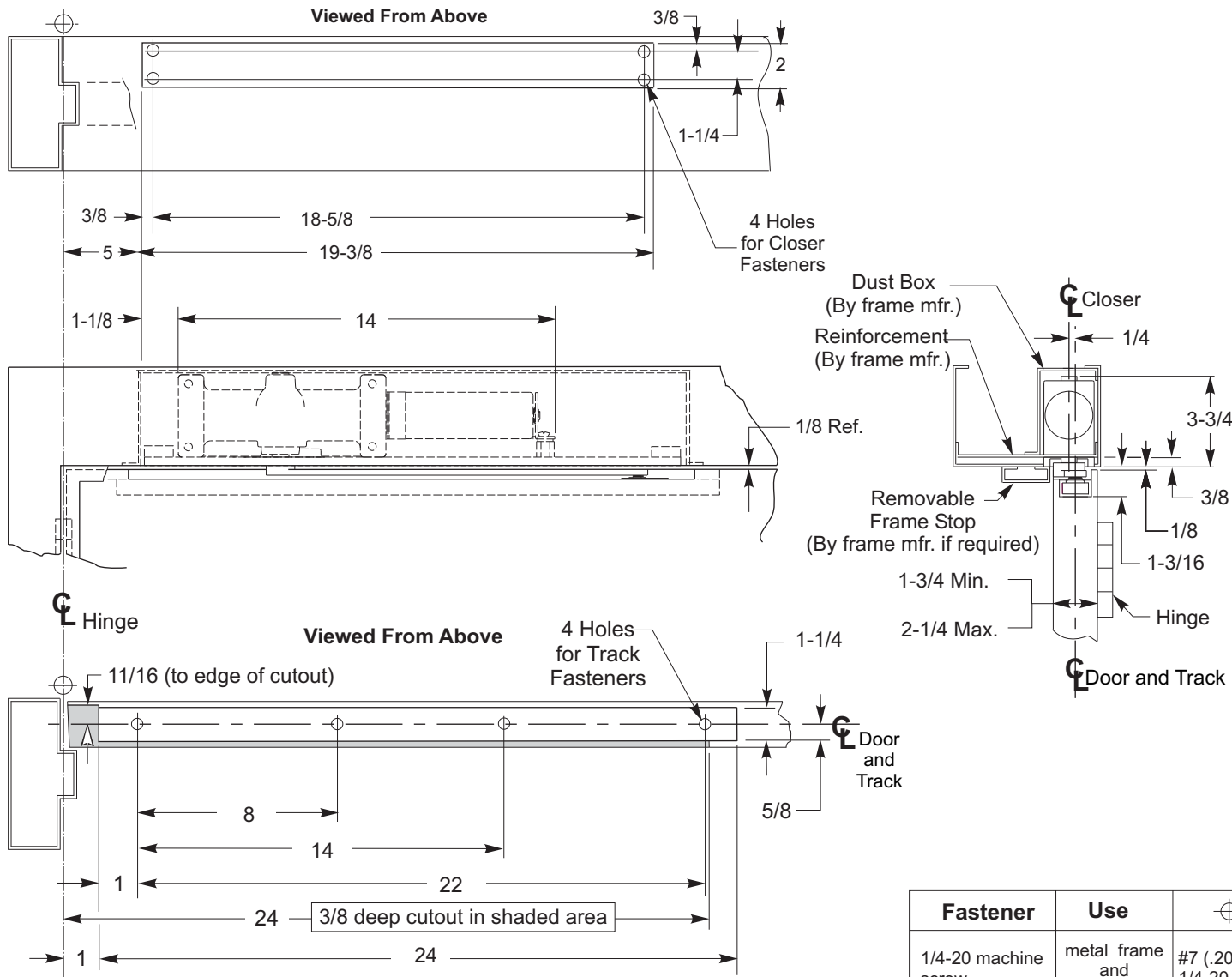
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970DPS-OP Series Security Door Closers x 790 Fire Bloc**  
**For Use on Doors Hung on 3/4" Offset Pivots**  
**Non Hold Open Installation**

**Norton**

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- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
11/16	17.5
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
24	609.6
27	685.8

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

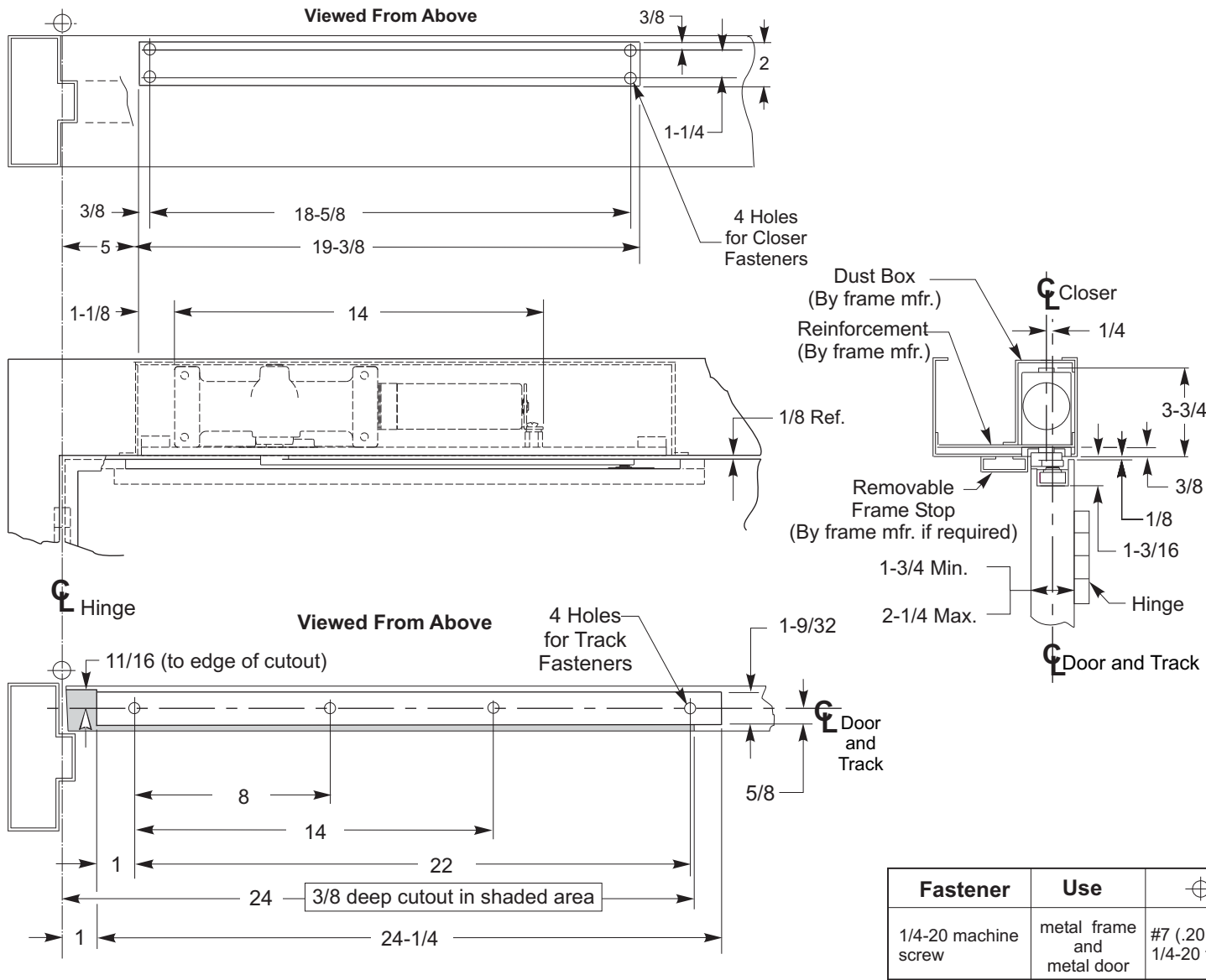
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970B Series Security Door Closers**  
**For Use on Doors Hung on 4-1/2" or 5" Wide Butt Hinges**  
**Non Hold Open Installation**

**Norton**

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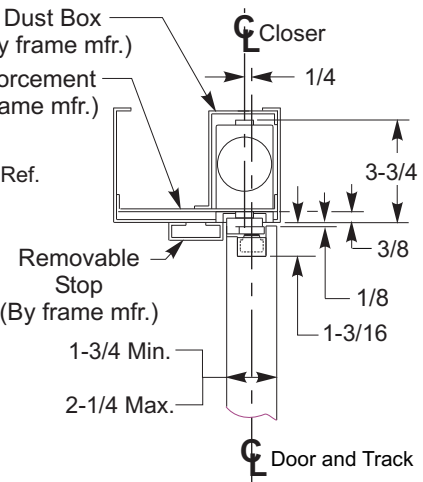
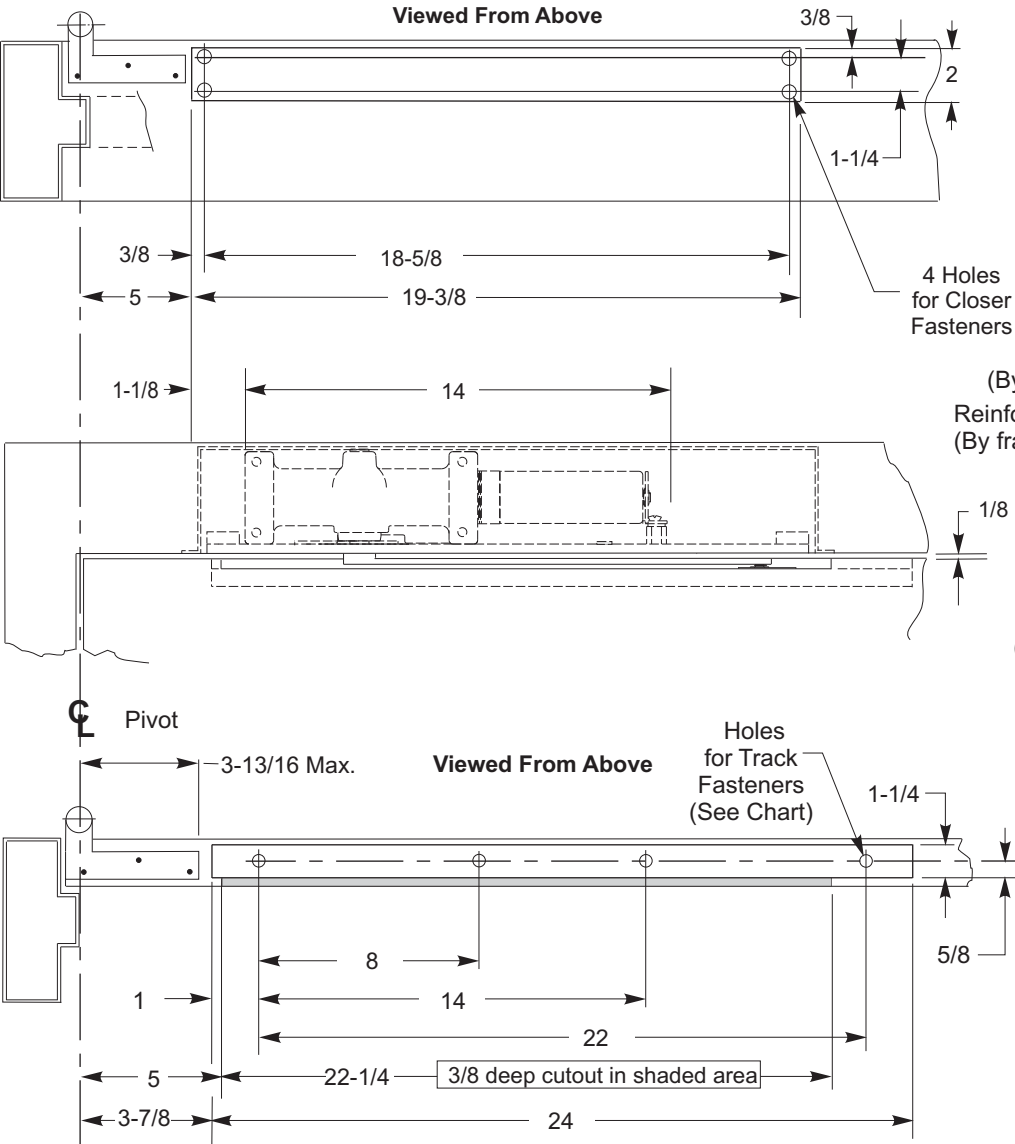
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- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Minimum door width 27 inches.
  - Track is 24 inches long.
  - Maximum width hinge is 5 inches.
  - Door can swing to 180 degrees conditions permitting.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
11/16	17.5
1	25.4
1-3/16	30.2
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
24	609.6
24-1/4	615.9
27	685.8

Fastener	Use	⊕ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap



- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
  - Standard track is 24 inches long.
  - For doors less than 29 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
1/8	3.2
1/4	6.4
3/8	9.5
5/8	15.9
1	25.4
1-3/16	30.1
1-1/4	31.8
1-3/4	44.5
2	50.8
2-1/4	57.2
3-3/4	95.3
3-13/16	96.8
3-7/8	98.4
5	127.0
8	203.2
14	355.6
18-5/8	473.0
19-3/8	492.1
22	558.8
22-1/4	565.1
24	609.6
29	736.6

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

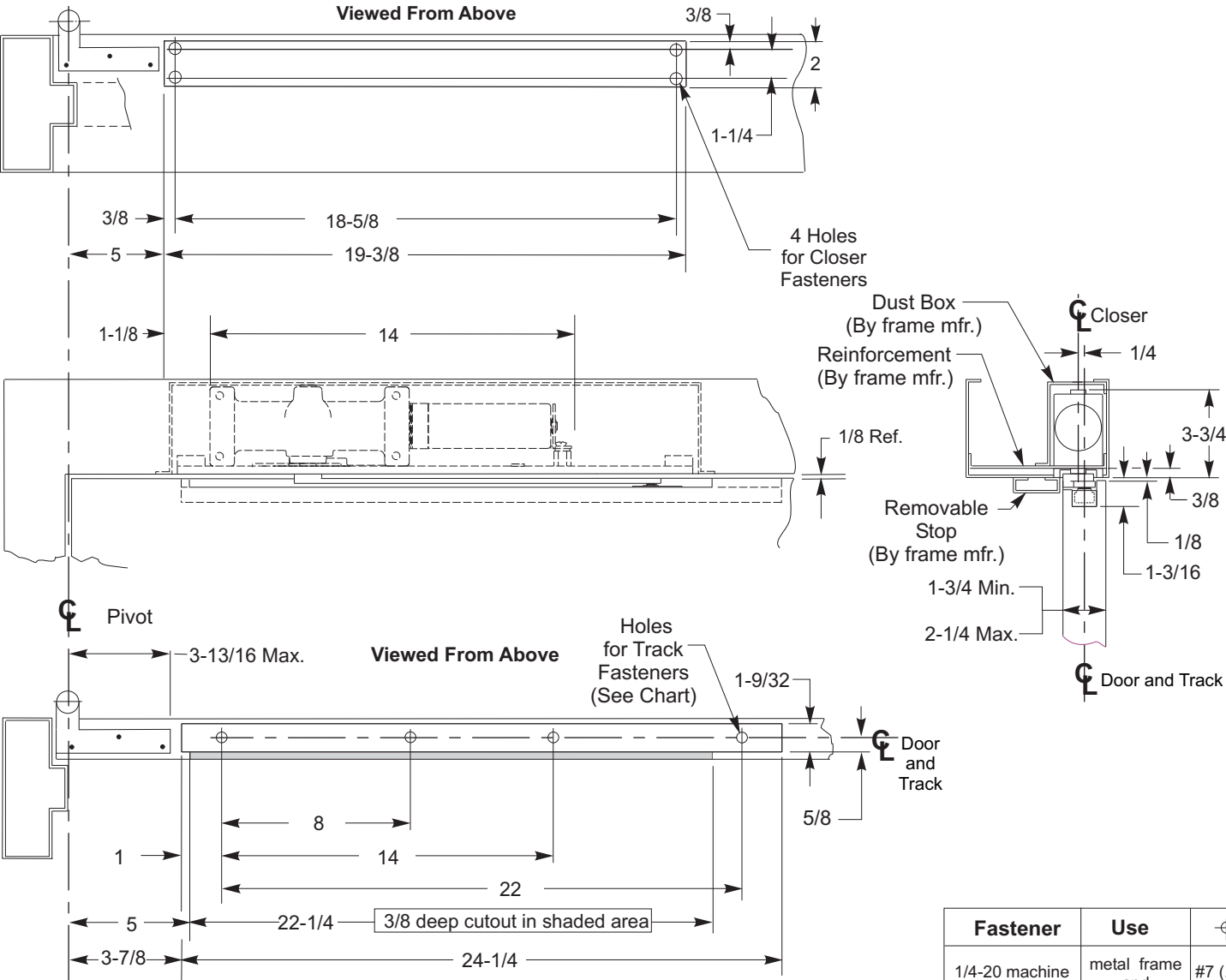
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970-OP Series Security Door Closers**  
**For Use on Doors Hung on 3/4" Offset Pivots**  
**Non Hold Open Installation**



www.nortondoorcontrols.com





- NOTES:**
- Do not scale drawing.
  - Left hand door shown.
  - Hardware dimensions shown (not cutout).
  - Dimensions are in inches (see chart for metric conversion).
  - Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm.) unless otherwise noted.
  - Maximum door swing is 95 degrees. Auxiliary door stop (not supplied) is required for this application.
  - Standard track is 24 inches long.
  - For doors less than 29 inches wide, contact factory for modification requirements.

METRIC CONVERSION CHART	
Inches	mm.
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1/4	6.4
3/8	9.5
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1-3/16	30.1
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3-7/8	98.4
5	127.0
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18-5/8	473.0
19-3/8	492.1
22	558.8
22-1/4	565.1
24	609.6
24-1/4	615.9
29	736.6

Fastener	Use	⌀ Preparation
1/4-20 machine screw	metal frame and metal door	#7 (.201" dia.) or 5.10mm. drill 1/4-20 tap

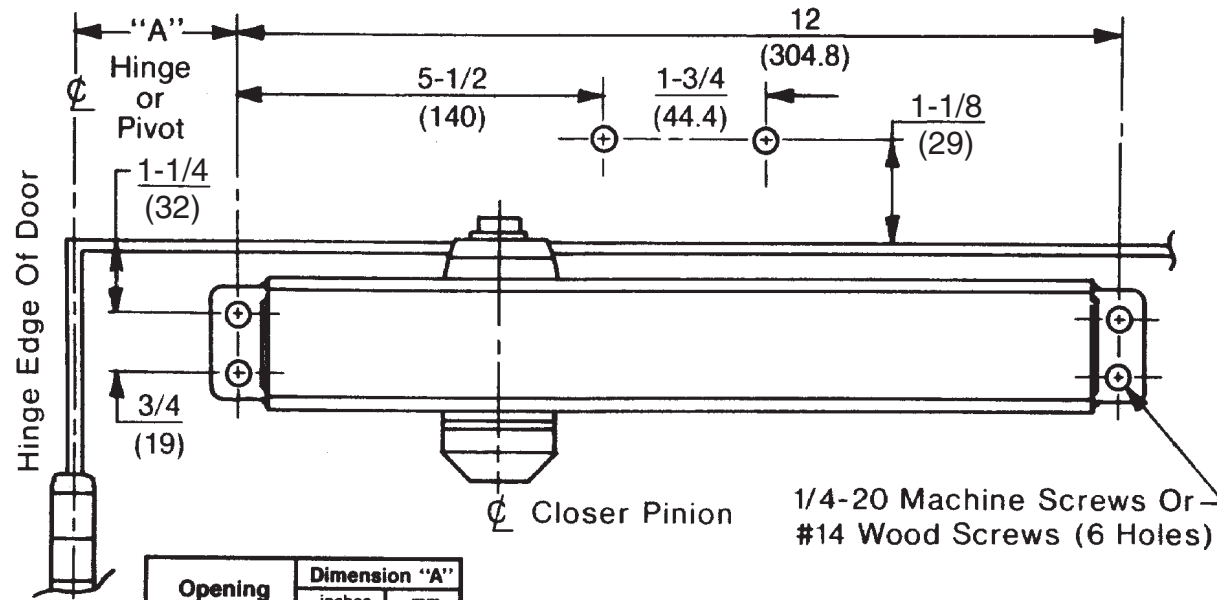
FOR PRODUCTS  
PRODUCED AFTER  
9-1-01

**7970-OP Series Security Door Closers x 790 Fire Bloc**  
**For Use on Doors Hung on 3/4" Offset Pivots**  
**Non Hold Open Installation**

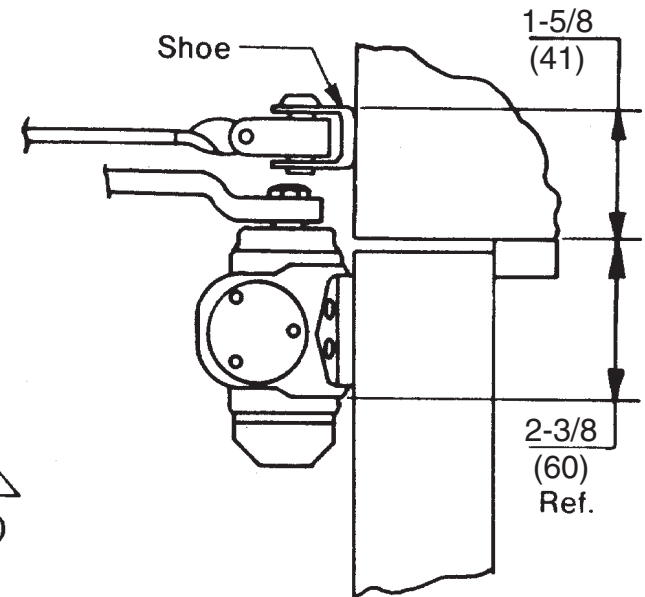
**Norton**  
**ASSA ABLOY**

www.nortondoorcontrols.com

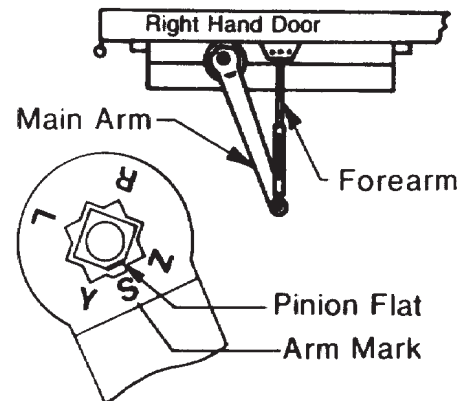
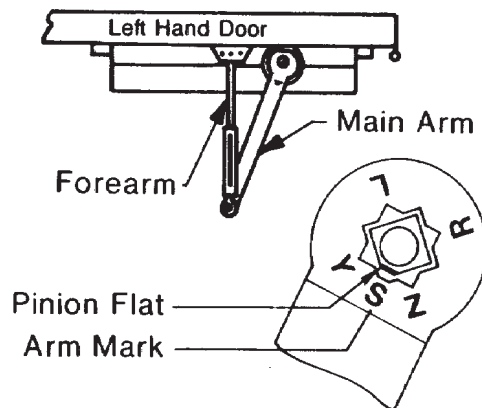
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Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114



### Position of Arm and Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000 Series Door Closer  
Regular Arm Application  
8100, 8300, and 8500  
Sizes 1 Thru 6**

**Norton®**

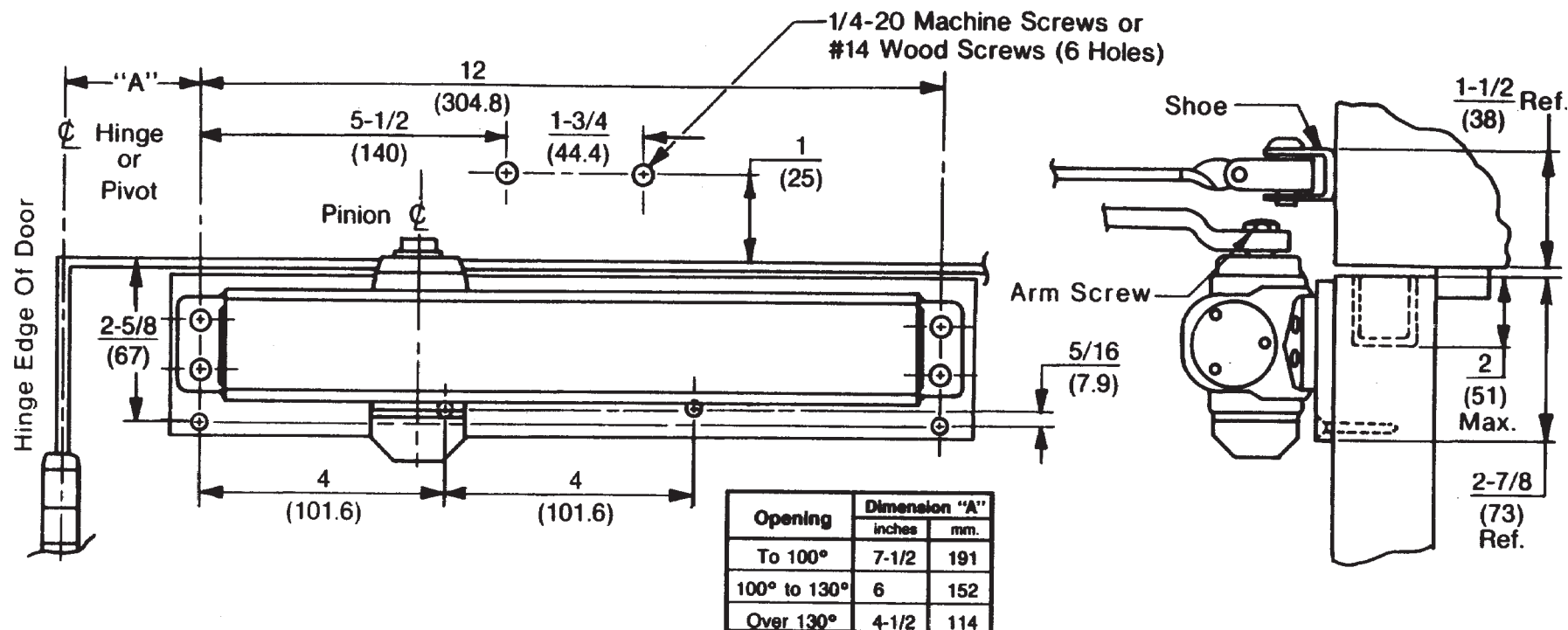
**ASSA ABLOY**

www.nortondoorcontrols.com

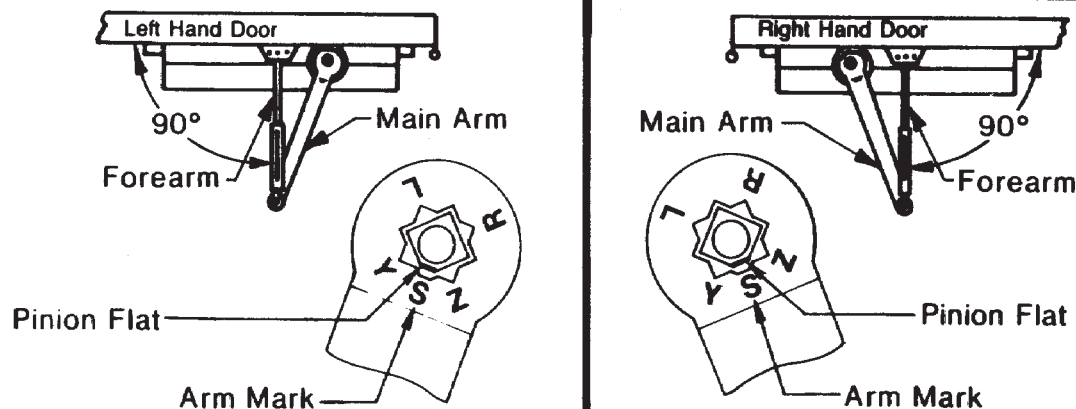
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REV  
**2**

DATE  
**09/17**



### Position of Arm and Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000 Series Door Closer**  
**Regular Arm Application With 8146 Back Plate for Concealed Holder Clearance**  
**8100, 8300, and 8500**  
**Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

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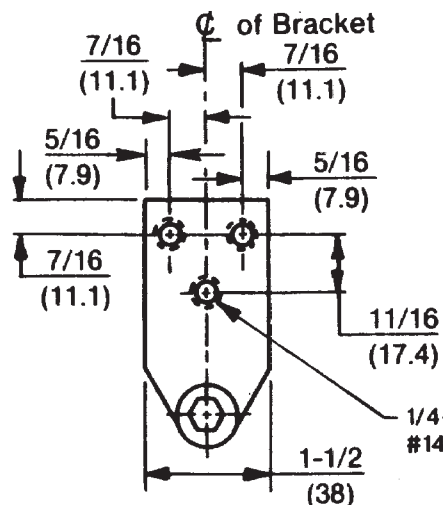
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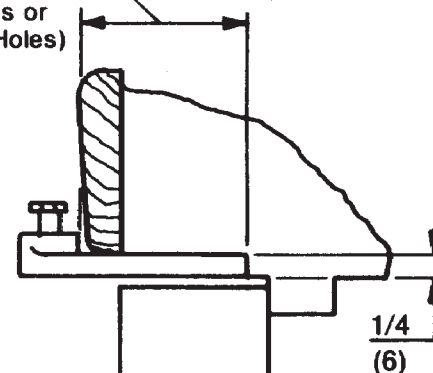
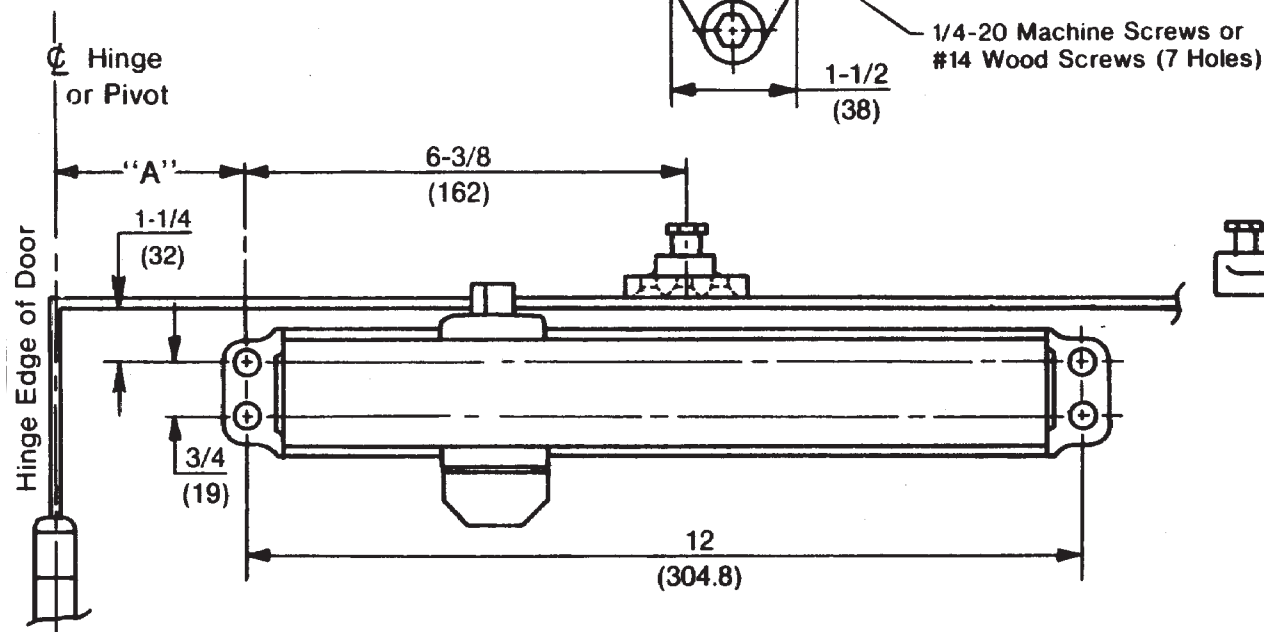
**09-08**

Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114



**Note:** Bracket Is Mortised Into Jamb As Shown

For 2403 Bracket — 2-1/4 (57)  
For 2403-3/4 Bracket — 3 (76)



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000 Series Door Closer**  
**Regular Arm Application With 2403 and 2403-3/4 Bracket For Bull Nose Trim**  
**8100, 8300, and 8500**  
**Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

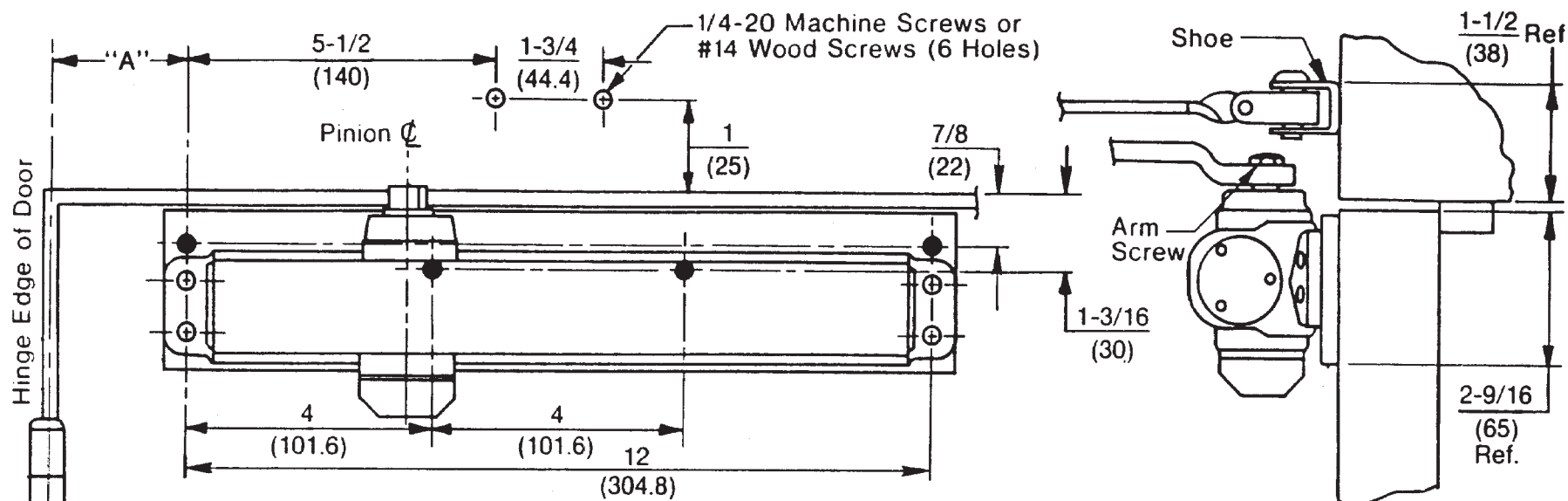
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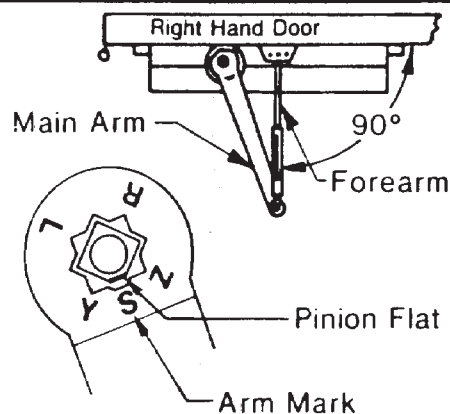
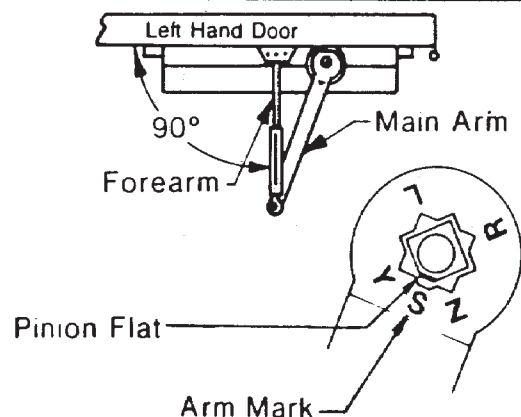
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**09-08**



Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114

### Position of Arm and Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000 Series Door Closer**  
**Regular Arm Application With 8146 Back Plate for 1-3/4 Top Rail**  
**8100, 8300, and 8500**  
**Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

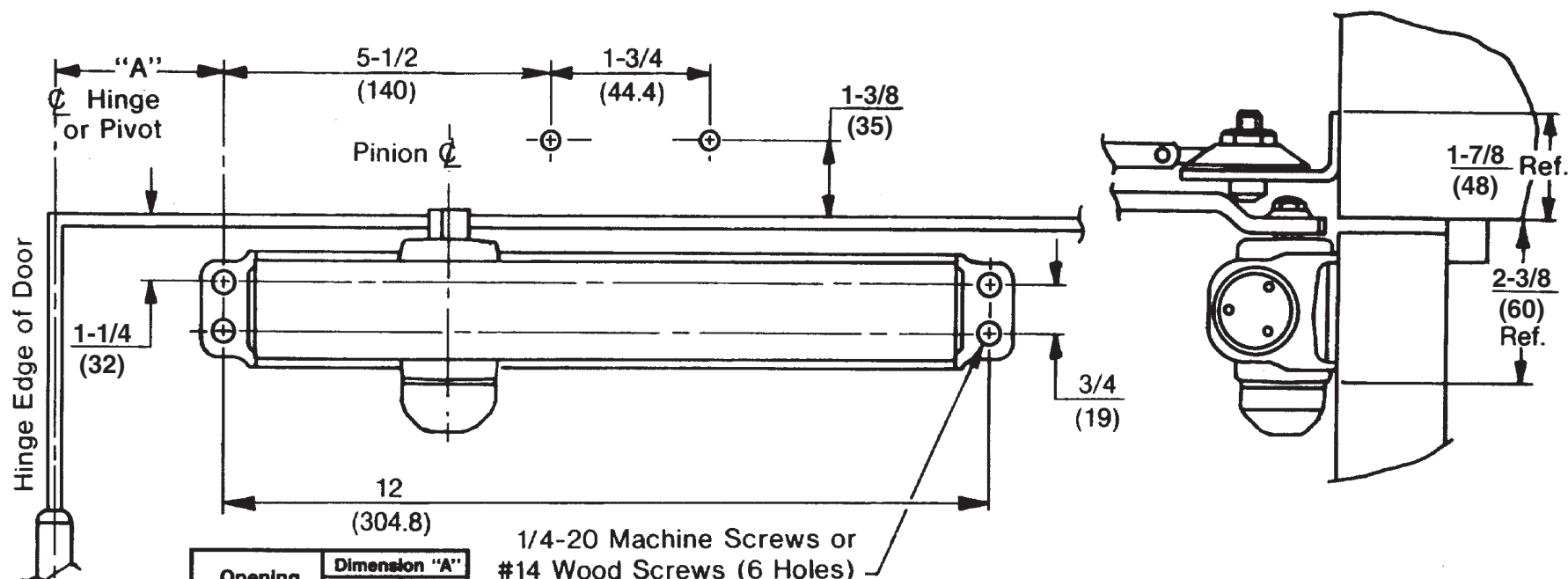
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TEMPLATE NUMBER

**7380-0104**

DATE

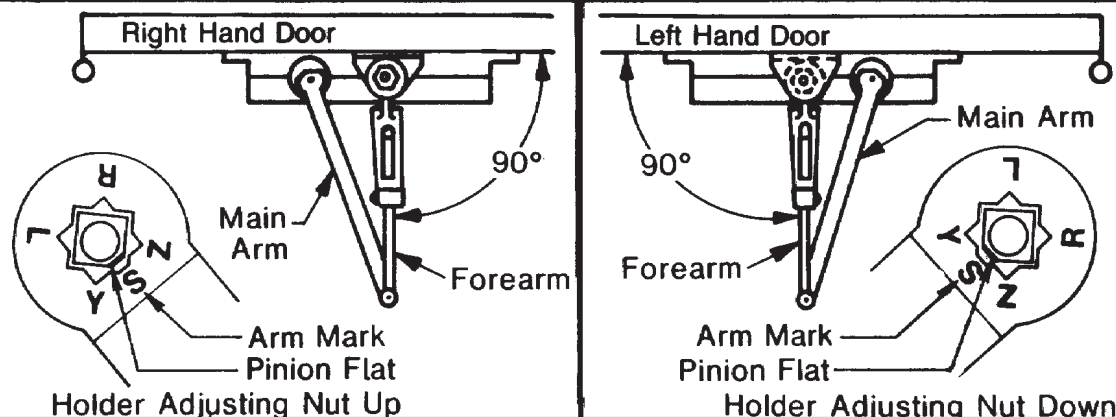
**09-08**



Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114

1/4-20 Machine Screws or  
#14 Wood Screws (6 Holes)

#### Position of Arm and Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000 Series Door Closer**  
**Regular Hold Open Application**  
**8100H, 8300H, and 8500H**  
**Sizes 1 Thru 6**

**Norton®**

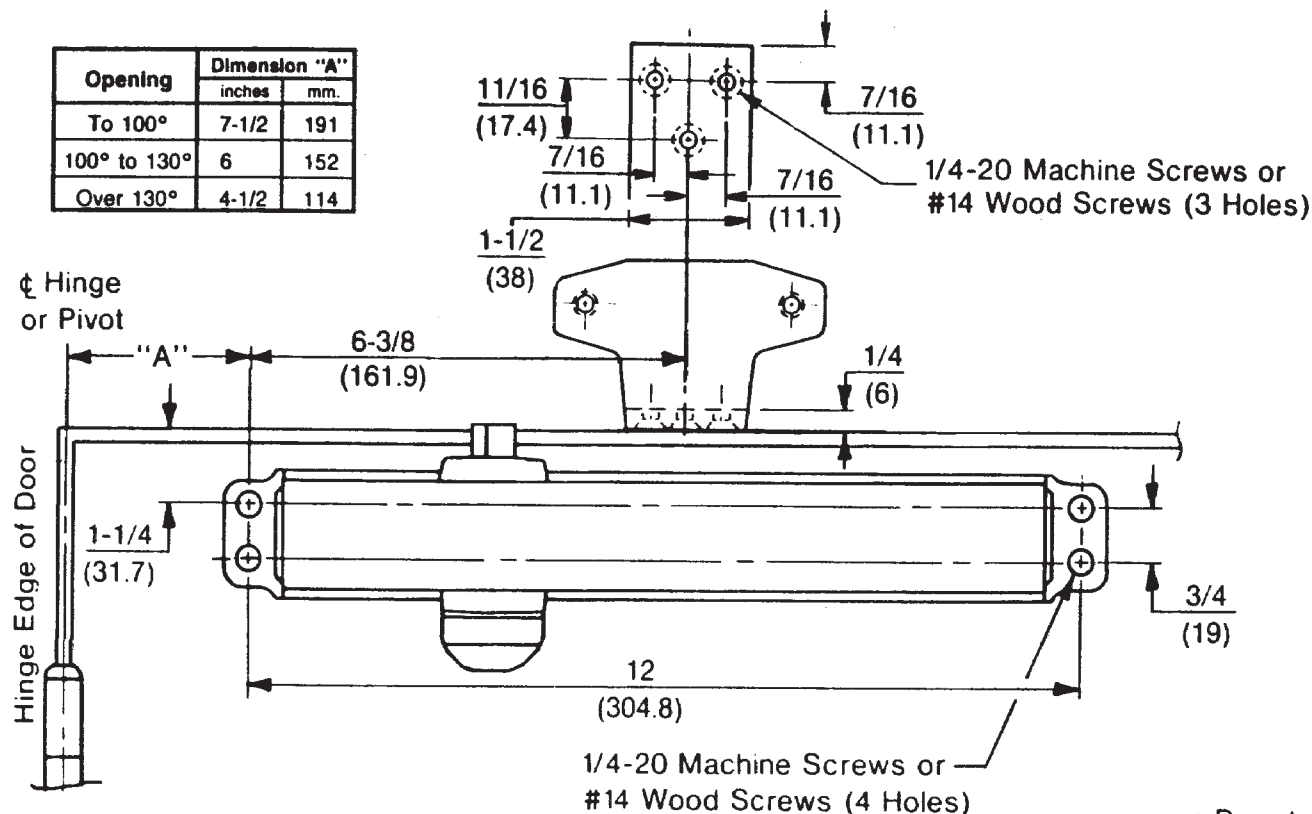
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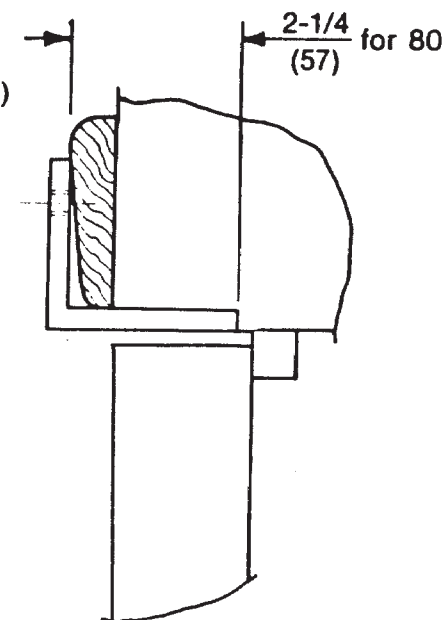
REV  
**2**

DATE  
**09/17**

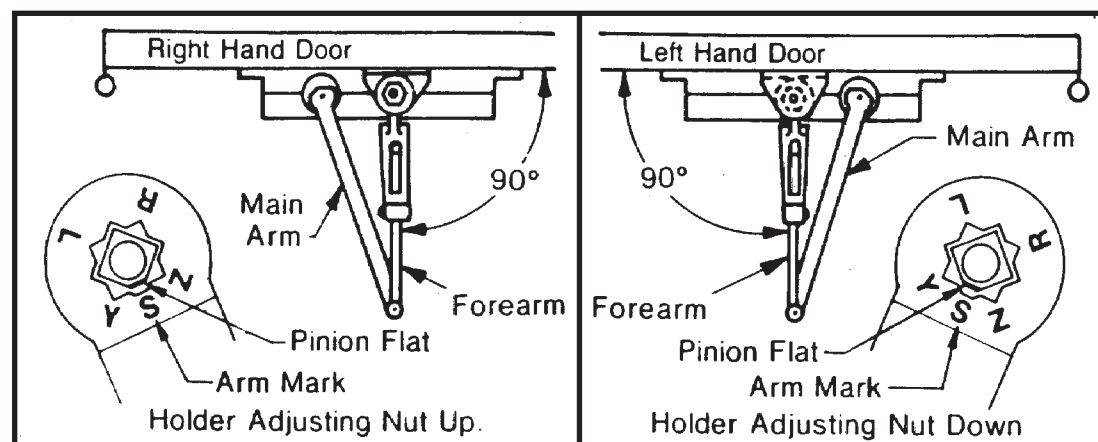
Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114



Note: Bracket is mortised into jamb as shown.



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.



**8000H Series Door Closer with 80 Bracket**  
**Regular Hold Open Application For Bull Nose Trim**  
**8100H, 8300H, and 8500H**  
**Sizes 1 Thru 6**

**Norton**

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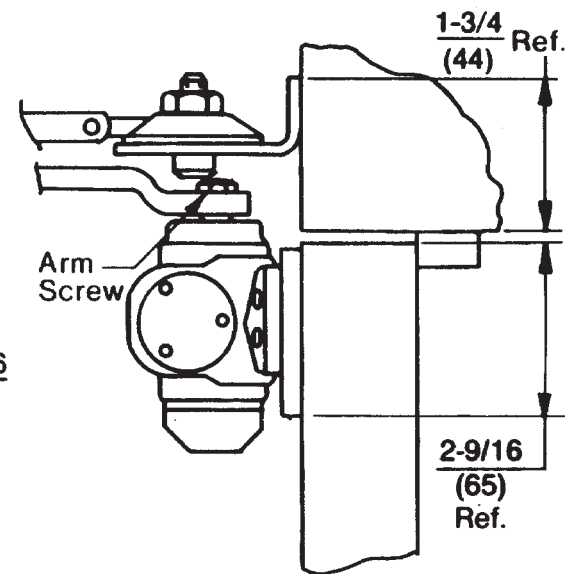
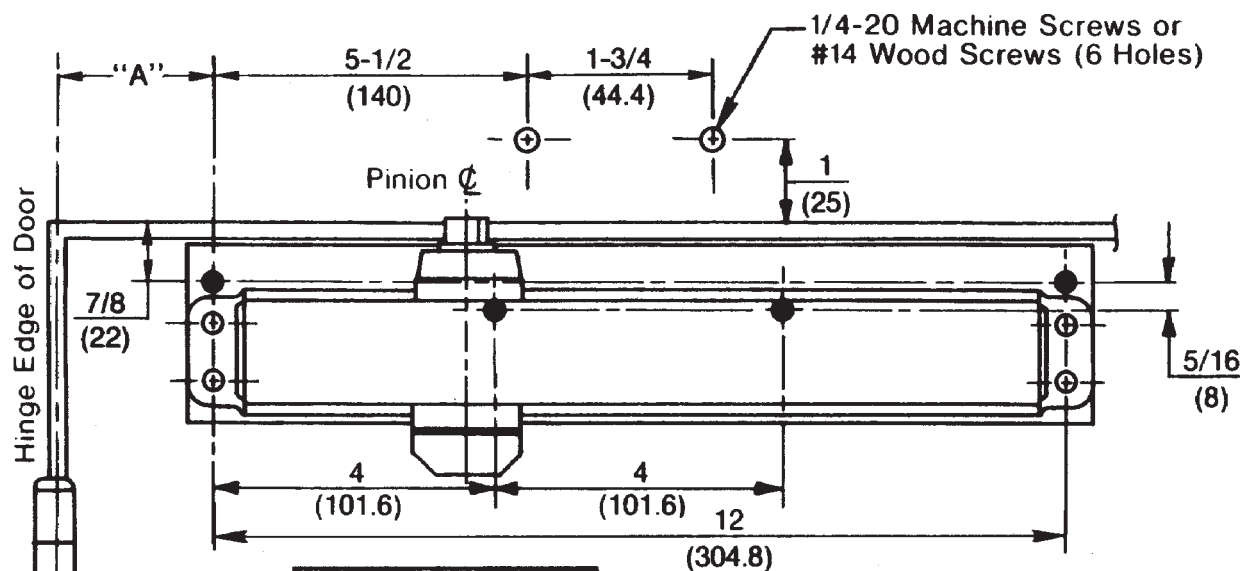
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**7380-0107**

DATE

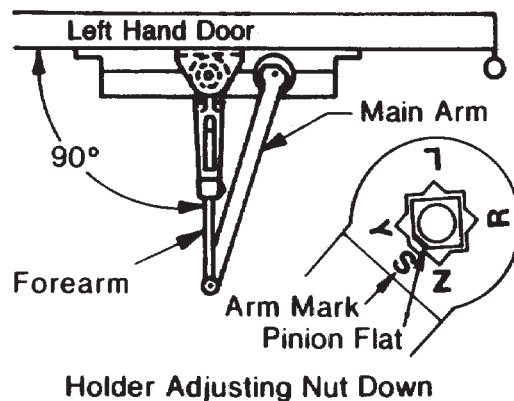
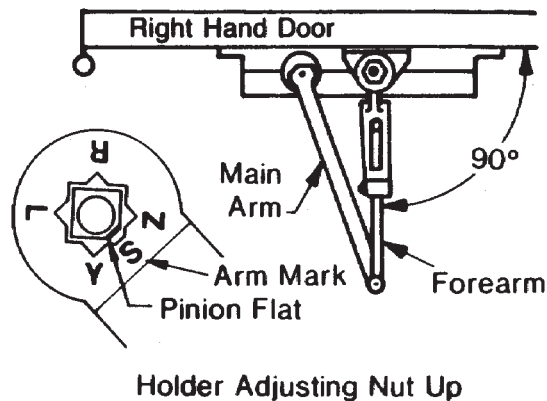
**09-08**





Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114

### Position of Arm and Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000H Series Door Closer**  
**Regular Hold Open Application With 8146 Back Plate for 1-3/4 Top Rail**  
**8100H, 8300H, and 8500H**  
**Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

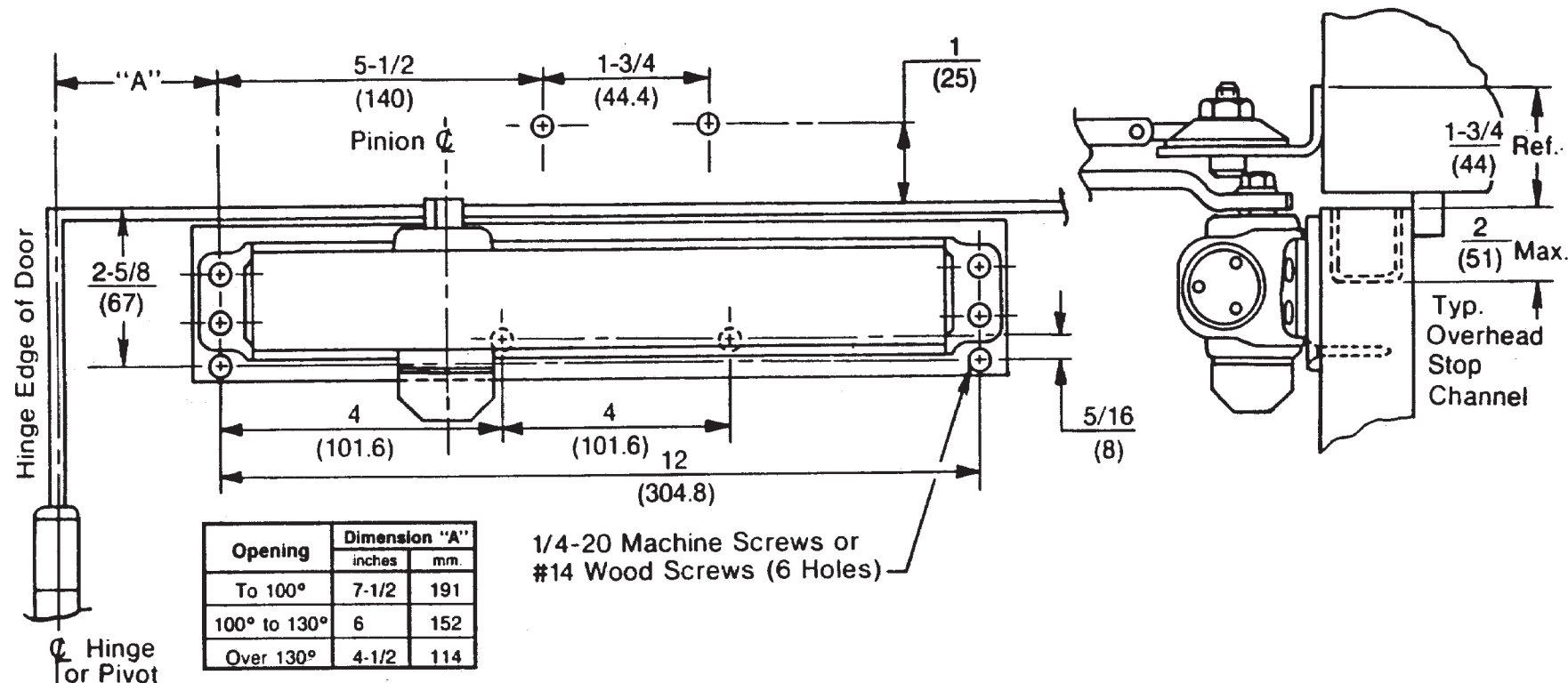
www.nortondoortools.com

TEMPLATE NUMBER

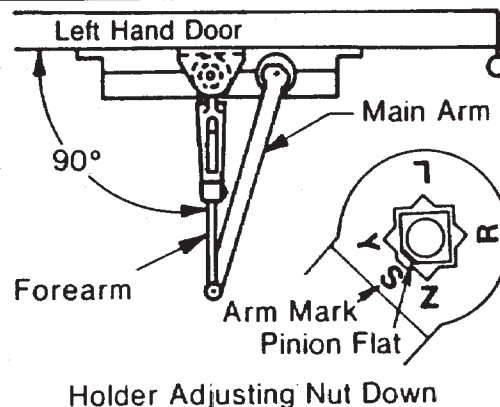
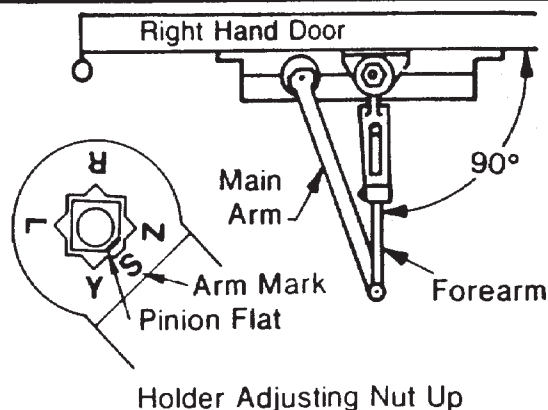
**7380-0108**

DATE

**09-08**



### Position of Arm and Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8000H Series Door Closer**  
**Hold Open Application With 8146 Back Plate for Concealed Stop Clearance**  
**8100H, 8300H, and 8500H**  
**Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

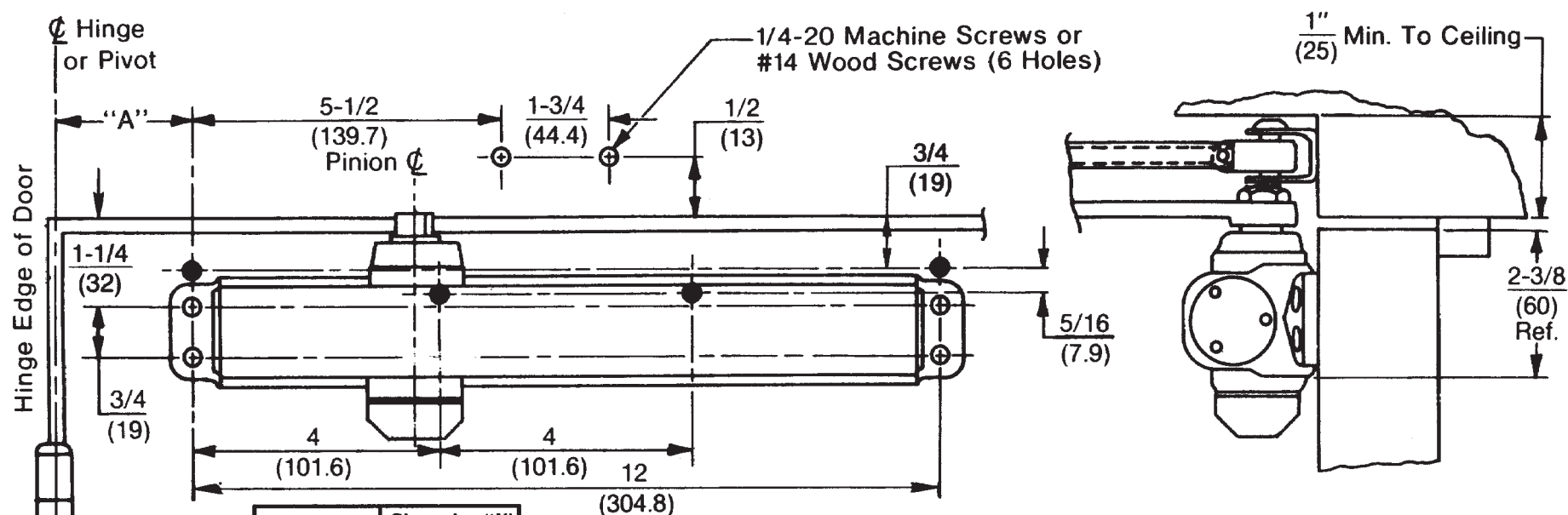
www.nortondoorcontrols.com

TEMPLATE NUMBER

**7380-0109**

DATE

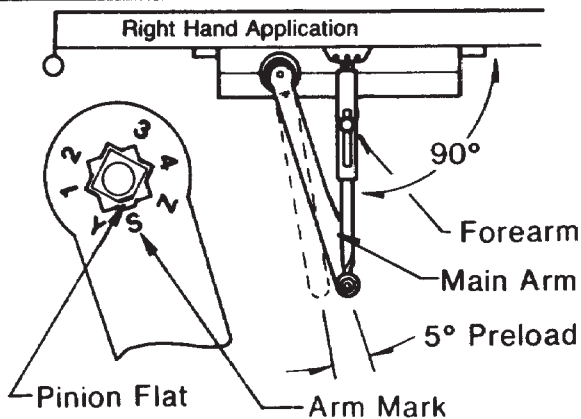
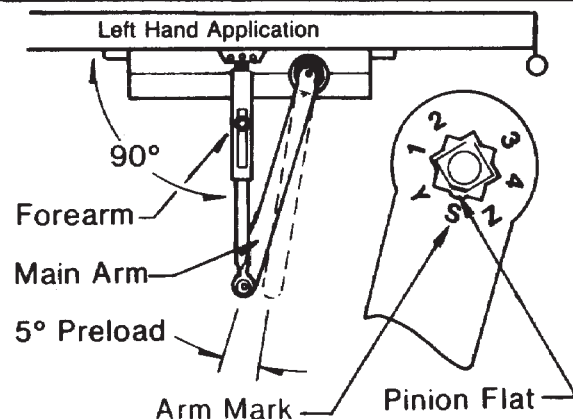
**09-08**



Opening	Dimension "A"	
	inches	mm.
To 100°	7-1/2	191
100° to 130°	6	152
Over 130°	4-1/2	114

● Prepare These Holes Only When 8146 Back Plate is Used

### Position of Arm & Pinion Flat



- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**8080 Series Door Closer**  
**Regular Low Ceiling Arm Application With or Without 8146 Back Plate**  
**8180, 8380, and 8580**  
**Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

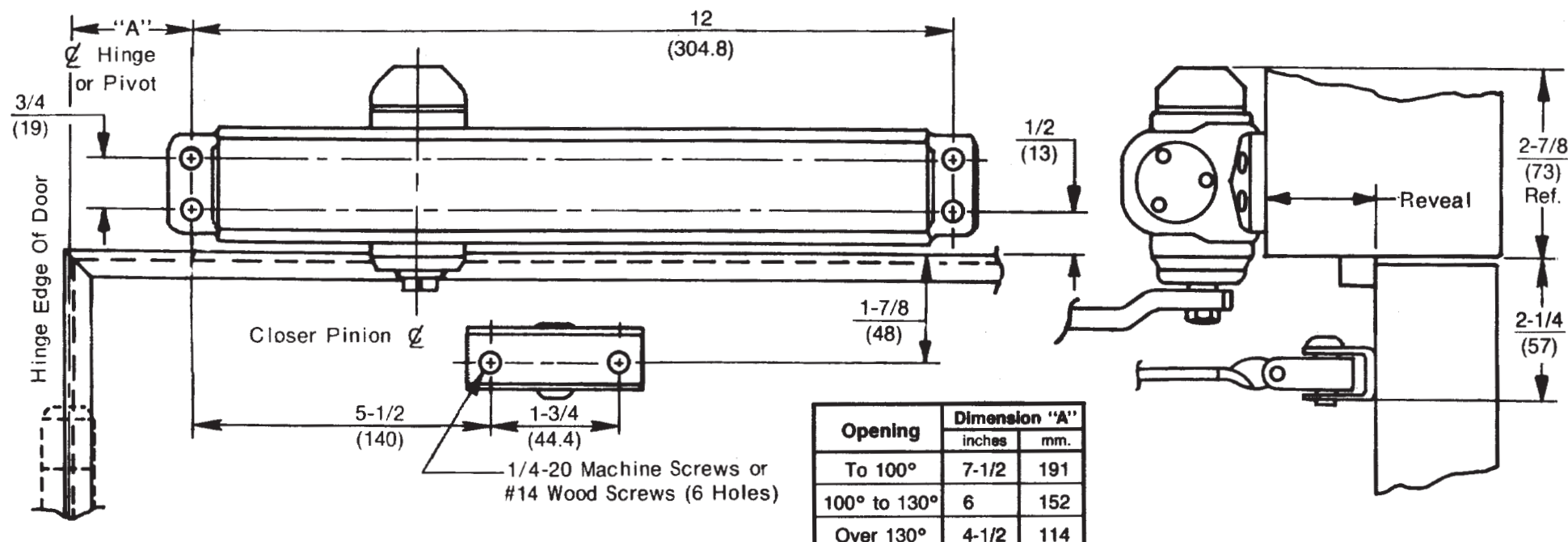
www.nortondoorcontrols.com

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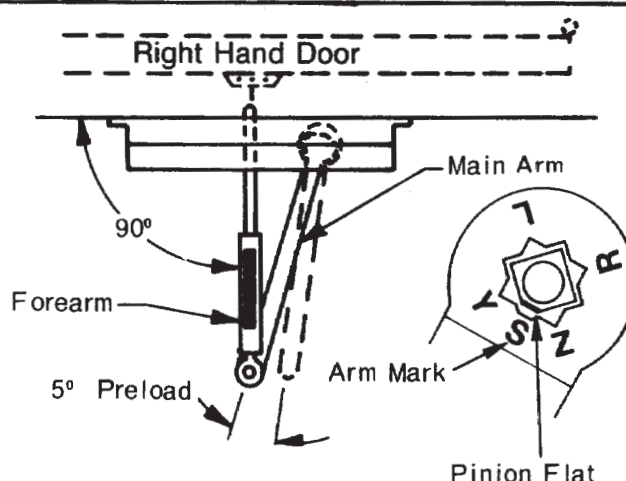
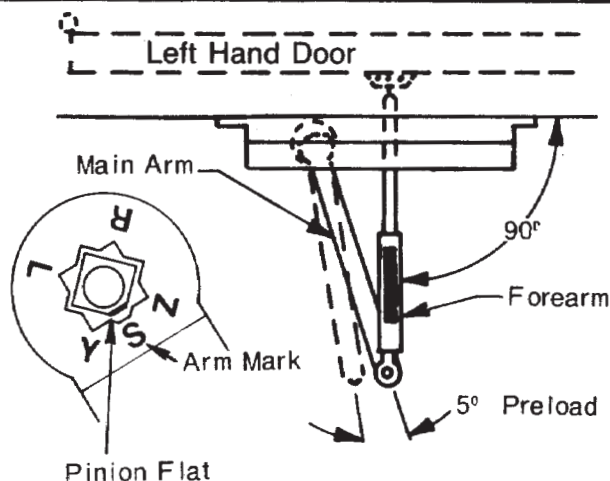
**7380-0110**

DATE

**09-08**



### Position of Arm and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

**J8000 Series Door Closer**  
**Top Jamb Application**  
**J8100, J8300, and J8500**  
**Sizes 1 thru 6**

**Norton**

ASSA ABLOY

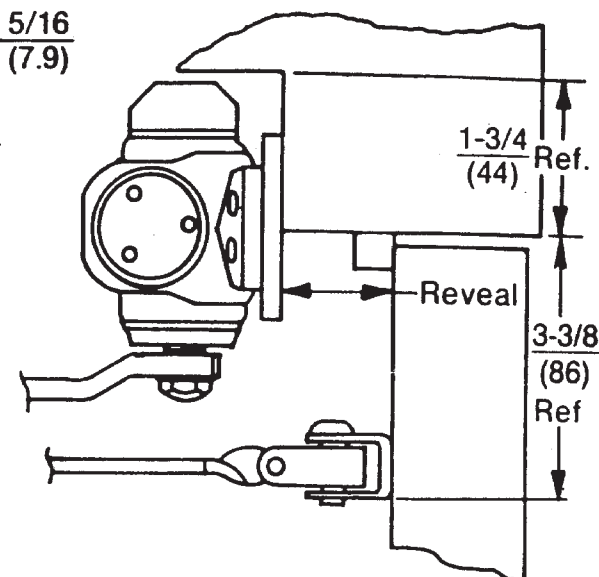
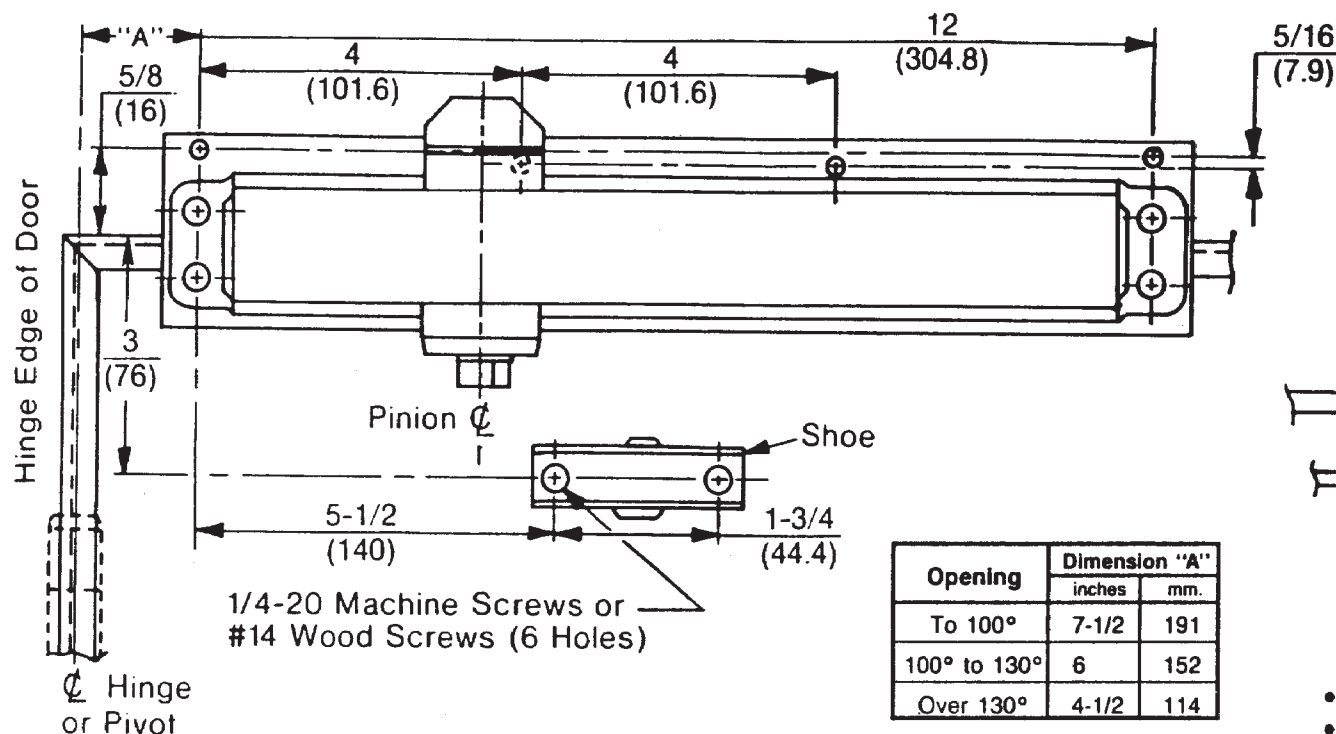
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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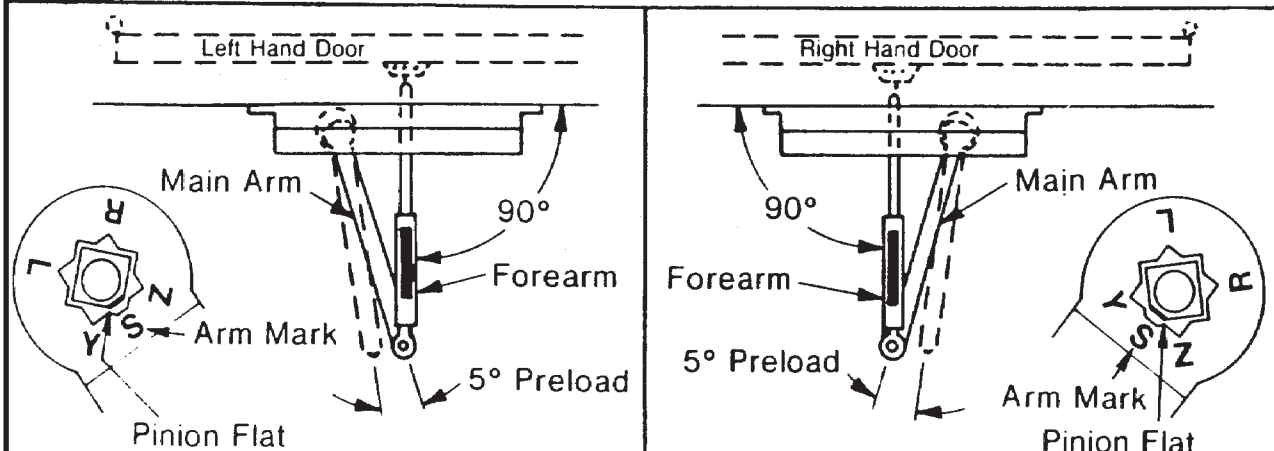
**7380-0150**

DATE

**09-08**



### Position of Arm and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

**J8000 Series Door Closer**  
**Top Jamb Application With 8146 Back Plate for Low Ceiling Clearance**  
**J8100, J8300, and J8500**  
**Sizes 1 thru 6**

**Norton**

ASSA ABLOY

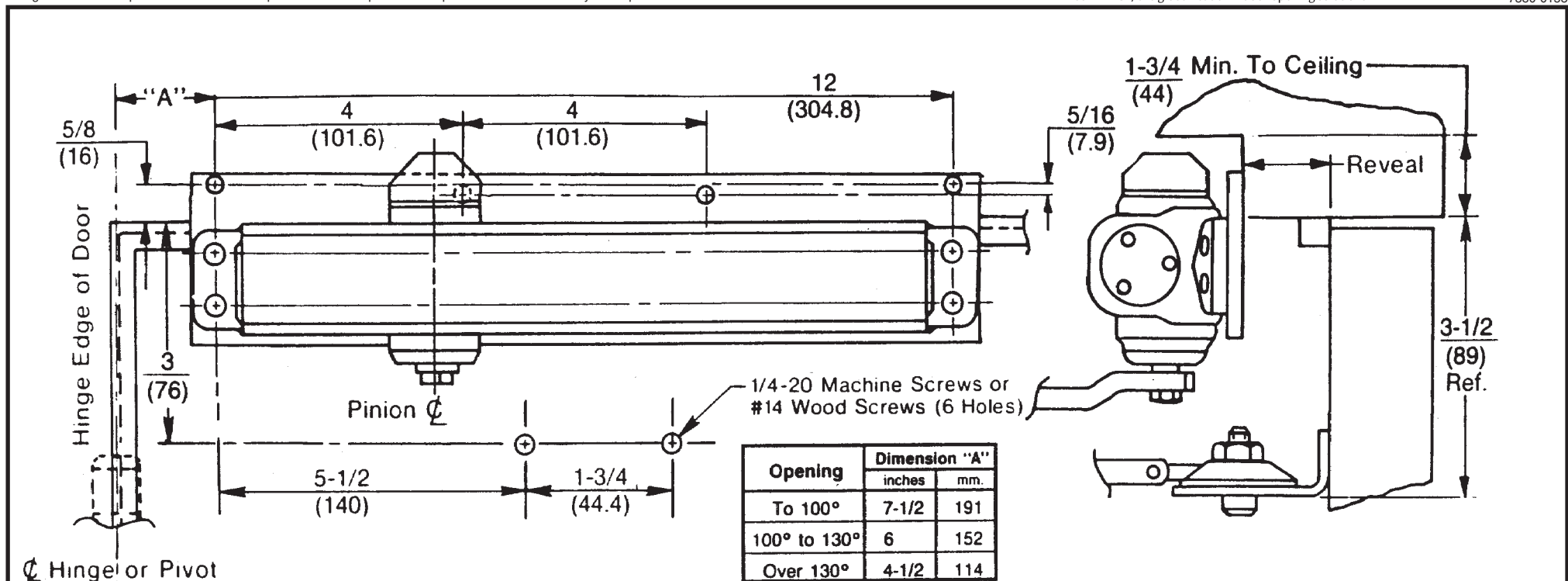
www.nortondoorcontrols.com

TEMPLATE NUMBER

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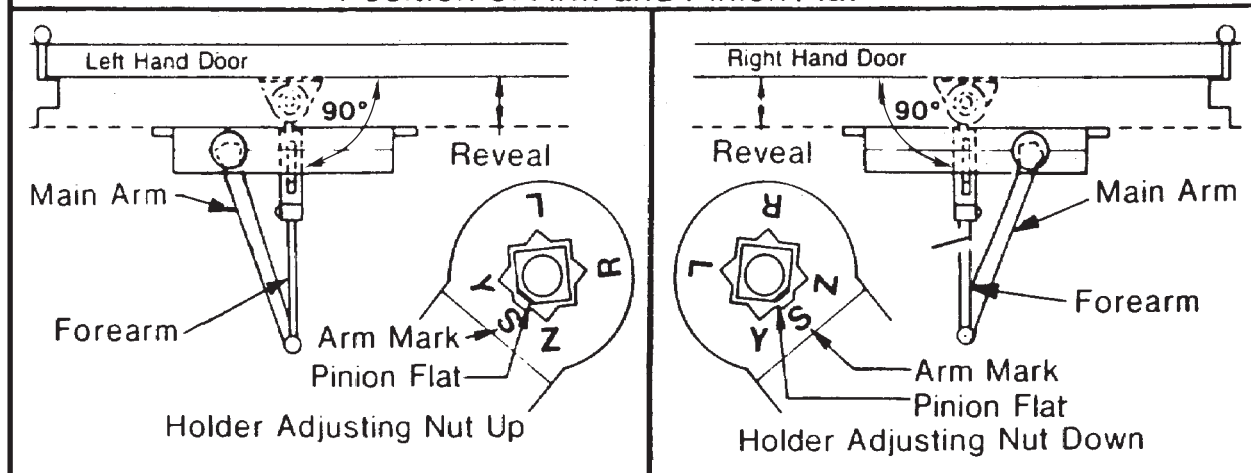
DATE

**09-08**



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

### Position of Arm and Pinion Flat



**J8000H Series Door Closer**  
**Top Jamb Hold Open Application with 8146 Back Plate**  
**J8100H, J8300H, and J8500H**  
**Sizes 1 thru 6**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

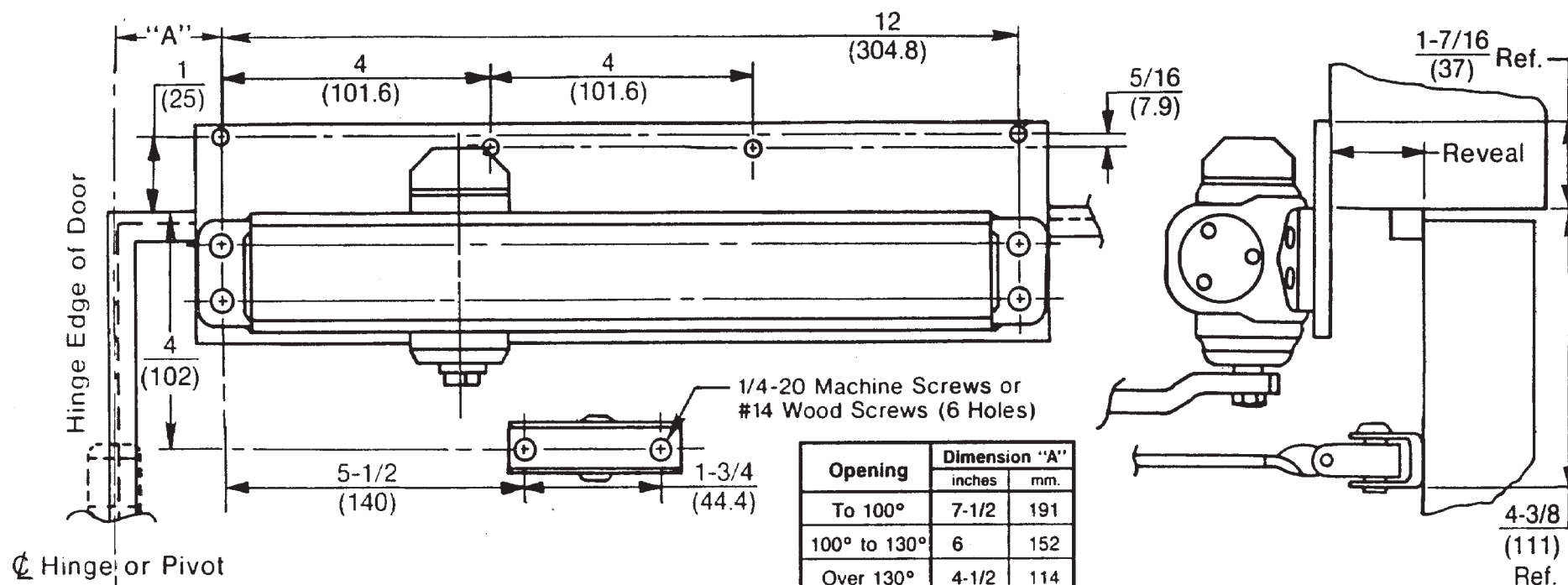
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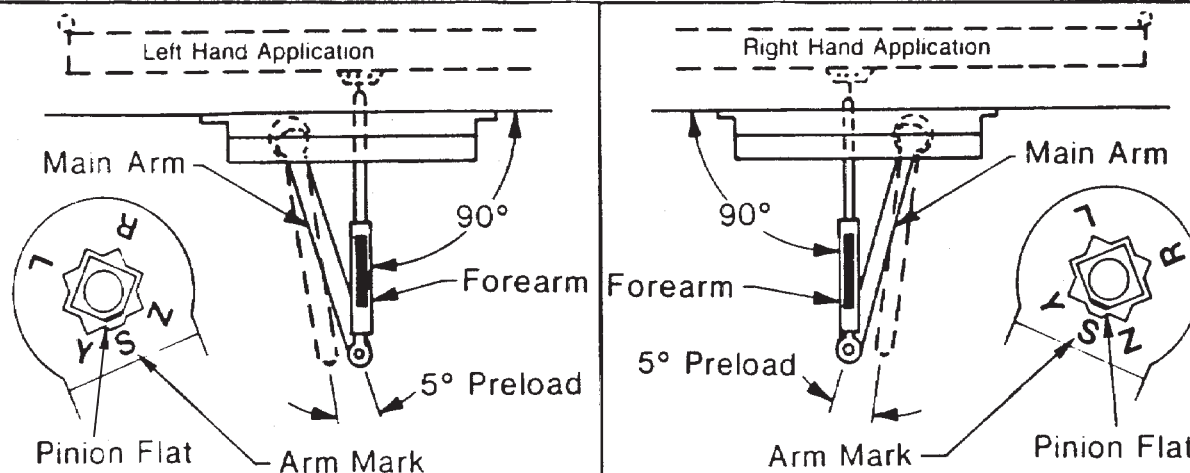
DATE

**09-08**





### Position of Arm & Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

**J8000 Series Door Closer**  
**Top Jamb Application With 8148 Drop Plate**  
**J8100, J8300, and J8500**  
**Sizes 1 thru 6**

**Norton**

ASSA ABLOY

www.nortondoorcontrols.com

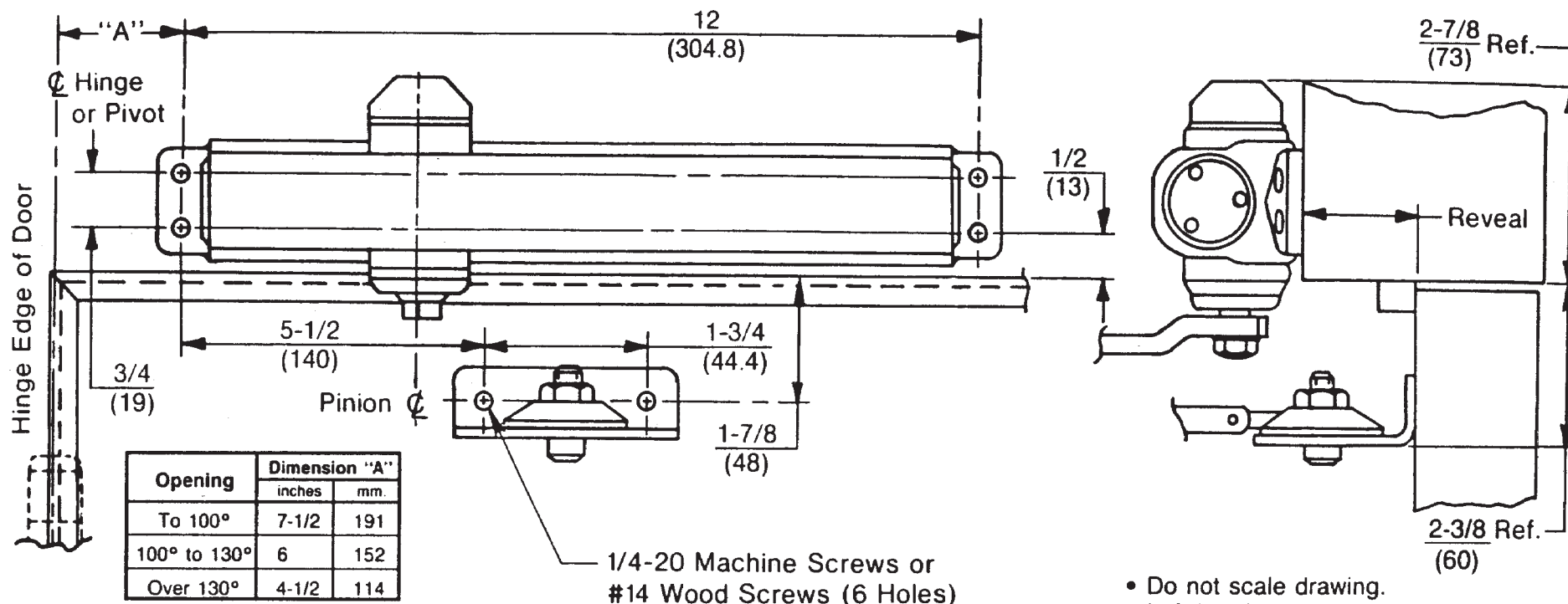
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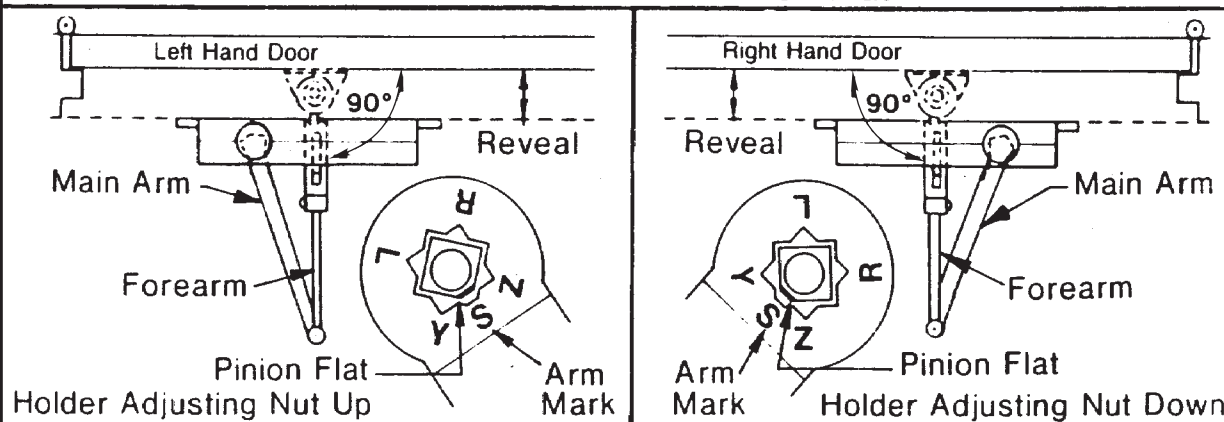
**09-08**





- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

### Position of Arm and Pinion Flat



### J8000H Series Door Closer Top Jamb Hold Open Application J8100H, J8300H, and J8500H Sizes 1 thru 6

**Norton**

ASSA ABLOY

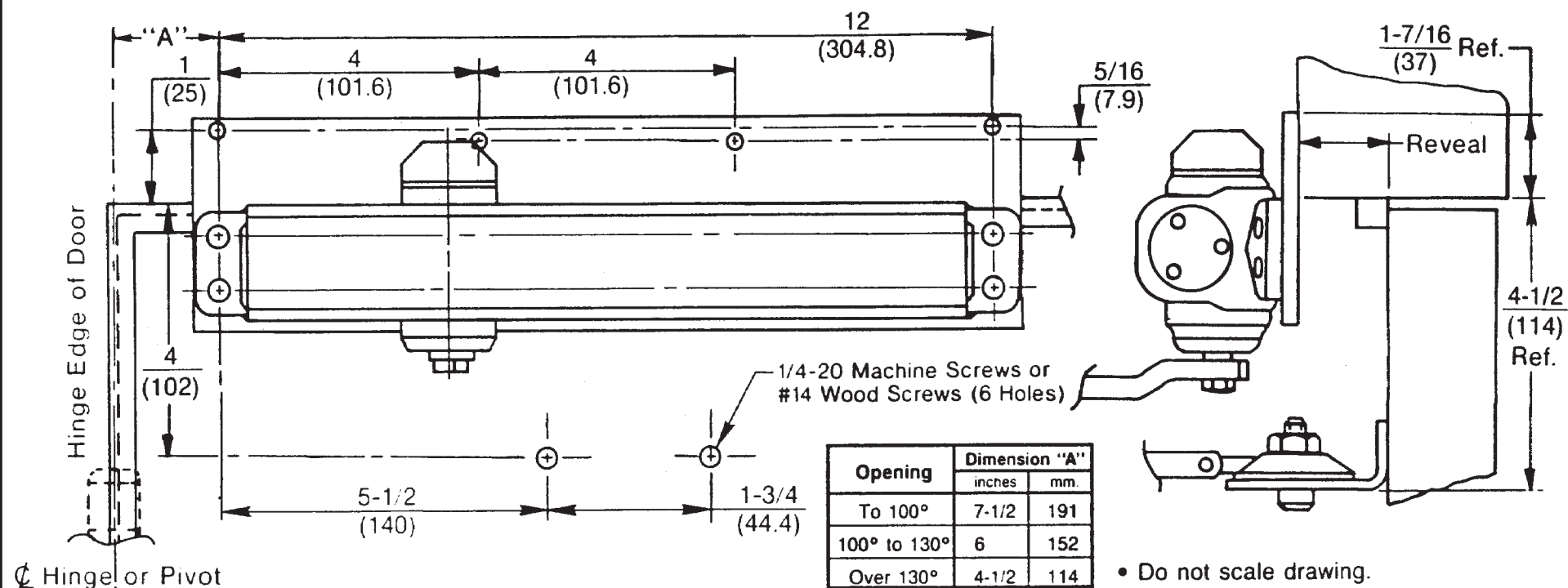
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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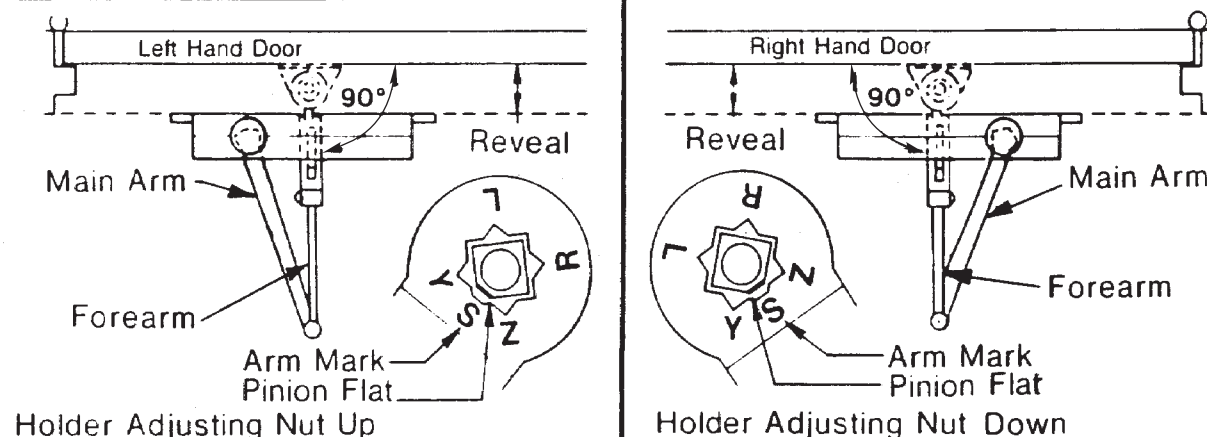
DATE

**09-08**



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

### Position of Arm and Pinion Flat



**J8000H Series Door Closer**  
**Top Jamb Hold Open Application With 8148 Drop Plate**  
**J8100H, J8300H, and J8500H**  
**Sizes 1 thru 6**

**Norton**

ASSA ABLOY

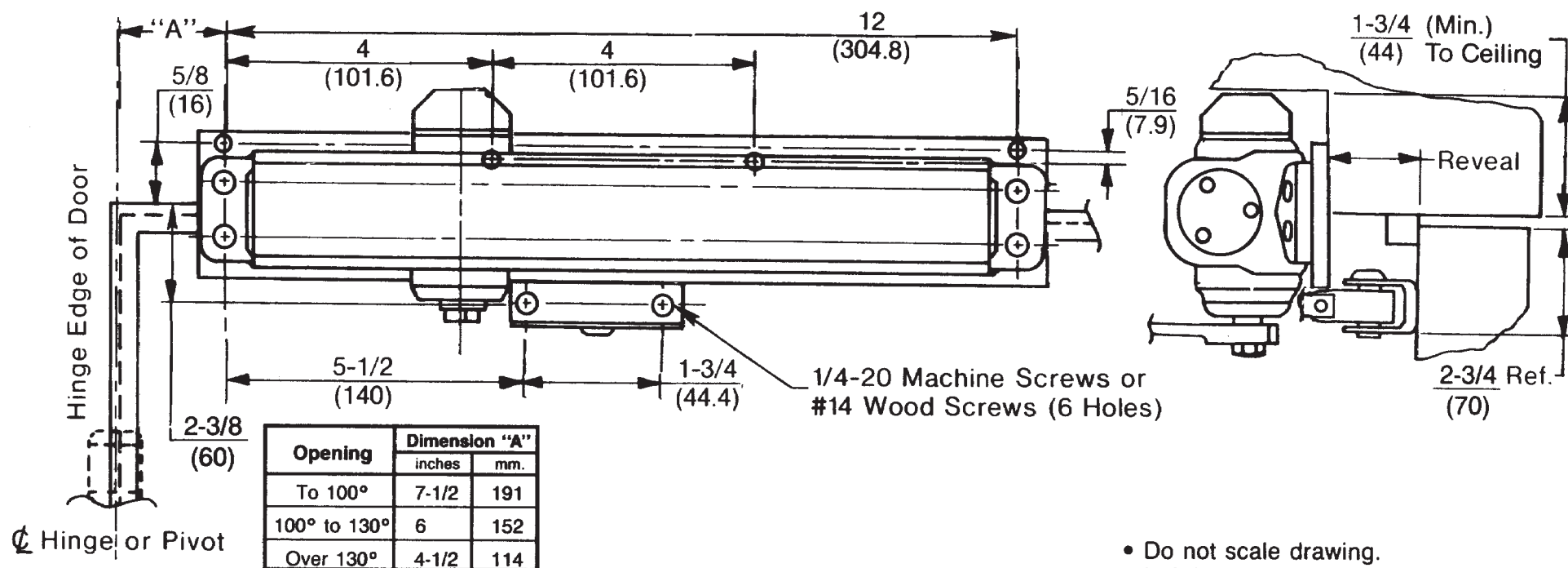
www.nortondoorcontrols.com

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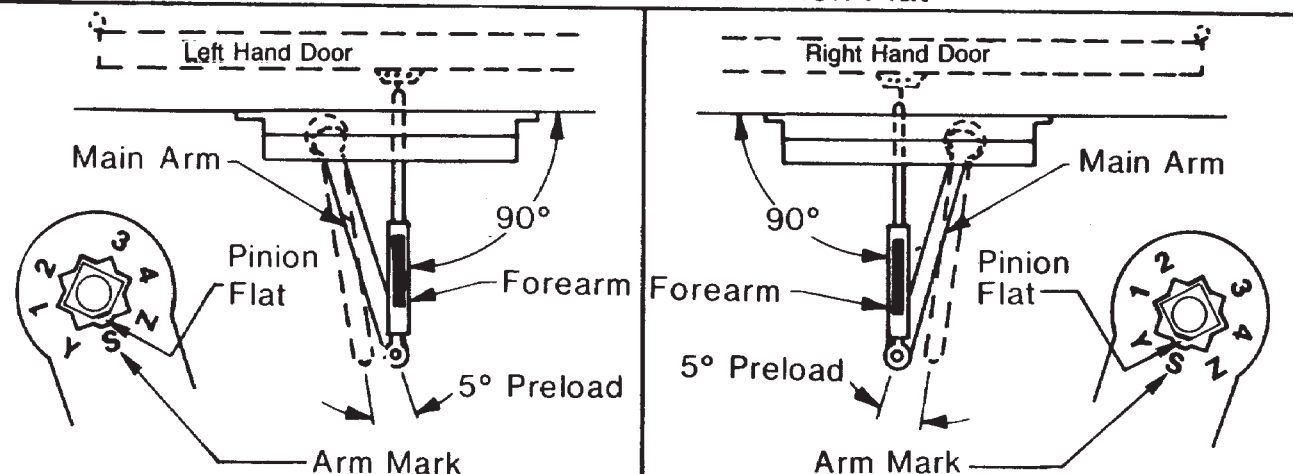
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DATE

**09-08**



### Position of Arm & Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolts required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.
- Use regular length rod for reveals to 3" (76 mm.). Use long rod for reveals 2-3/4" (70 mm.) to 6-3/4" (171 mm.).

**J8080 Series Door Closer**  
**Top Jamb Low Profile Application With 8146 Back Plate**  
**J8180, J8380, and J8580**  
**Sizes 1 thru 6**

**Norton**

ASSA ABLOY

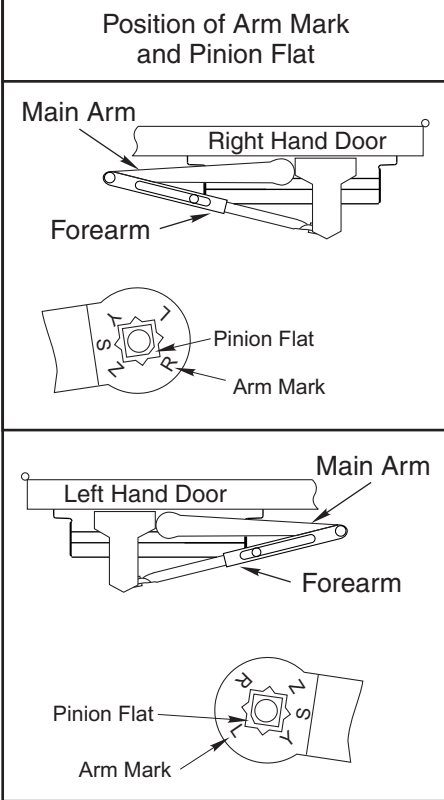
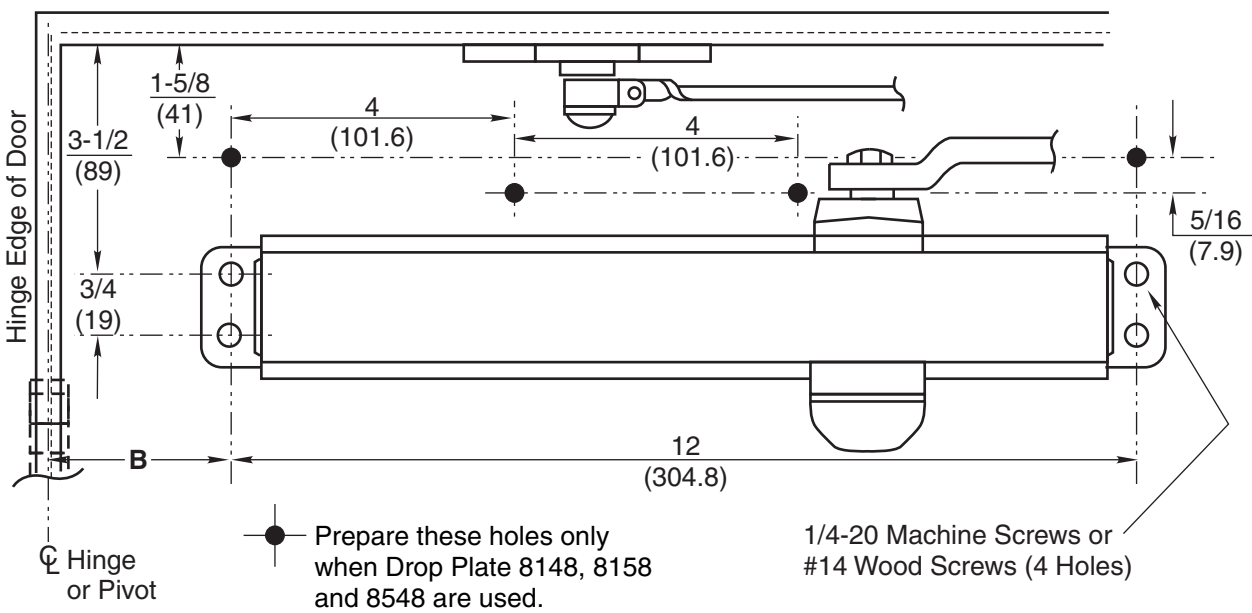
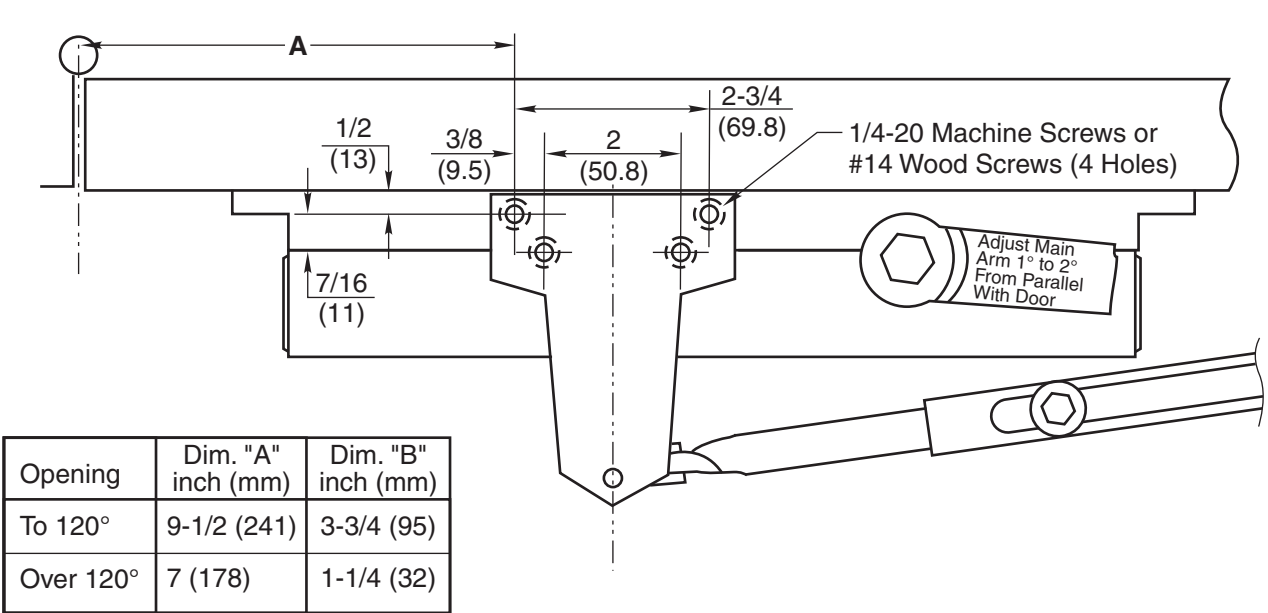
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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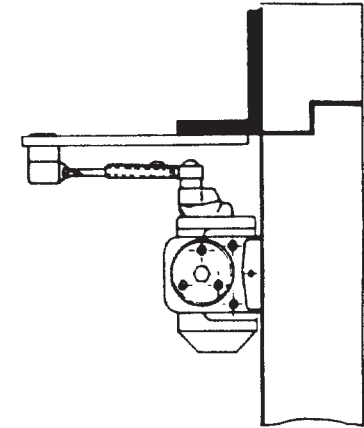
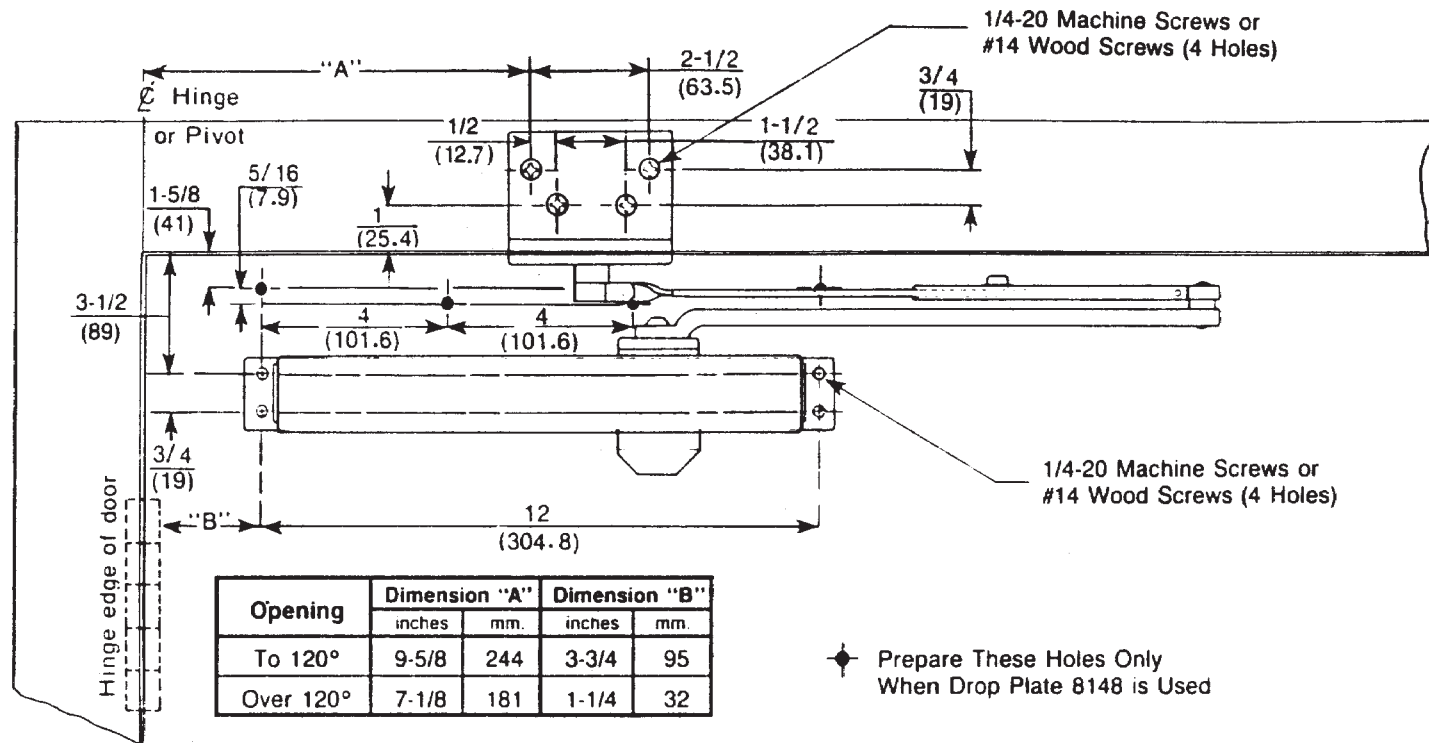
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DATE

**09-08**

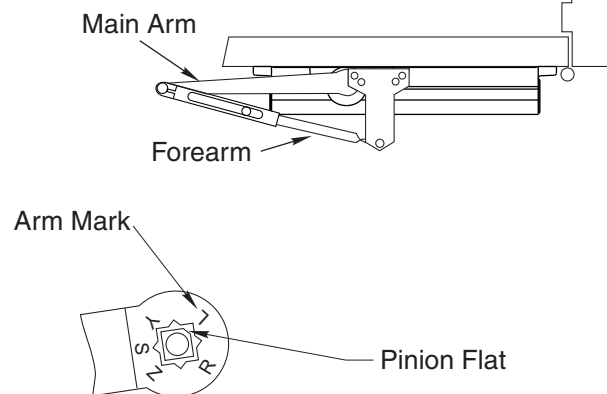


- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046 (2.66mm) unless otherwise noted.

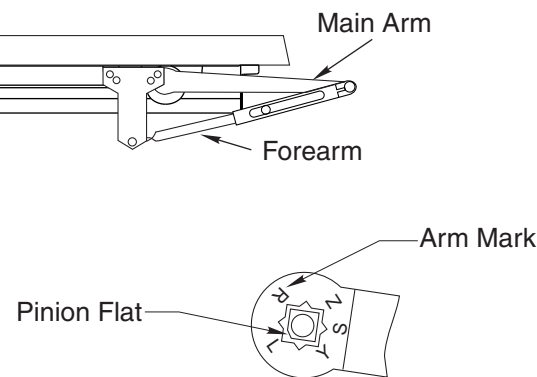


#### POSITION OF ARM MARK AND PINION FLAT

Left hand door use arm mark "L"



Right hand door use arm mark "R"



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

### P8000 Series Door Closers Parallel Arm Application With 2022 Bracket With or Without 8148 Drop Plate P8100, P8300, and P8500 – Sizes 1 - 6

**Norton**

ASSA ABLOY

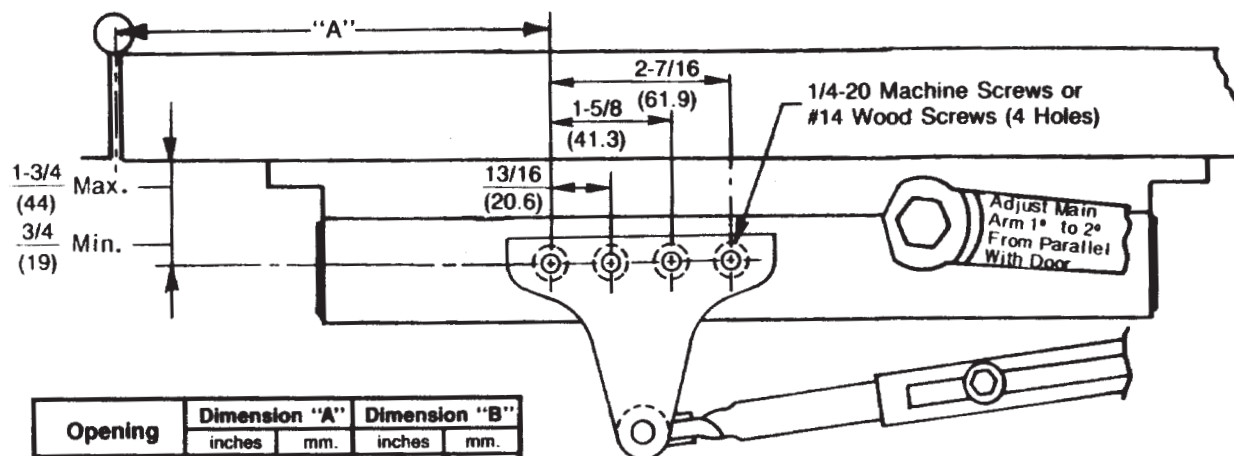
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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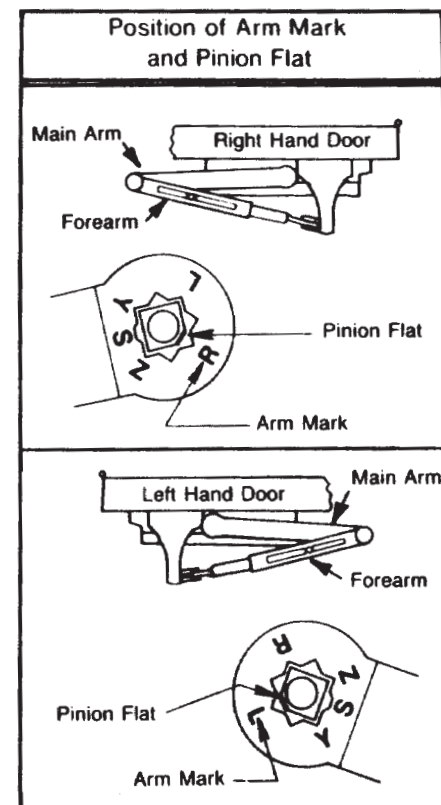
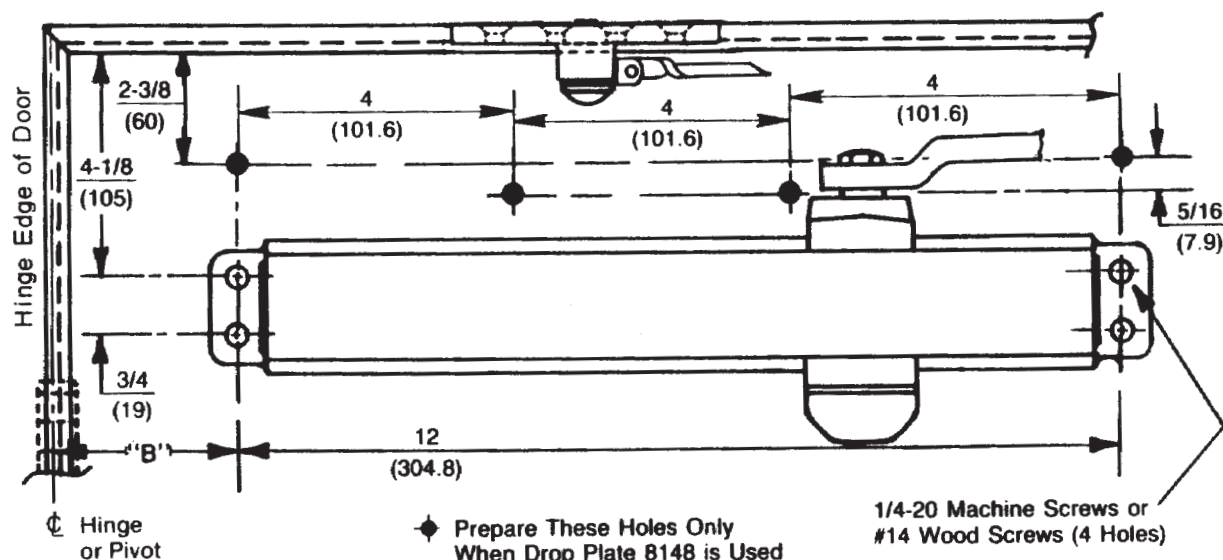
**7380-0203**

DATE

**09-08**



Opening	Dimension "A"		Dimension "B"	
	inches	mm.	inches	mm.
To 120°	9-5/8	244	3-3/4	95
Over 120°	7-1/8	181	1-1/4	32



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**P8000 Series Door Closer**  
**Parallel Arm With 2018B For Rabbet Application With or Without 8148 Drop Plate**  
**P8100, P8300, and P8500 Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

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

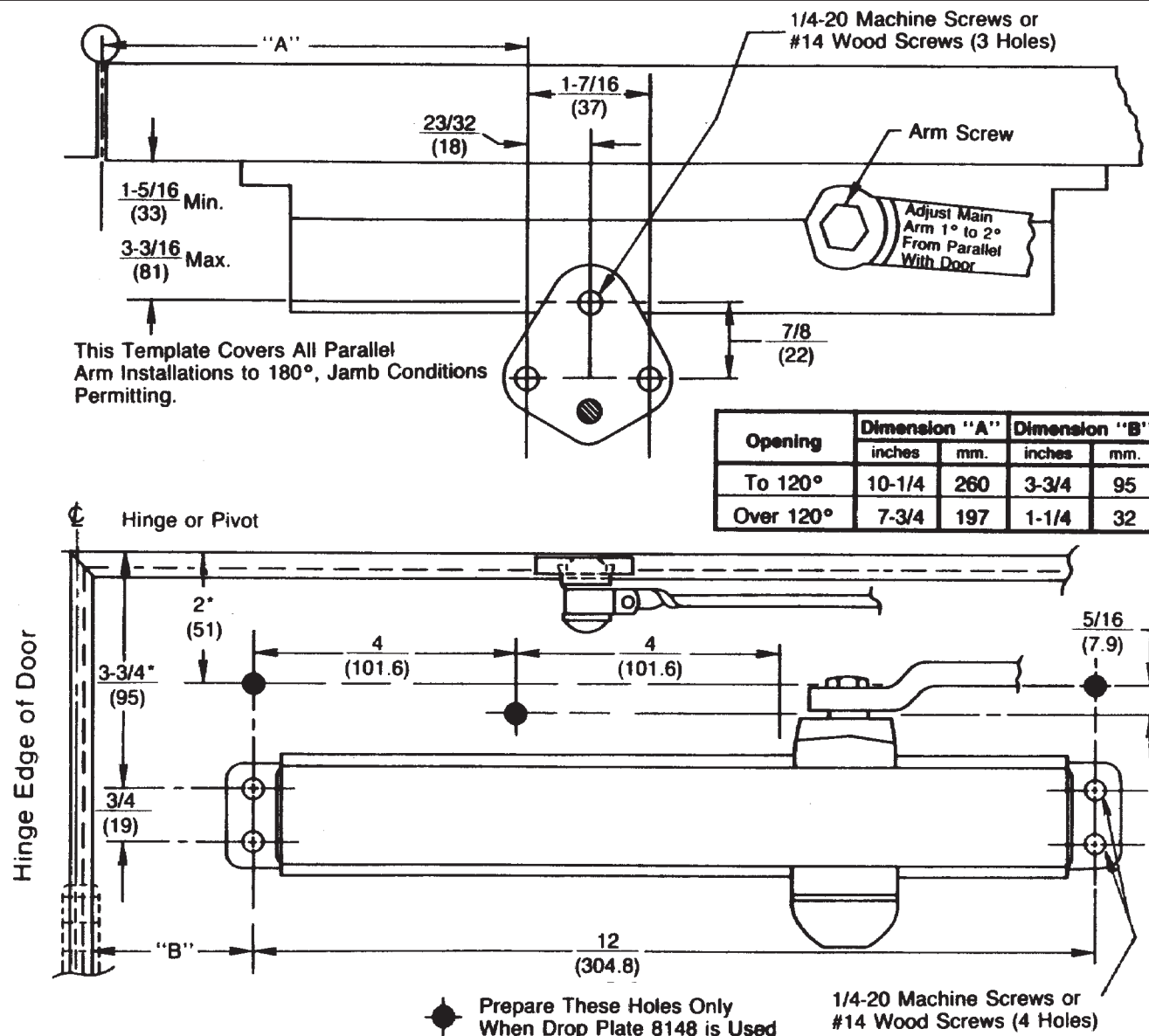
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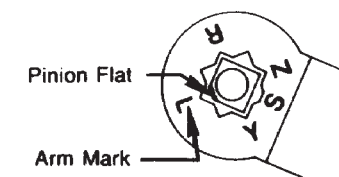
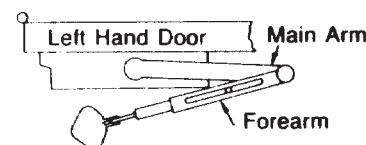
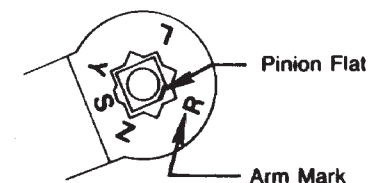
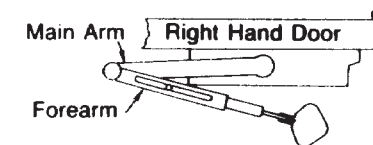
**09-08**





\*This dimension must be measured from the same surface that the soffit bracket is mounted to.

### Position of Arm Mark and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.)
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

## P8000 Series Door Closer Parallel Arm Application With 2018 For Between Doors With or Without 8148 Drop Plate P8100, P8300, and P8500 Sizes 1 Thru 6

**Norton**

ASSA ABLOY

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

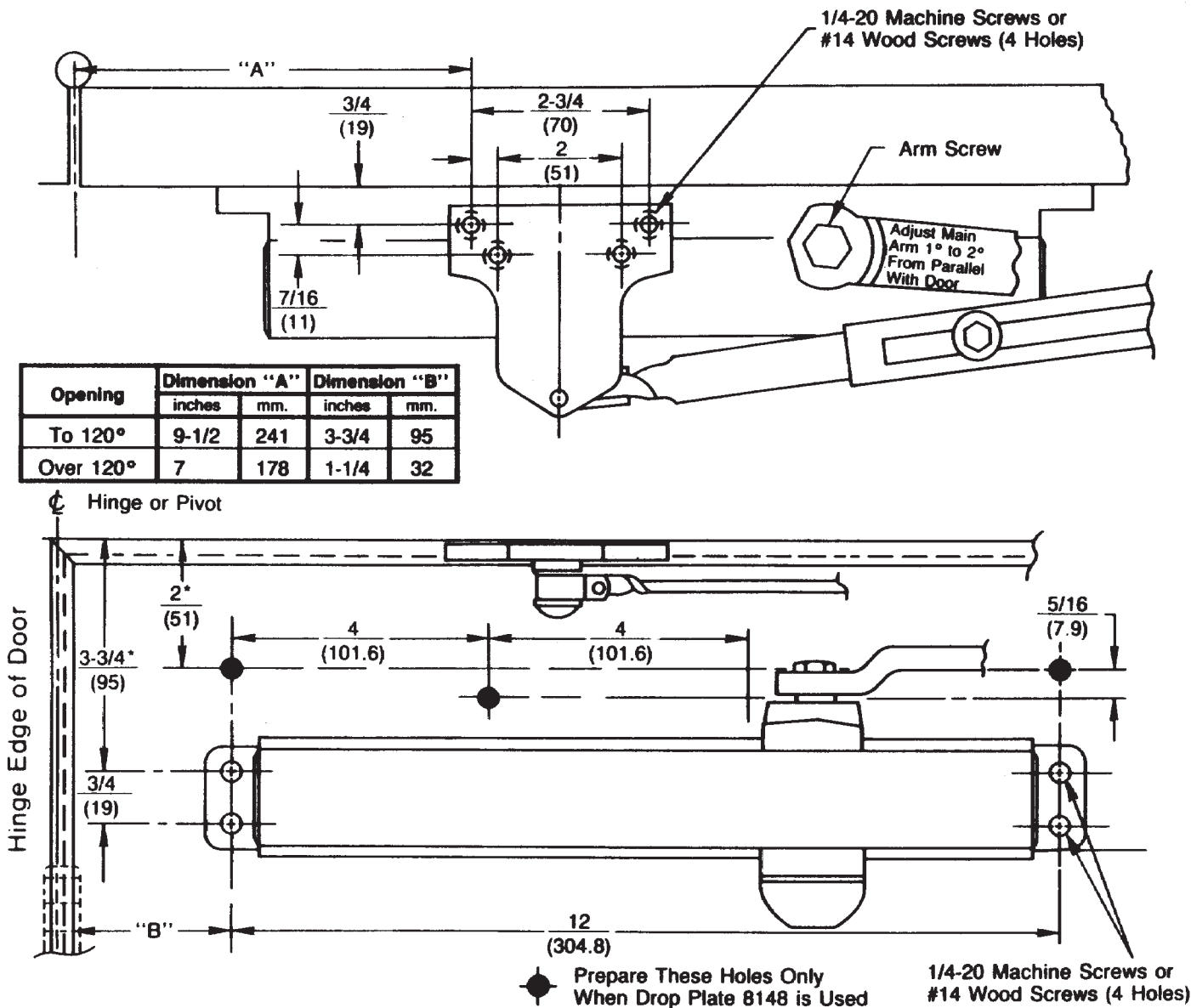
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DATE

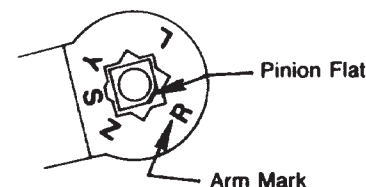
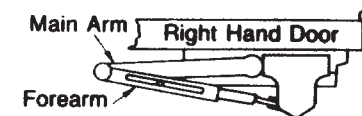
**09-08**





\*This dimension must be measured from the same surface that the soffit bracket is mounted to.

### Position of Arm Mark and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.)
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

## P8000 Series Door Closer

### Parallel Arm With 2018D For Narrow or Blade Stop Application

### With or Without 8148 Drop Plate

### P8100, P8300, and P8500 Sizes 1 Thru 6

**Norton**

ASSA ABLOY

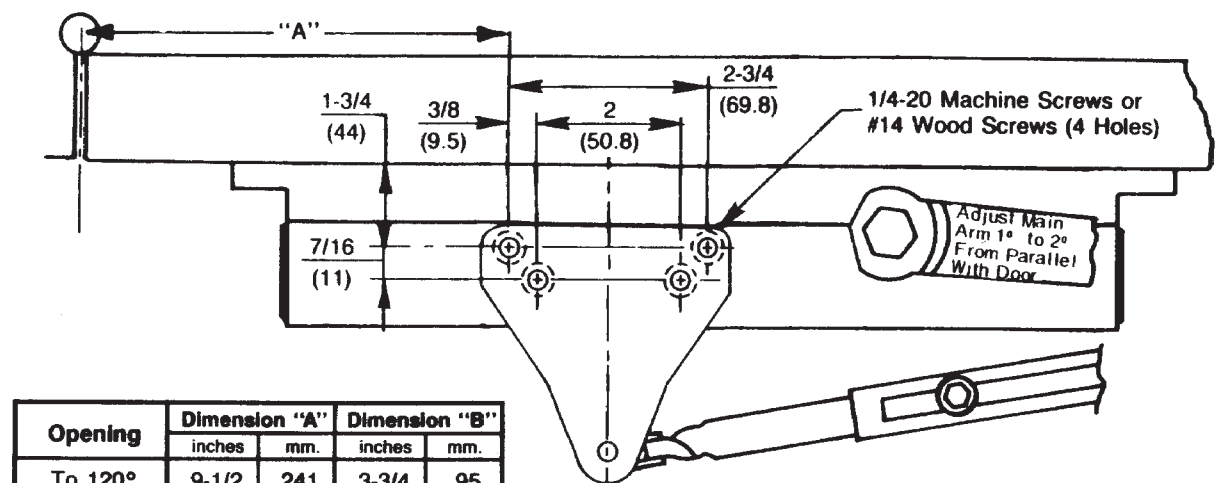
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

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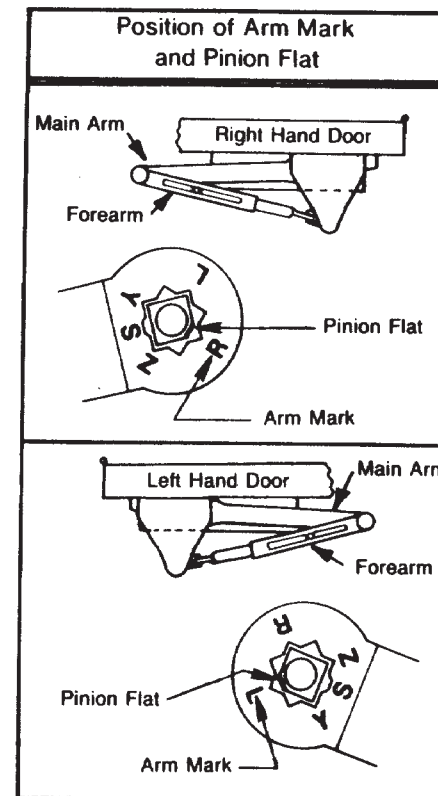
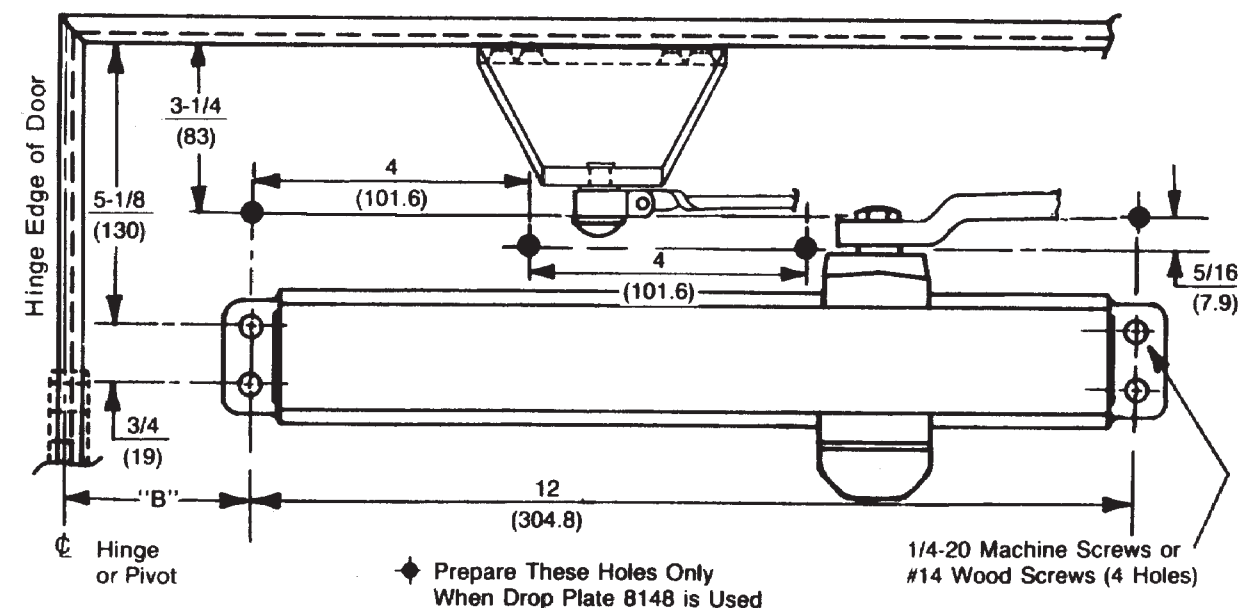
**7380-0206**

DATE

**09-08**



Opening	Dimension "A"		Dimension "B"	
	inches	mm.	inches	mm.
To 120°	9-1/2	241	3-3/4	95
Over 120°	7	178	1-1/4	32



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**P8000 Series Door Closer**  
**Parallel Arm With 2018S Bracket Application**  
**With or Without 8148 Drop Plate**  
**P8100, P8300, and P8500 Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

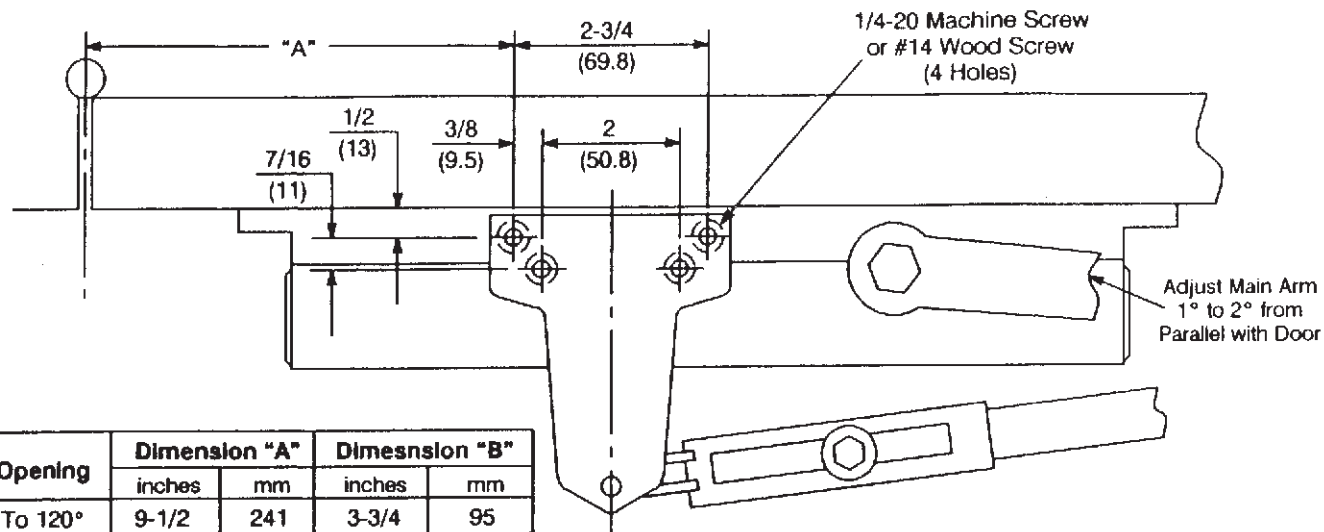
www.nortondoorcontrols.com

TEMPLATE NUMBER

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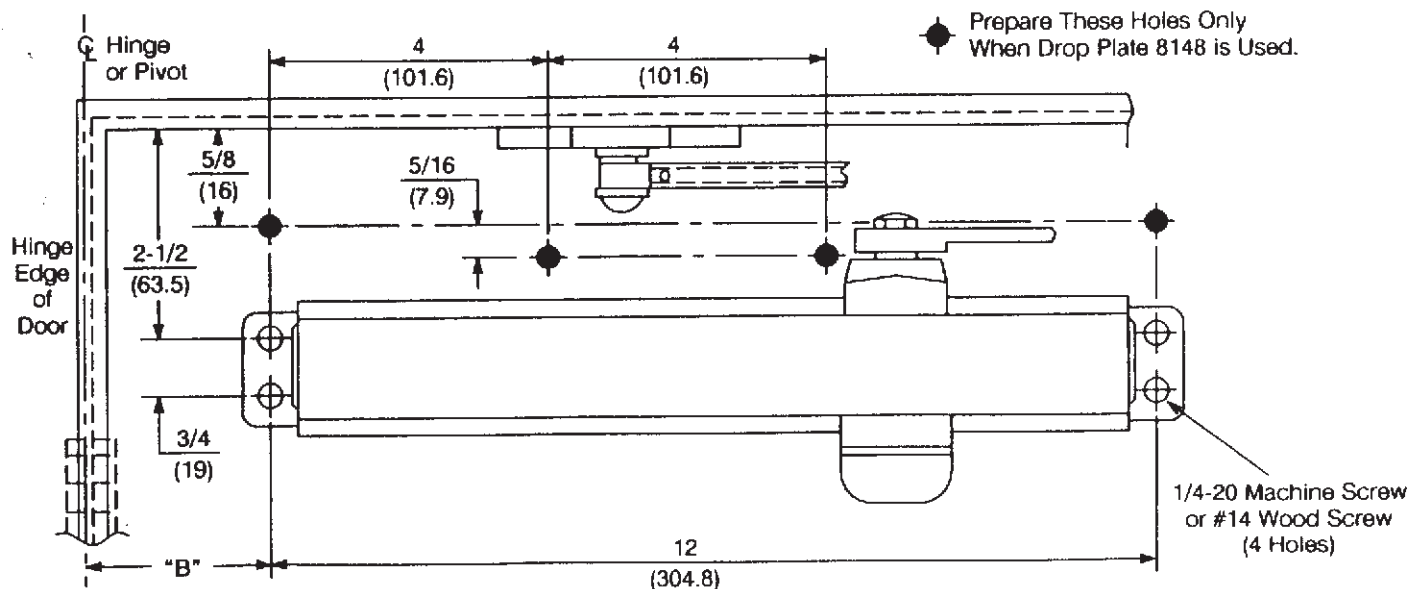
DATE

**09-08**

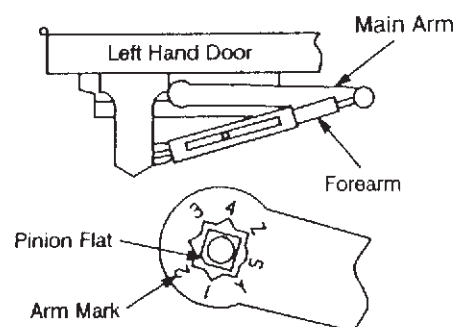
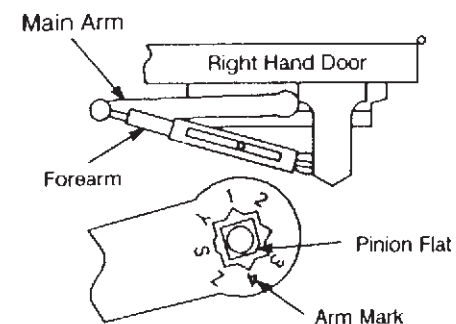


Opening	Dimension "A"		Dimension "B"	
	inches	mm	inches	mm
To 120°	9-1/2	241	3-3/4	95
Over 120°*	7	178	1-1/4	32

\* Door openings to 180° conditions permitting.



#### Position of Arm Mark and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm) unless otherwise noted.

### P8000 Series Door Closer for Narrow Stile Door With or Without 8148 Drop Plate

#### Parallel Non-Hold Open Low Profile Arm Application

#### P8180, P8380, and P8580

#### Sizes 1 Thru 6

**Norton**

ASSA ABLOY

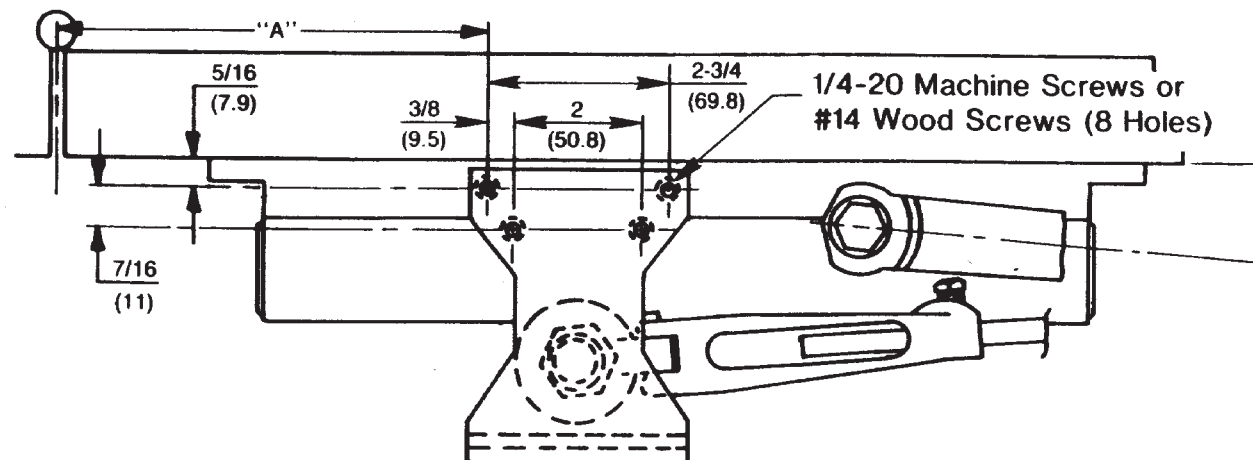
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

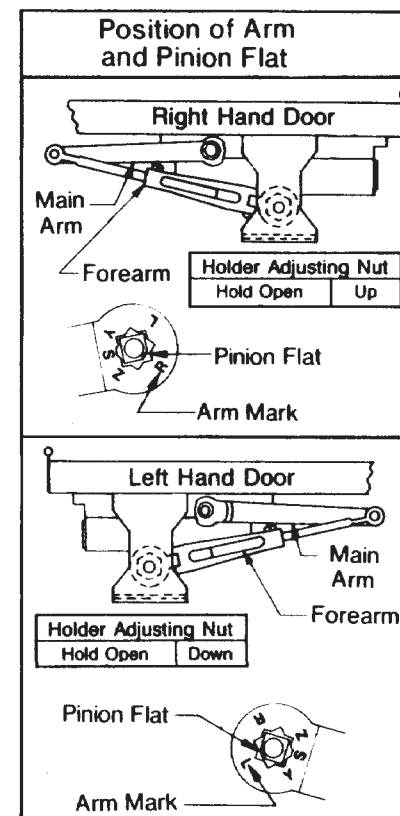
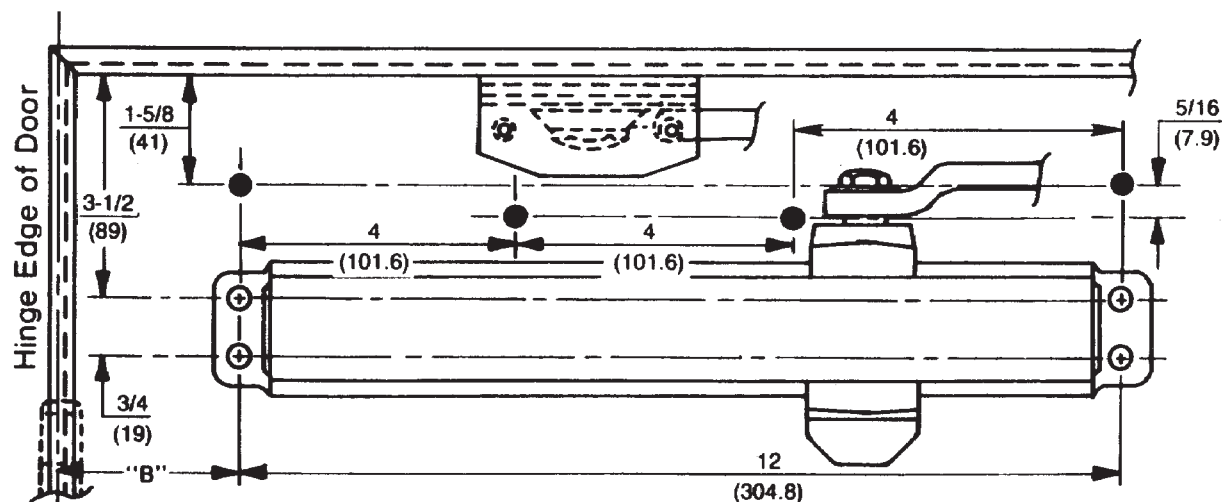
**7380-0209**

DATE

**09-08**



Opening	Dimension "A"		Dimension "B"	
	inches	mm.	inches	mm.
To 120°	9-1/2	241	3-3/4	95
Over 120°	7	178	1-1/4	32



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**P8000H Series Door Closers**  
**Parallel Hold Open**  
**With or Without 8148 Drop Plate**  
**P8100H, P8300H, and P8500H**  
**Sizes 1 thru 6**

**Norton**

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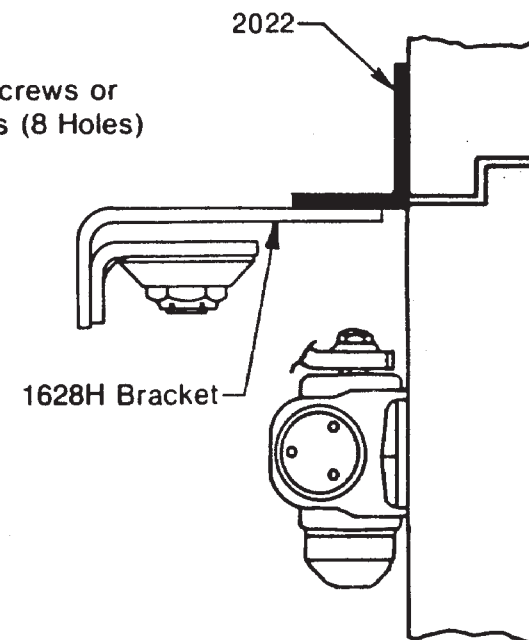
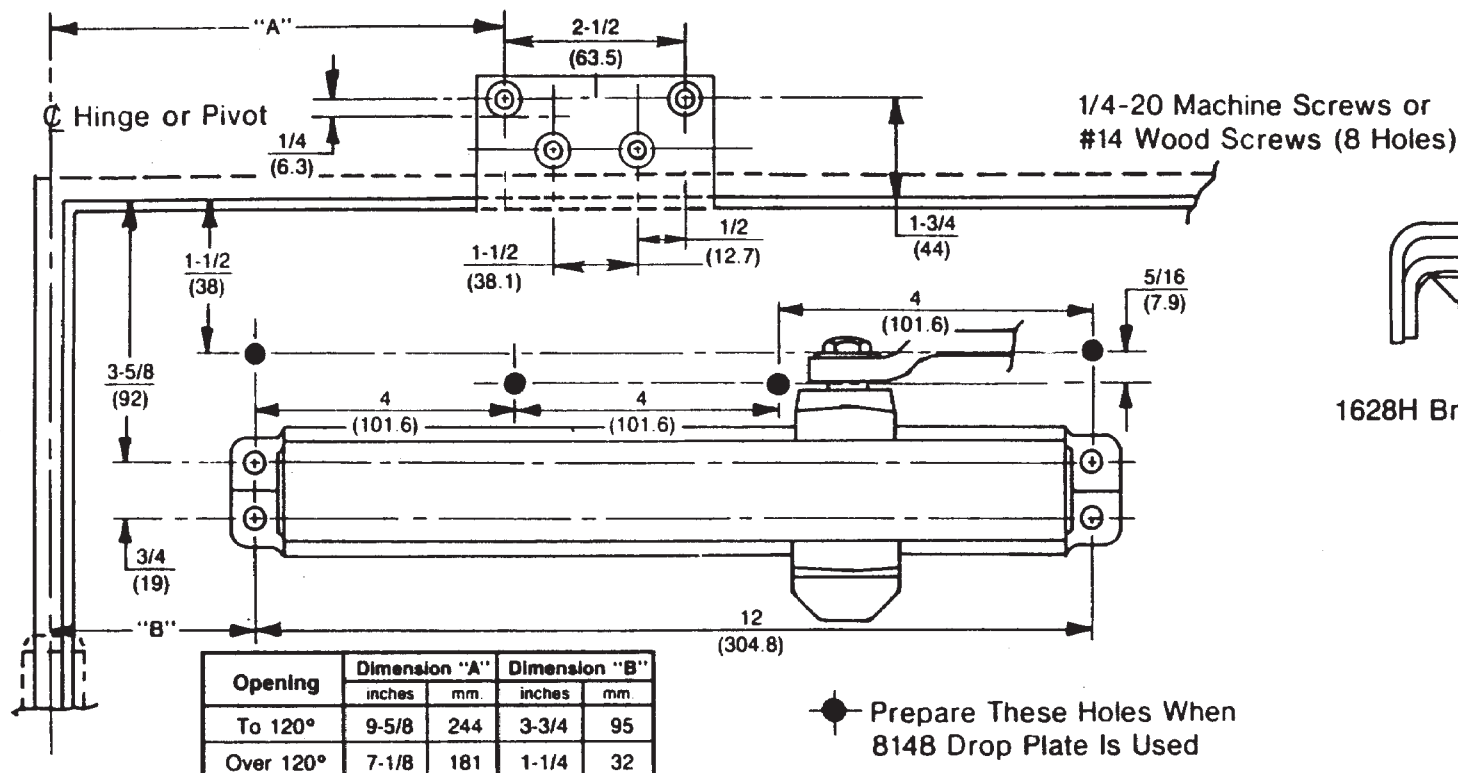
www.nortondoorcontrols.com

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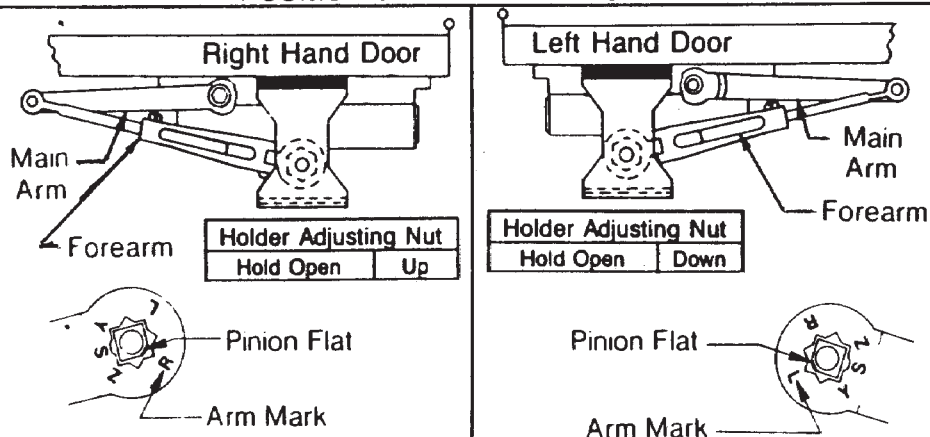
**7380-0211**

DATE

**09-08**



### Position of Arm and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm.).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66 mm.) unless otherwise noted.

**P8000H Series Door Closers  
Parallel Hold Open  
With 2022 x 1628H Bracket  
P8100H, P8300H, and P8500H  
Sizes 1 thru 6**

**Norton**

ASSA ABLOY

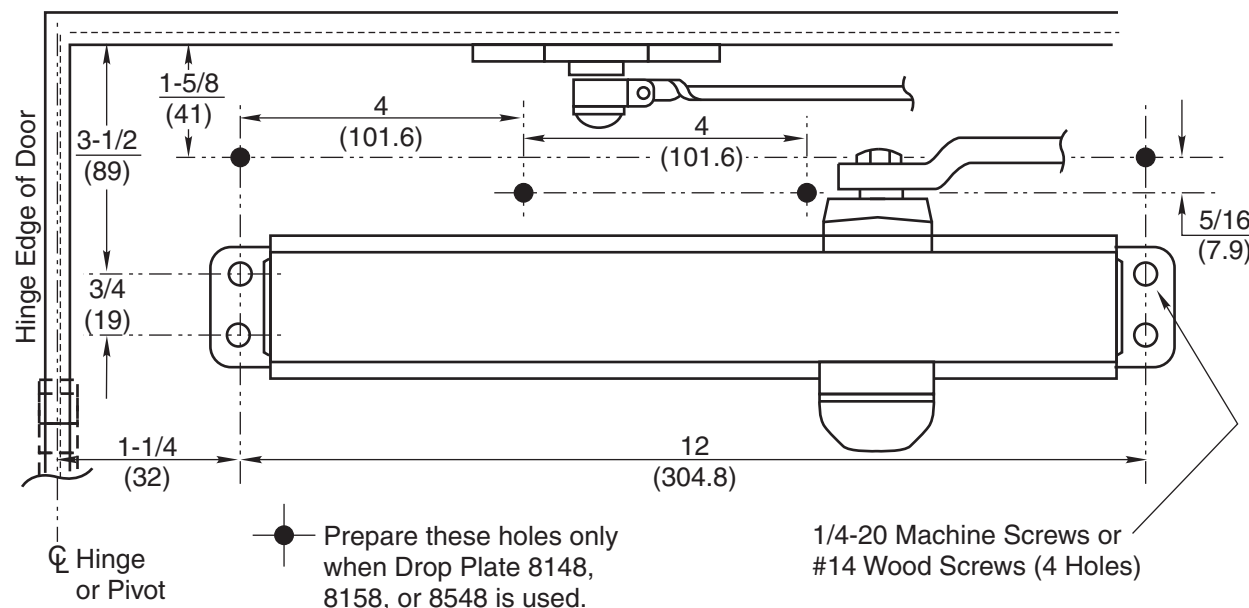
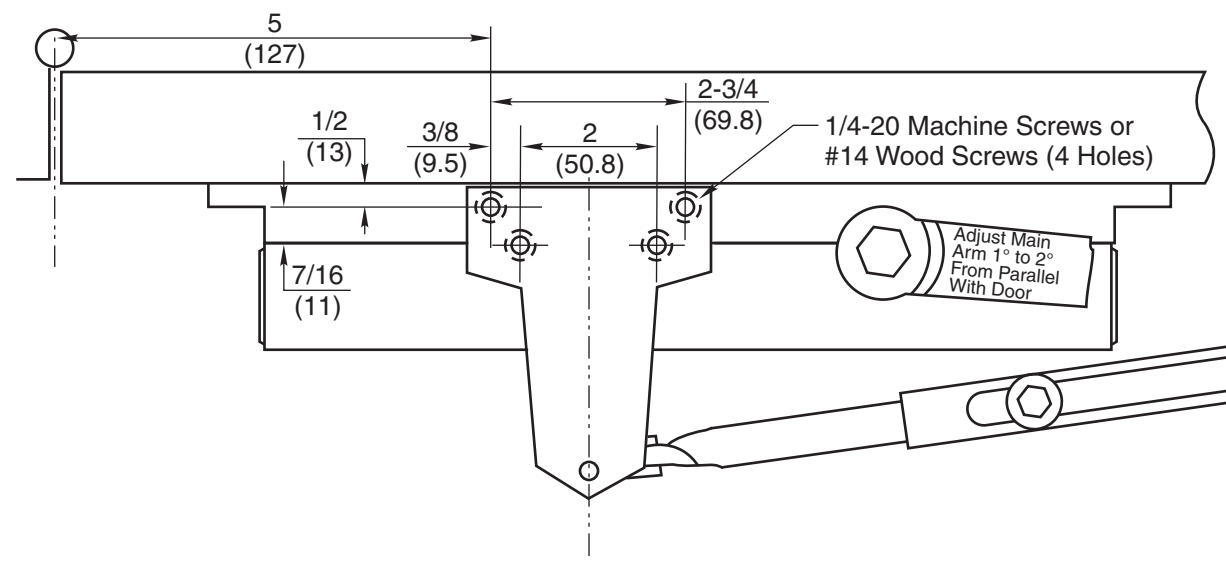
www.nortondoorcontrols.com

TEMPLATE NUMBER

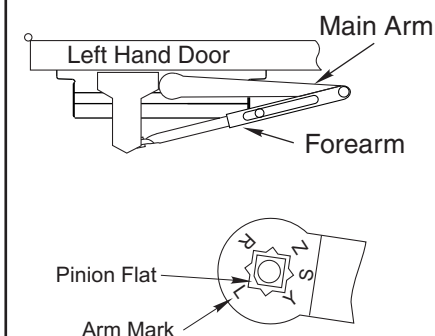
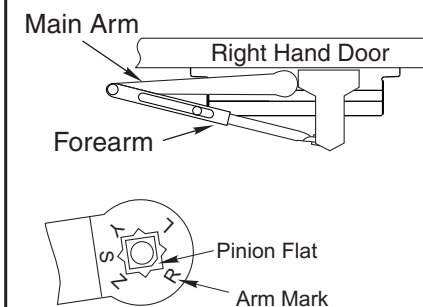
**7380-0212**

DATE

**09-08**



## Position of Arm Mark and Pinion Flat



- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm).
- Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
- Sex bolt may be required for wood or plastic faced fire door mounting.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046 (2.66mm) unless otherwise noted.

**P8100, P8300 or P8500 Series Door Closers x 7701-6A Arm Assembly**  
**For 180° Door Swing Using Wide Throw Hinges – 8" (200mm) Max.**  
**With or Without 8148, 8158 or 8548 Drop Plate**  
**Non Hold Open Parallel Arm Application**  
**Door Closer Sizes 1 thru 6**

**Norton**

ASSA ABLOY

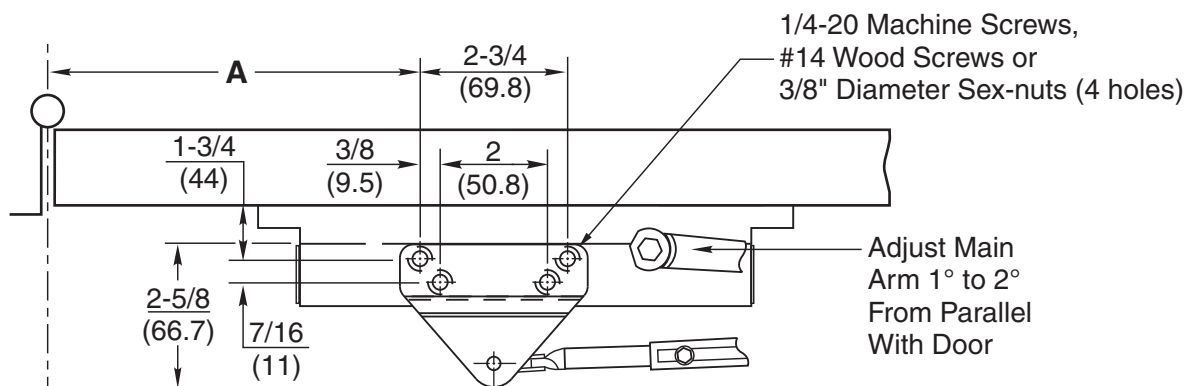
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

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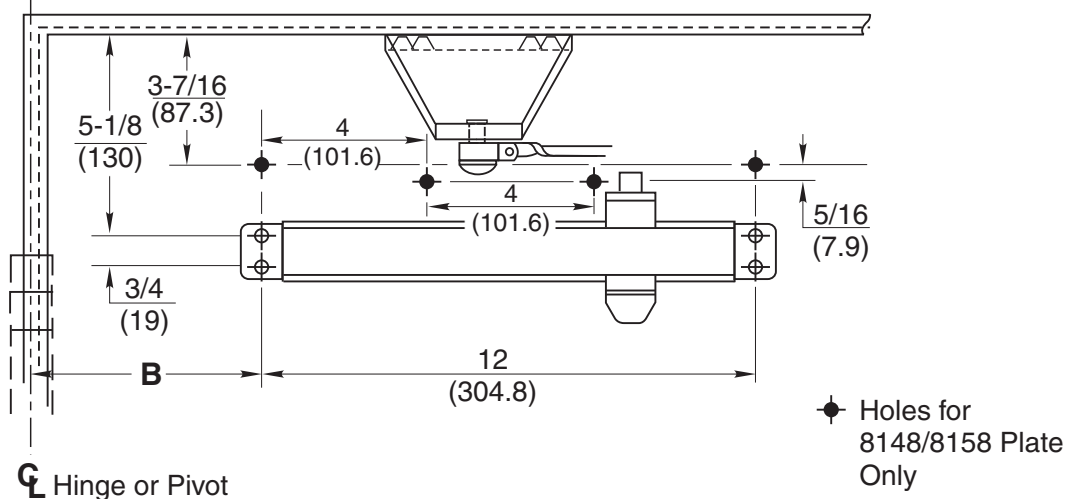
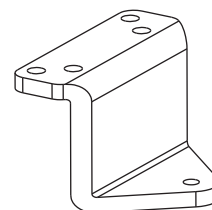
DATE

**09-08**

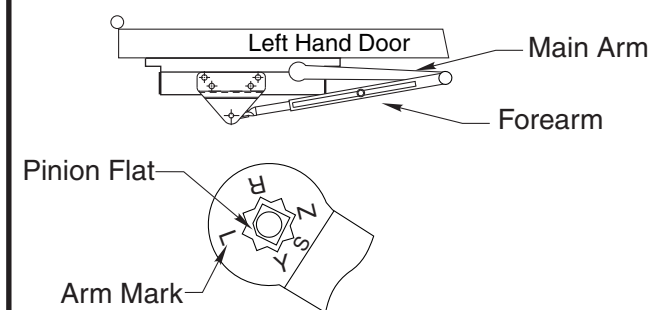
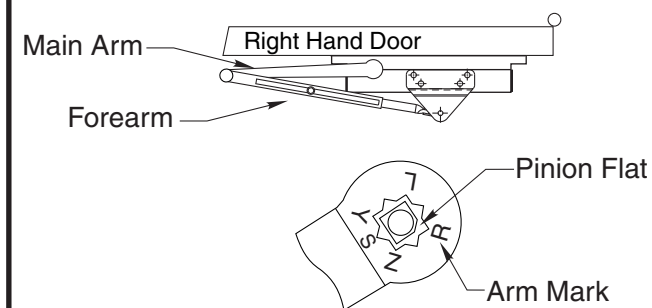


Opening	Dimension A		Dimension B	
	inches	mm	inches	mm
To 120°	9-1/2	241	3-3/4	95
Over 120° *	7	178	1-1/4	32

\* Door openings to 180° conditions permitting



## Position of Arm Mark and Pinion Flat



### Notes:

- Do not scale drawing.
- Left hand door shown.
- Dimensions are in inches (mm).
- Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Sex-bolts may be required for wood or plastic faced fire-door mounting.
- Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

**P8000 Series Door Closer With SP2018S Special Bracket And With Or Without 8148/8158 Drop Plate**  
**Parallel Non Hold Open Arm With Offset Plate Application**  
**Series P8100, P8300, And P8500**  
**Door Closer Size 1(Multi-size 1 Thru 6) Or Individually Sized 2, 3, 4, 5 Or 6**

**Norton**

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TEMPLATE NUMBER

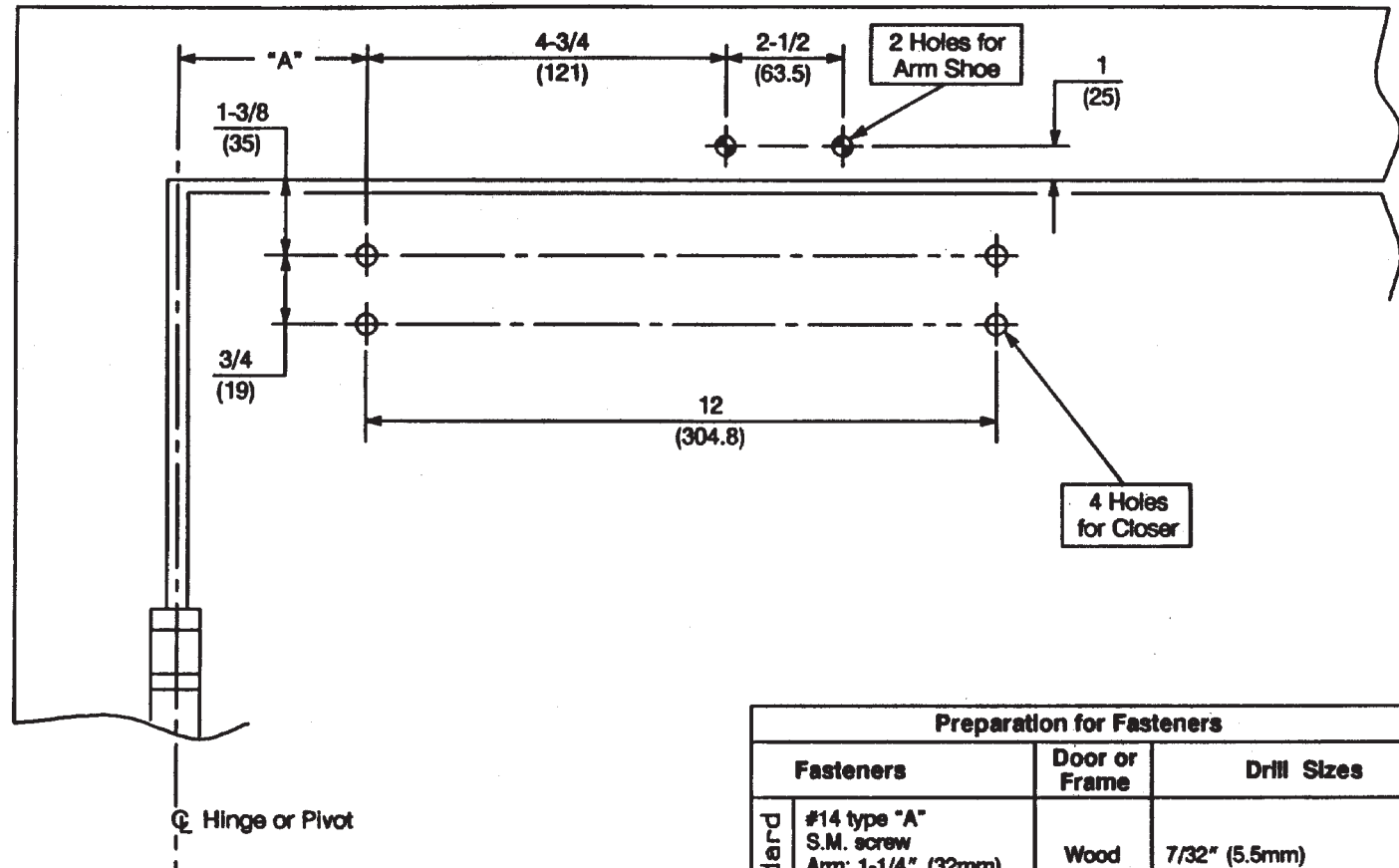
**7380-0215**

DATE

**09-08**



Door Opening	Dim. "A"
To 100°	7-1/2 (191)
101° to 130°	6 (152)
Over 130°	4-1/2 (114)



**Caution:** Door swing may be limited by door, frame, wall or hardware conditions (including closer projection).

**Notes:**

1. Do not scale drawing.
2. Right hand door shown.
3. Dimensions are in inches (mm).
4. Hollow metal doors require channel or box type reinforcement when thru bolt mount is specified.
5. Sex bolts required for wood or plastic faced fire door mounting.
6. Minimum thickness recommended for reinforcements in hollow metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Preparation for Fasteners			
	Fasteners	Door or Frame	Drill Sizes
Standard	#14 type "A" S.M. screw Arm: 1-1/4" (32mm) Closer: 2-3/4" (70mm)	Wood	7/32" (5.5mm)
	1/4-20 machine screw	Metal	drill: #7 (.201") tap: 1/4-20
Optional	Sex nuts and bolts	Hollow Metal	9/32" (7.00mm) thru; 3/8" (9.50mm) on door opposite to closer
		Aluminum or Wood	3/8" (9.50mm) thru
	Thru bolts and grommet nuts	All	9/32" (7.00mm) thru; 3/8" (9.50mm) dia. x 3/8" (10mm) deep on door opposite to closer

**R8000 Series Door Closer (R8100, R8300, R8500)  
Regular Rigid Heavy Duty Arm Non-Hold Open Installation  
Sizes 1 Thru 6**

**Norton**

ASSA ABLOY

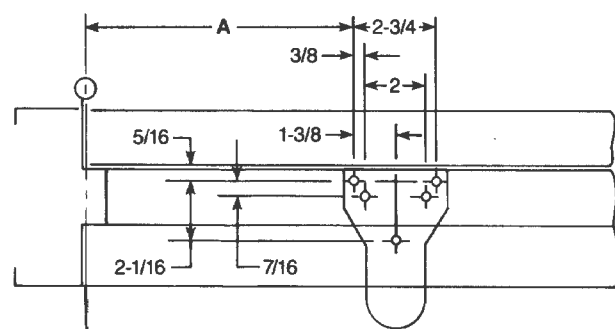
[www.nortondoorcontrols.com](http://www.nortondoorcontrols.com)

TEMPLATE NUMBER

**7380-0601**

DATE

**09-08**

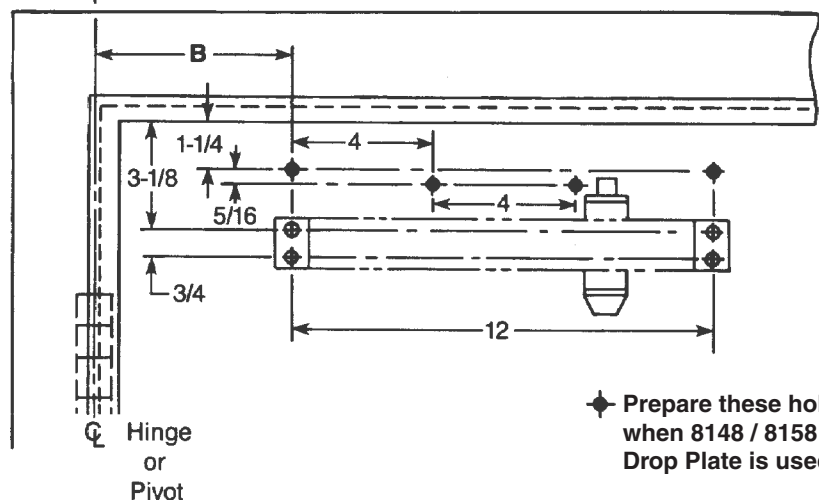


Door Opening ★	Dim A	Dim B
85°	11"	5-1/2"
90°	10-1/4"	4-3/4"
95°	9-1/2"	4"
100°	8-7/8"	3-3/8"
105°	8-1/4"	2-3/4"
110°	7-5/8"	2-1/8"

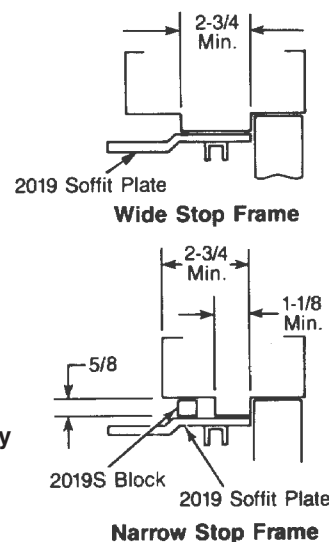
★ **Template dimensions are for hold open/door stop within ±2° of charted door openings. Doors may overtravel up to 5° beyond the rest position.**

**NOTES:**

1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are in inches.
4. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
5. Sex-bolts required for wood or plastic faced fire-door mounting.
6. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .0146" (2.66mm).
7. Follow Conversion Chart for metric dimensions.
8. Hold Open function "T" Suffix, is not permitted in a fire-door assembly.
9. Maximum width hinges for this template are 5" (127mm)

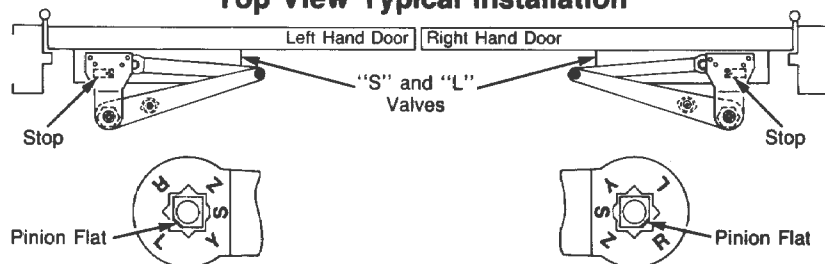


◆ Prepare these holes only when 8148 / 8158 / 8548 Drop Plate is used.



inches	mm.	inches	mm.	inches	mm.
5/16	8	2-1/16	52.5	5-5/8	143
3/8	9.5	2-1/4	57	7-7/8	200
7/16	11	2-3/4	70	8-3/8	212.5
5/8	16	2-7/8	73	9	228.5
3/4	19	3-1/8	79.5	9-5/8	244.5
1-1/8	28.5	3-1/2	89	10-3/8	263.5
1-1/4	31.5	4	101.5	11-1/8	282.5
1-3/8	35	4-1/8	104.5	12	305
2	51	4-7/8	124		

**Top View Typical Installation**



For Adjustment Instructions See Inside Closer Cover

Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	3/16" (4.30mm.)
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**CLP-8300, CLP-8500 Series with CloserPlus® Arm or  
CPS-8300 or CPS-8500 Series with CloserPlus Spring™ Arm  
Parallel Arm Standard Application With or Without 8148 / 8158 / 8548 Drop Plate  
Arm Function; Stop Only or Stop & Hold Open ("T" or "R" Suffix)  
Power Sizes 1, 2, 3, 4, 5 or 6**

**Norton**

ASSA ABLOY

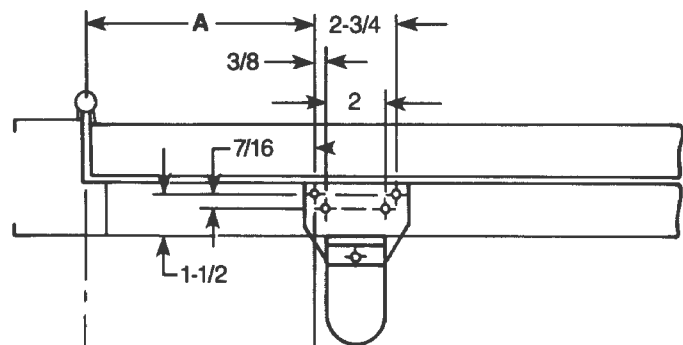
www.nortondoorcontrols.com

TEMPLATE NUMBER

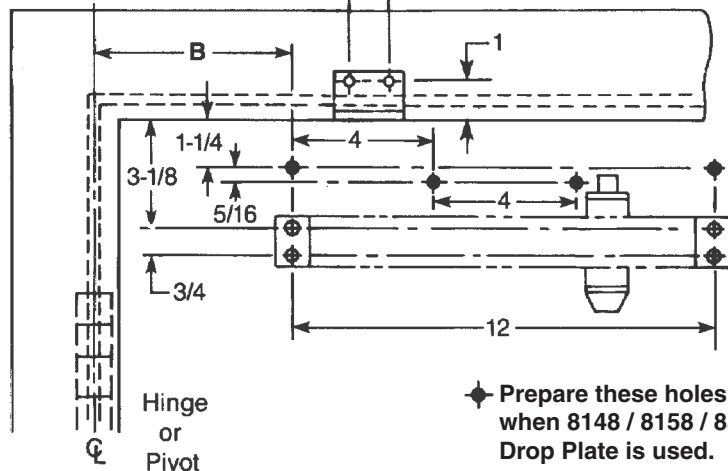
**7380-1301**

DATE

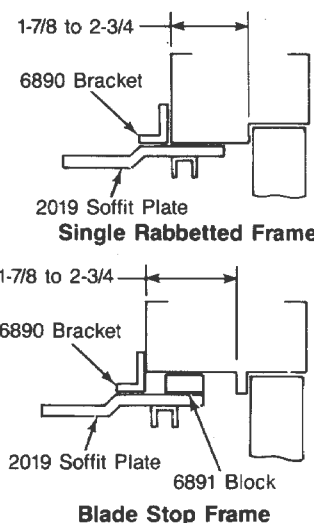
**11-13**



Door Opening ★	Dim A	Dim B
85°	11"	5-1/2"
90°	10-1/4"	4-3/4"
95°	9-1/2"	4"
100°	8-7/8"	3-3/8"
105°	8-1/4"	2-3/4"
110°	7-5/8"	2-1/8"



◆ Prepare these holes only when 8148 / 8158 / 8548 Drop Plate is used.



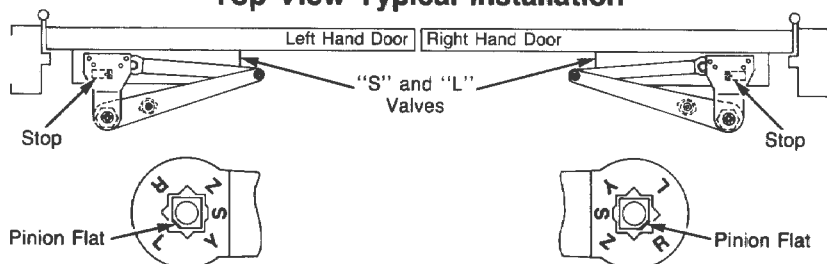
★ Template dimensions are for hold open/door stop within ±2° of charted door openings. Doors may overtravel up to 5° beyond the rest position.

#### NOTES:

1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are in inches.
4. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
5. Sex-bolts required for wood or plastic faced fire-door mounting.
6. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .0146" (2.66mm).
7. Follow Conversion Chart for metric dimensions.
8. Hold Open function "T" Suffix, is not permitted in a fire-door assembly.
9. Maximum width hinges for this template are 5" (127mm)

inches	mm.	inches	mm.	inches	mm.
5/16	8	2-1/4	57	7-7/8	200
3/8	9.5	2-3/4	70	8-3/8	212.5
7/16	11	2-7/8	73	9	228.5
3/4	19	3-1/8	79.5	9-5/8	244.5
1	25.4	3-1/2	89	10-3/8	263.5
1-1/4	31.5	4	101.5	11-1/8	282.5
1-1/2	38	4-1/8	104.5	12	305
1-7/8	47.5	4-7/8	124		
2	51	5-5/8	143		

#### Top View Typical Installation



For Adjustment Instructions See Inside Closer Cover

Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	3/16" (4.30mm.)
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**CLP-8300, CLP-8500 Series with CloserPlus® Arm or  
CPS-8300 or CPS-8500 Series with CloserPlus Spring™ Arm  
Parallel Arm with 6890 Reinforcing Bracket With or Without 8148 / 8158 / 8458 Drop Plate  
Arm Function; Stop Only or Stop & Hold Open ("T" or "R" Suffix)  
Power Sizes 1, 2, 3, 4, 5 or 6**

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TEMPLATE NUMBER

**7380-1302**

DATE

**11-13**

Door Opening ★	Dim A	Dim B
85°	11-1/8"	5-1/2"
90°	10-3/8"	4-3/4"
95°	9-5/8"	4"
100°	9"	3-3/8"
105°	8-3/8"	2-3/4"
110°	7-3/4"	2-1/8"

★ **Template dimensions are for hold open/door stop within ± 2° of charted door openings. Doors may overtravel up to 5° beyond the rest position.**

**Notes:**

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

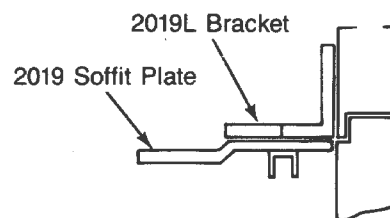
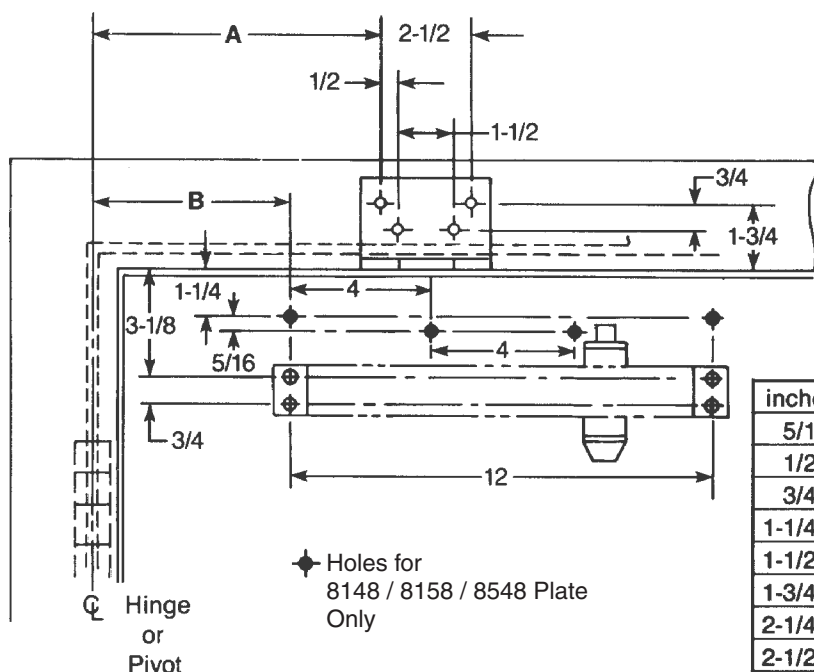
Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm.).

Follow Conversion Chart for metric dimensions.

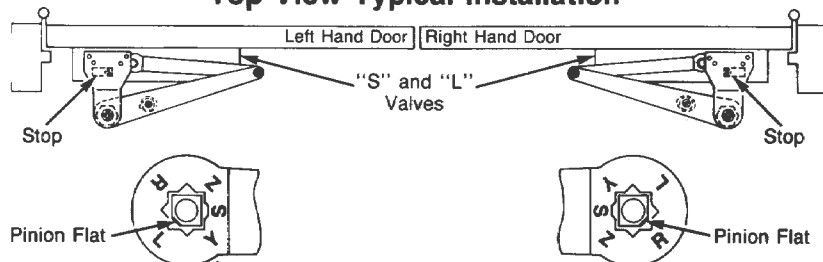
Hold Open function, "T" suffix, is not permitted in a fire-door assembly.

Maximum width hinges for this template are 5" (127mm)



inches	mm.	inches	mm.	inches	mm.
5/16	8	2-7/8	73	8-1/2	216
1/2	12.5	3-1/8	79.5	9-1/8	232
3/4	19	3-1/2	89	9-3/4	247.5
1-1/4	31.5	4	101.5	10-1/2	266
1-1/2	38	4-1/8	104.5	11-1/4	286
1-3/4	44.5	4-7/8	124	12	305
2-1/4	57	5-5/8	143		
2-1/2	63.5	8	203		

**Top View Typical Installation**



For Adjustment Instructions See Inside Closer Cover

Fastener	Frame	Door	Drill
1/4-20 machine screw	metal	none	#7 (.201" dia.) or 5.10mm. drill. 1/4-20 tap
#14 type "A" sheet metal screw	wood	none	3/16" (4.30mm.)
SNB (optional)	none	hollow metal	9/32" (7.00mm.) thru 3/8" (9.50mm.) door face opposite to closer
		aluminum or wood	3/8" (9.50mm.) thru

**CLP-8300, CLP-8500 Series Door Closer with CloserPlus® Arm or  
CPS-8300, CPS-8500 Series Door Closer with CloserPlus Spring™ Arm  
Parallel Arm x 2019L Bracket, with or without 8148 / 8158 / 8458 Drop Plate  
Arm Function: Stop Only or Stop & Hold Open ("T" or "R" Suffix)  
Power Sizes 1, 2, 3, 4, 5, or 6**

**Norton**

ASSA ABLOY

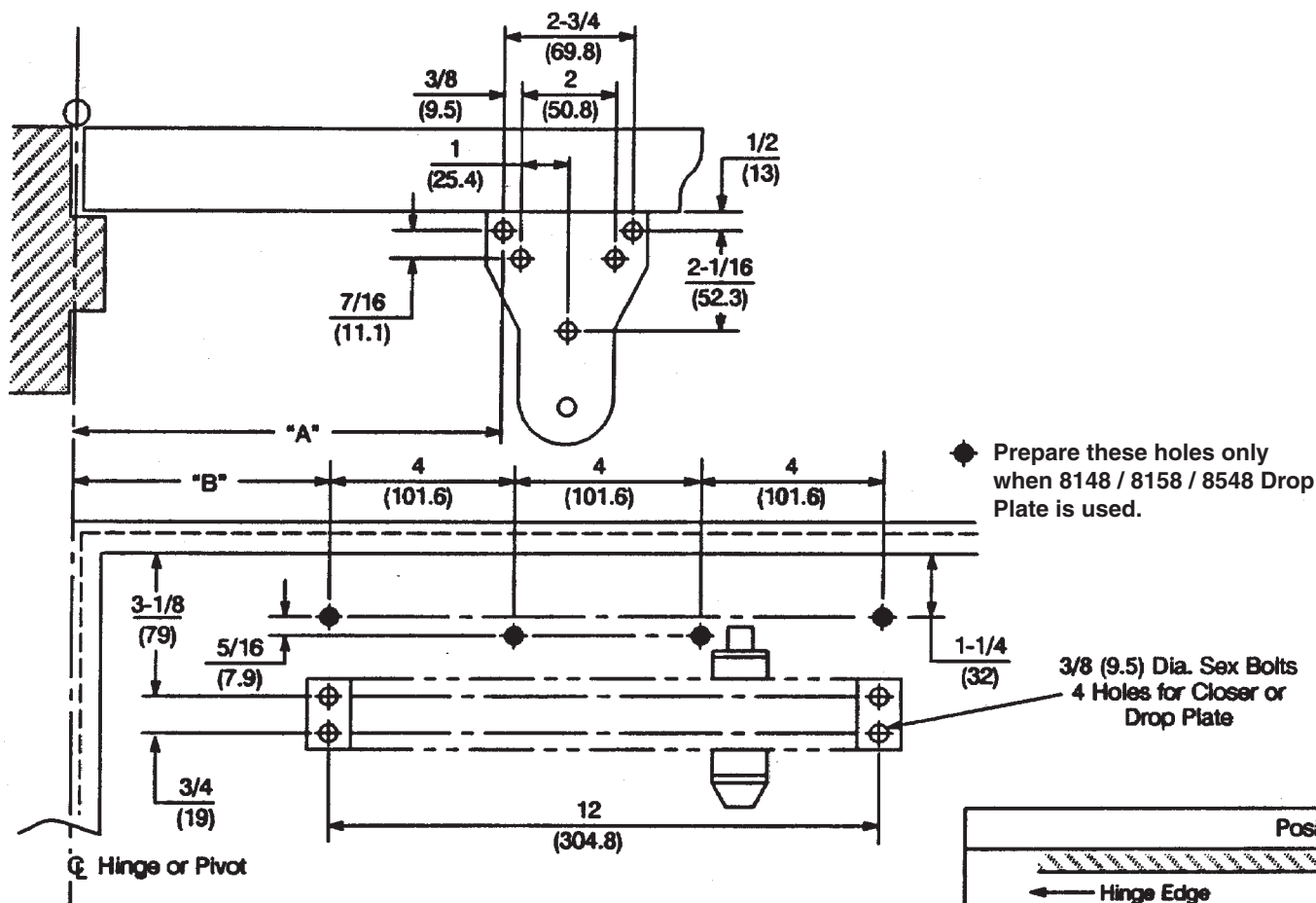
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TEMPLATE NUMBER

**7380-1303**

DATE

**11-13**



**NOTES:**

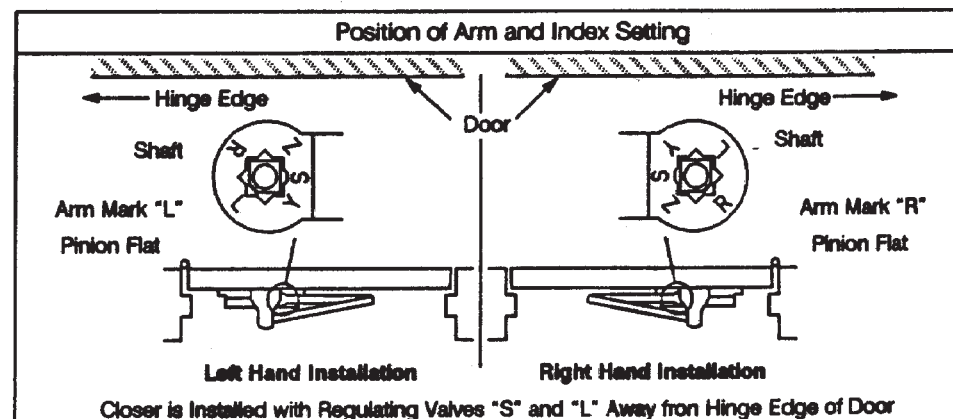
1. Do not scale drawing.
2. Left hand door shown.
3. Dimensions are in inches.
4. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
5. Sex-bolts required for wood or plastic faced fire-door mounting.
6. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .0146" (2.66mm) unless otherwise noted.
7. Hold Open function "T" Suffix, is not permitted in a fire-door assembly.
8. Maximum width hinges for this template are 5" (127mm)

Opening	Dim. "A"	Dim. "B"
To 120°	9-1/2 (241)	3-3/4 (95)
Over 120°*	7 (178)	1-1/4 (32)

\* Door openings to 180° conditions permitting.

Closer Size "1" Power Setting		
Max. Door Width		**Power Adjustment Required
Interior	Exterior	
3' 0"	—	3 turns
3' 6"	3' 0"	4 turns
4' 6"	3' 6"	7 turns
5' 0"	4' 0"	9 turns
Maximum		13 turns

\*\*Units are supplied for adjustments as charted.



**PR8000 Series Non Hold Open or  
PR8000H Series Hold Open**  
**Parallel Arm Application With or Without 8148 / 8158 / 8548 Drop Plate**  
**Closer Series PR8100, PR8300 & PR8500**  
**Power Sizes 1, 2, 3, 4, 5, or 6**

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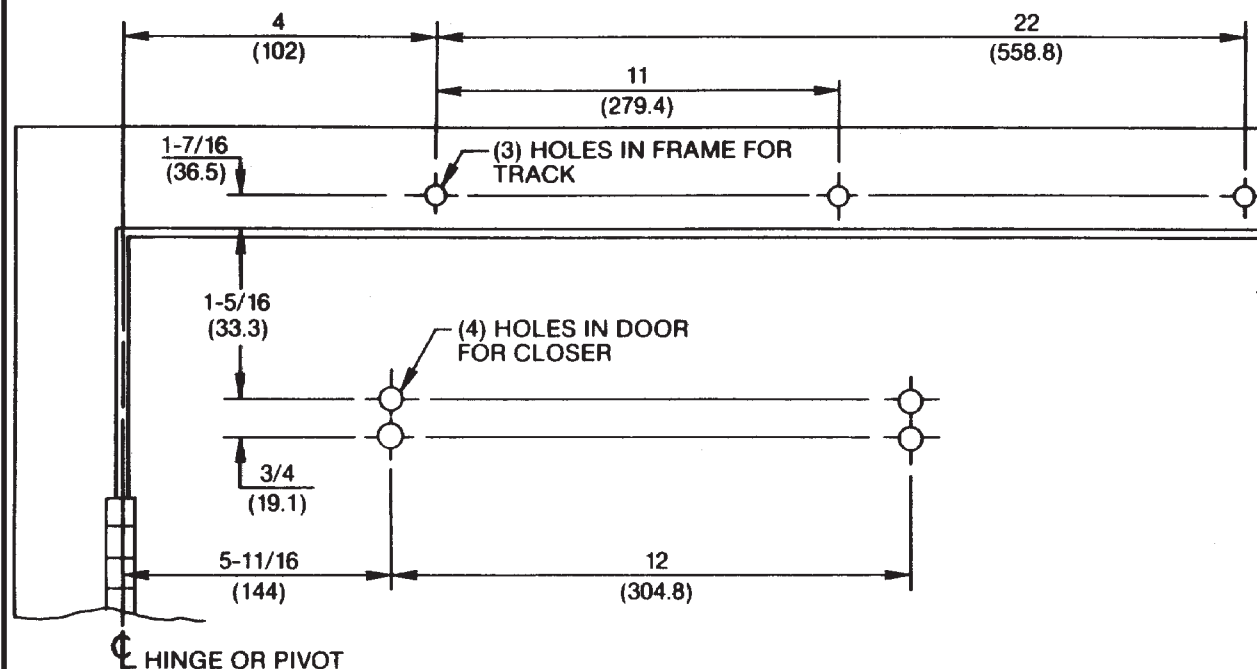
TEMPLATE NUMBER

**7380-0251**

DATE

**09-08**

**IMPORTANT: From centerline of pivot point to end of track is 26½" (673 mm)**



- Right hand door shown.
- Do not scale drawing.
- Dimensions are given in inches (mm.).
- Minimum ceiling clearance for unit is 2" (50mm.).
- Maximum door opening:
  - Non Hold Open with Spring Buffer - 110°
  - Non Hold Open without Spring Buffer - 180°
  - Hold Open - 110°

**Preparation for Fasteners**

Fasteners	Door or Frame	Drill-Sizes
#14 type "A" S.M. screw	Wood	3/16" (4.30mm.)
¼"-20 machine-screw	Metal	drill: #7 (.201") tap: ¼"-20
Sex-nuts and bolts (Optional)	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
Through-bolt 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

**8300ST/8500ST Series Non Hold Open Door Closers**  
**8300ST-H/8500ST-H Series Hold Open Door Closers**  
**Hinge Side Slide Track Application**

**Norton**

ASSA ABLOY

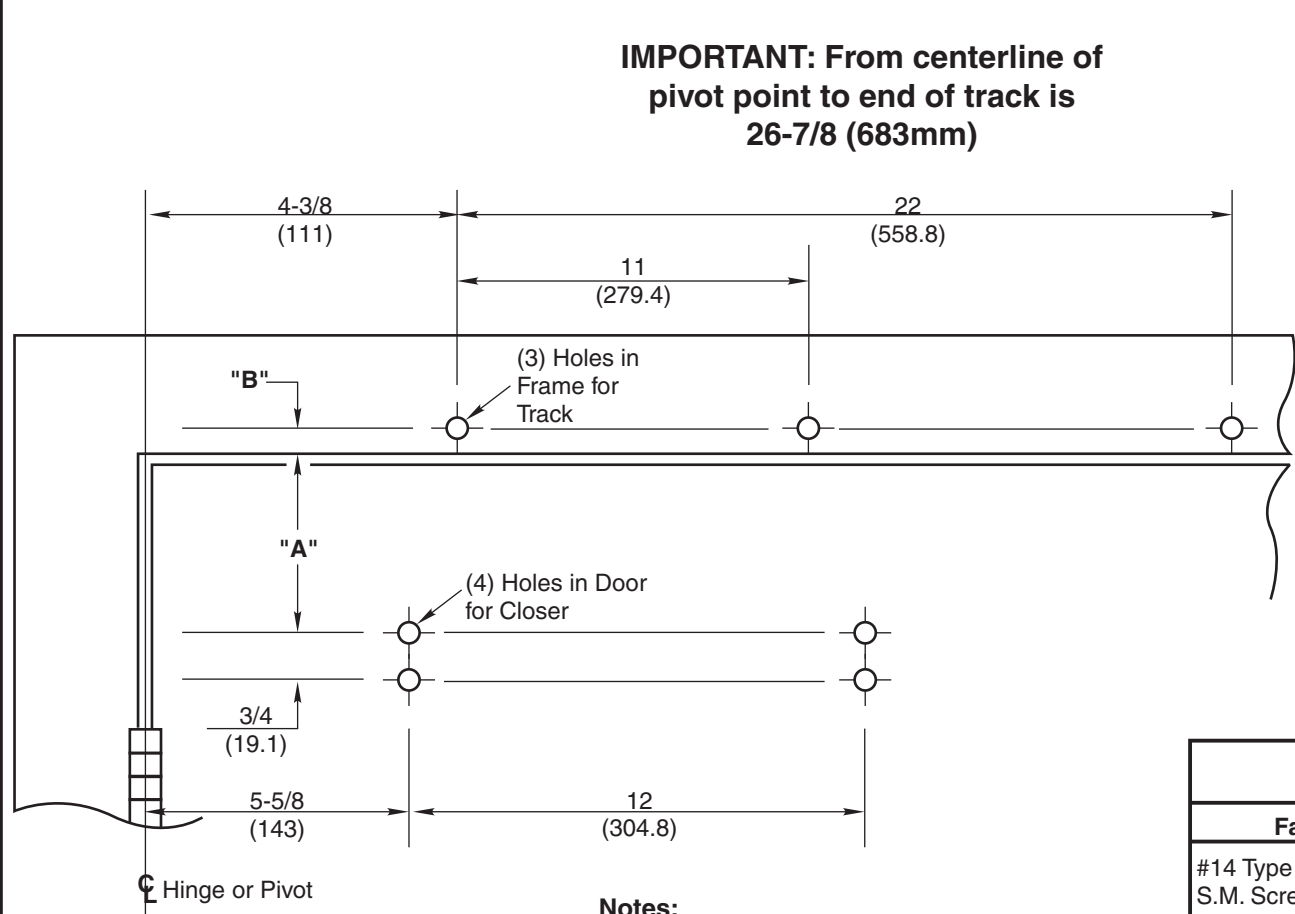
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TEMPLATE NUMBER

**7380-0501**

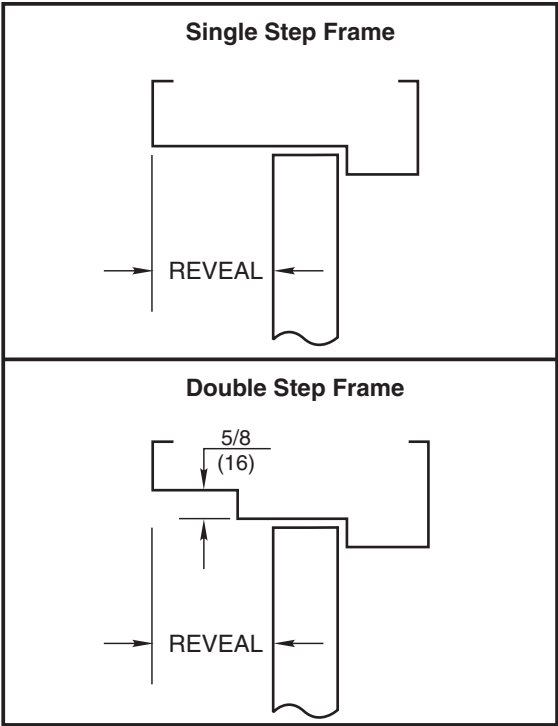
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**09-08**



Frame Type	Dim. "A"	Dim. "B"
Single Step	$\frac{2}{(51)}$	$\frac{1-7/16}{(36.5)}$
Double Step	$\frac{1-7/8}{(48)}$	$\frac{1-5/8}{(41.3)}$

- Notes:**
- Right hand door shown.
  - Do not scale drawing.
  - All dimensions shown in inches (mm) .
  - Minimum ceiling clearance for unit is 2" (50mm.).
  - Maximum door opening 105° for:
    - Non Hold Open with Spring Buffer
    - Non Hold Open without Spring Buffer
    - Hold Open



Preparation for Fasteners		
Fasteners	Door or Frame	Drill Sizes
#14 Type "A" S.M. Screw	Wood	3/16" (4.30mm.)
1/4" -20 Machine Screw	Metal	drill: #7 (.201") tap: 1/4"-20
Sex Nuts And Bolts (optional)	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door face opposite to closer
	Aluminum Or Wood	3/8" (9.50mm) through
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

**8300ST-DE / 8500ST-DE Series Non Hold Open Door Closers**  
**8300ST-DE-H / 8500ST-DE-H Series Hold Open Door Closers**  
**Hinge Side Slide Track Application For Double Egress Frame**  
**Hinge Side Frame Reveals 1/8" to 3" (3 to 76mm)**

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TEMPLATE NUMBER

7380-0511

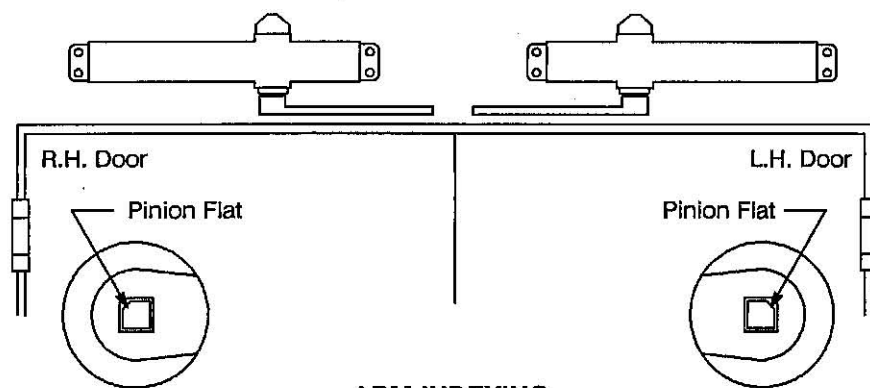
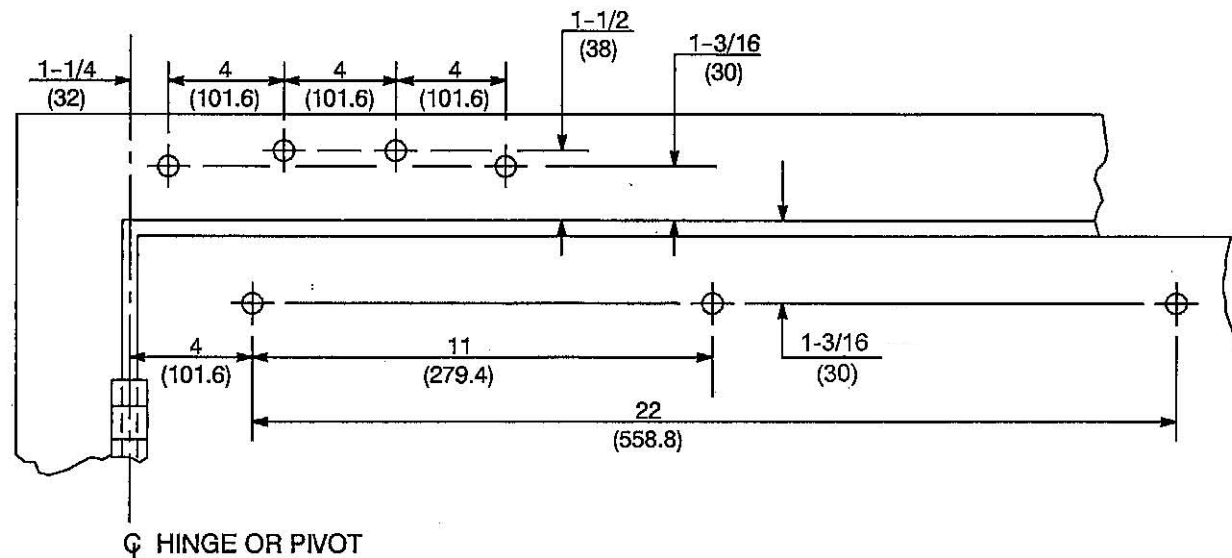
DATE

09-08



## Notes:

- Do not scale drawing.
- Right hand door shown. Same dimensions apply for left hand door, measured from centerline of hinge or pivot.
- Template information based upon use of 4-1/2" hinges or 3/4" offset pivots.
- Dimensions are shown in inches and millimeters (mm.).
- Hollow metal doors require channel or box-type reinforcement when thru-bolt mount is specified.
- Sex-nuts are required for wood or plastic faced fire-door installations.
- Minimum thickness recommended for reinforcements in hollow metal doors and frames is .1046 (2.66) unless noted otherwise.
- Minimum ceiling clearance for closer unit is 4-1/16" (103).
- Maximum frame reveal is 1/8" (3).
- Maximum door swing:
  - Non Hold Open - 110° (With spring buffer in track).
  - Non Hold Open - 180° (Without spring buffer in track).
  - Hold Open - 110°.



ARM INDEXING

## PREPARATION FOR FASTENERS

Fastener	Opening	Drill Sizes
1/4"-20 Machine Screw	Metal Door or Frame	#7 [.201" (5.10mm.) dia.] drill 1/4"-20 UNC Tap
Sex nuts and bolts	Wood or Composite Door	3/8" (9.50mm.) through; 9/16" (15.00mm.) diameter x 1/8" (3mm.) deep on face opposite to closer
Through bolts and grommet nuts		From face opposite to closer: 9/32" (7.00mm.) through; 3/8" (9.50mm.) diameter x 1/2" (13mm.) deep; 5/8" (16.00mm.) diameter x 1/8" (3mm.) deep

**J8000ST or J8000STH Series Door Closers with 8146 Back Plate**  
**Hinge (Pull) Side Slide Track Application**  
**Non-Hold Open or Hold Open Function**  
**Series 8300 or 8500, Sizes 1, 4, 5, or 6**

**Norton**

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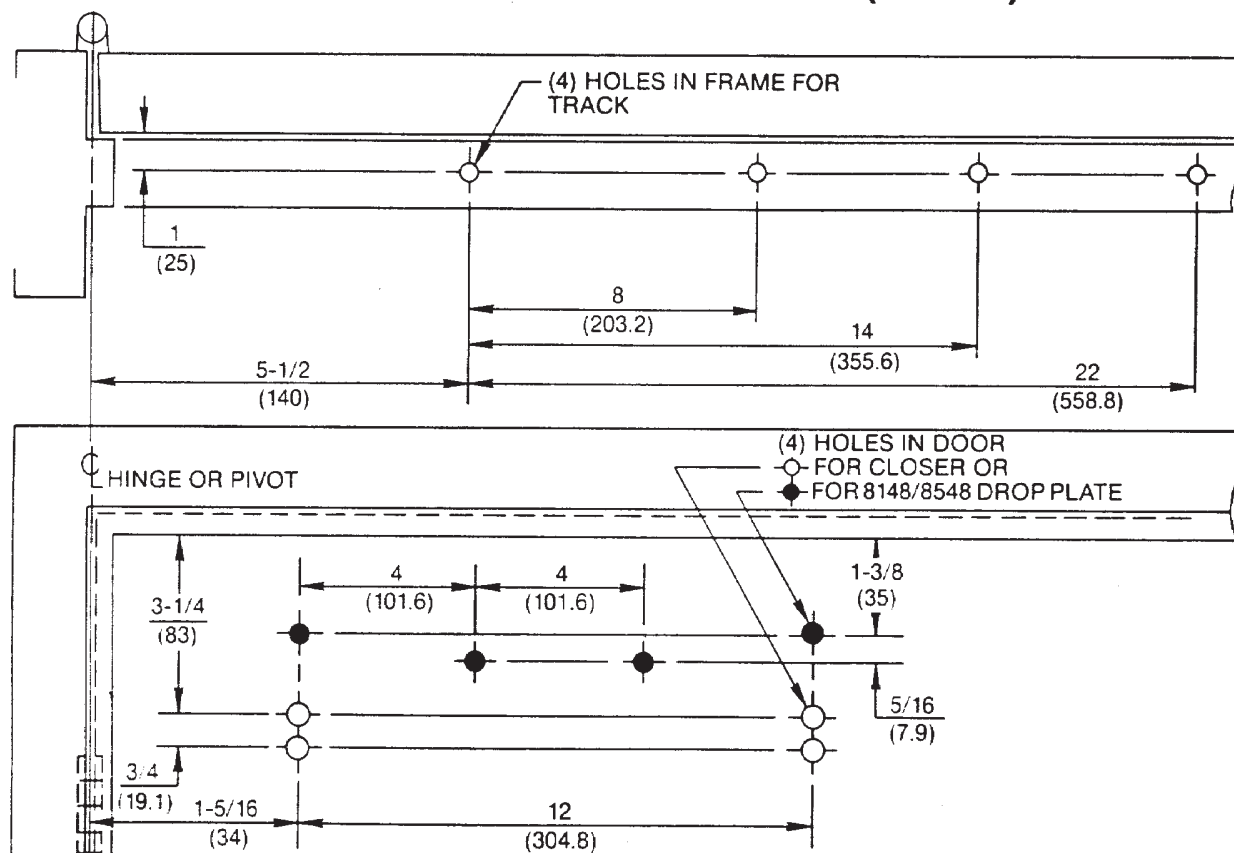
TEMPLATE NUMBER

**7380-0515**

DATE

**11-08**

**IMPORTANT: From centerline of pivot point to end of track is 28" (711 mm)**



- Left hand door shown.
- Do not scale drawing.
- Dimensions are given in inches .  
(mm.)
- Maximum door opening:
  - Non Hold Open with buffer assembly in track - 100°
  - Non Hold Open without buffer assembly in track - 125°. Auxiliary stop required.
  - Hold Open - 100°

**Preparation for Fasteners**

Fasteners	Door or Frame	Drill-Sizes
#14 type "A" S.M. screw	Wood	3/16" (4.30mm.)
1/4"-20 machine-screw	Metal	drill: #7 (.201") tap: 1/4"-20
Sex-nuts and bolts (Optional)	Hollow-Metal	9/32" (7.00mm.) through; 3/8" (9.50mm.) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm.) through
Through-bolt 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

**PS8300ST / PS8500ST Series Non Hold Open Door Closers**  
**PS8300ST-H / PS8500ST-H Series Hold Open Door Closers**  
 Opposite to Hinge Side Slide Track Application  
 With or Without Drop Plate

**Norton**

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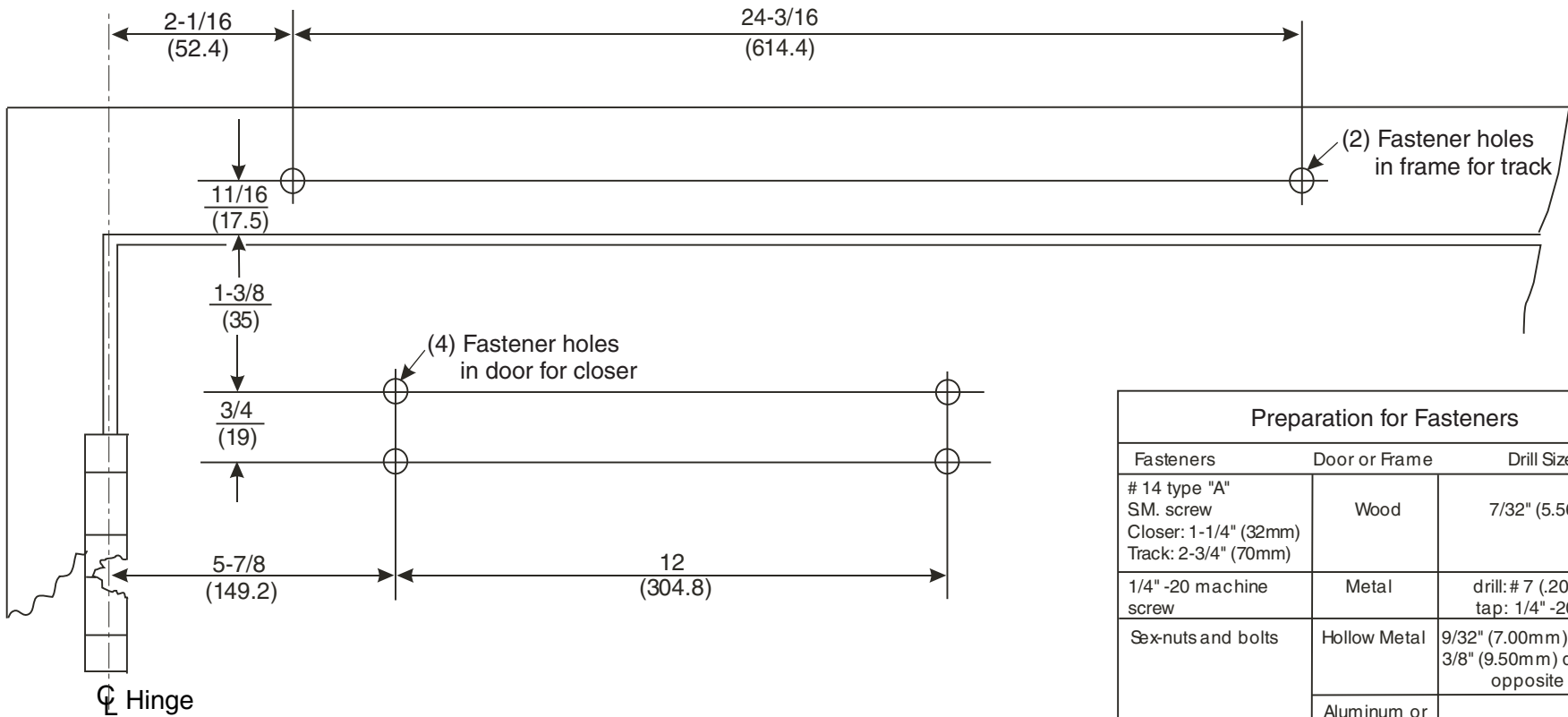
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TEMPLATE NUMBER

**7380-0520**

DATE

**09-08**



- Notes:
- Right hand door is shown.
  - Do not scale drawing.
  - .1046 (2.7mm) minimum thickness recommended for hollow metal door and frame reinforcement.
  - From centerline of hinge to end of track  $26\text{--}3/4$ " (679.5mm).
  - Minimum ceiling clearance for track is  $1\text{--}1/2$ " (38.1mm).
  - Dimensions are given in inches (mm).
  - Maximum door opening:
    - 110° recommended with cushion stop in track.
    - 180° without cushion stop.
  - Use of auxiliary door stop may be required to prevent damage to door, frame, or hinges.

Preparation for Fasteners		
Fasteners	Door or Frame	Drill Sizes
# 14 type "A" S.M. screw Closer: 1-1/4" (32mm) Track: 2-3/4" (70mm)	Wood	7/32" (5.56mm)
1/4" -20 machine screw	Metal	drill: # 7 (.201") tap: 1/4" -20
Sex-nuts and bolts	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm) through
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

8340ST, 8540ST Series Non Hold Open Door Closer  
8340STH, 8540STH Series Hold Open Door Closer  
Pull (Hinge) Side Slide Track Application  
Closer Sizes 1, 4, 5, or 6

Norton

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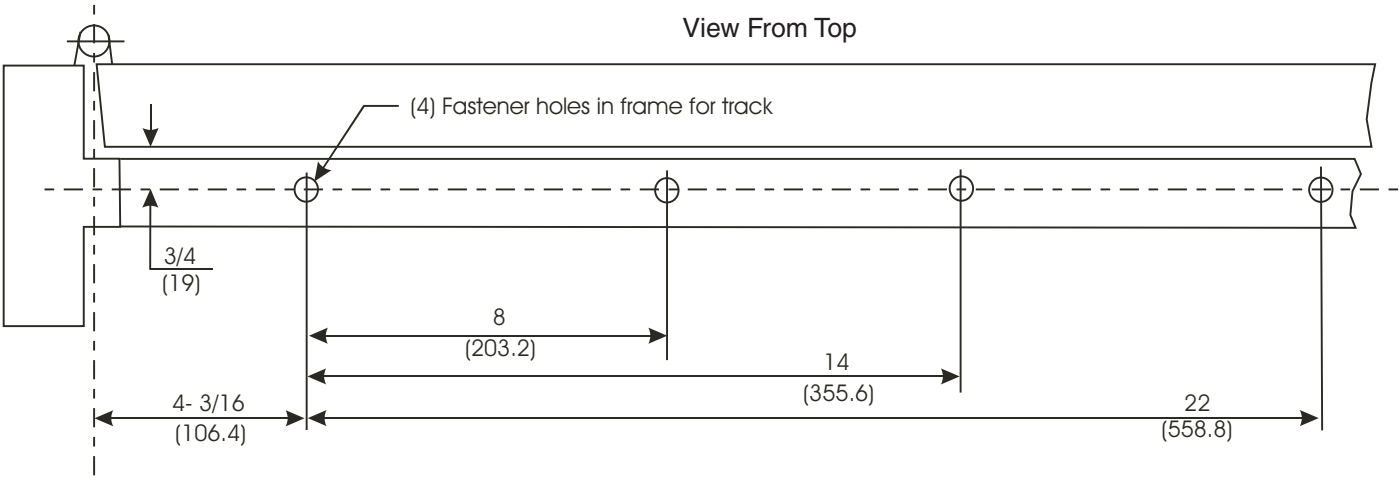
TEMPLATE NUMBER

7380-1501

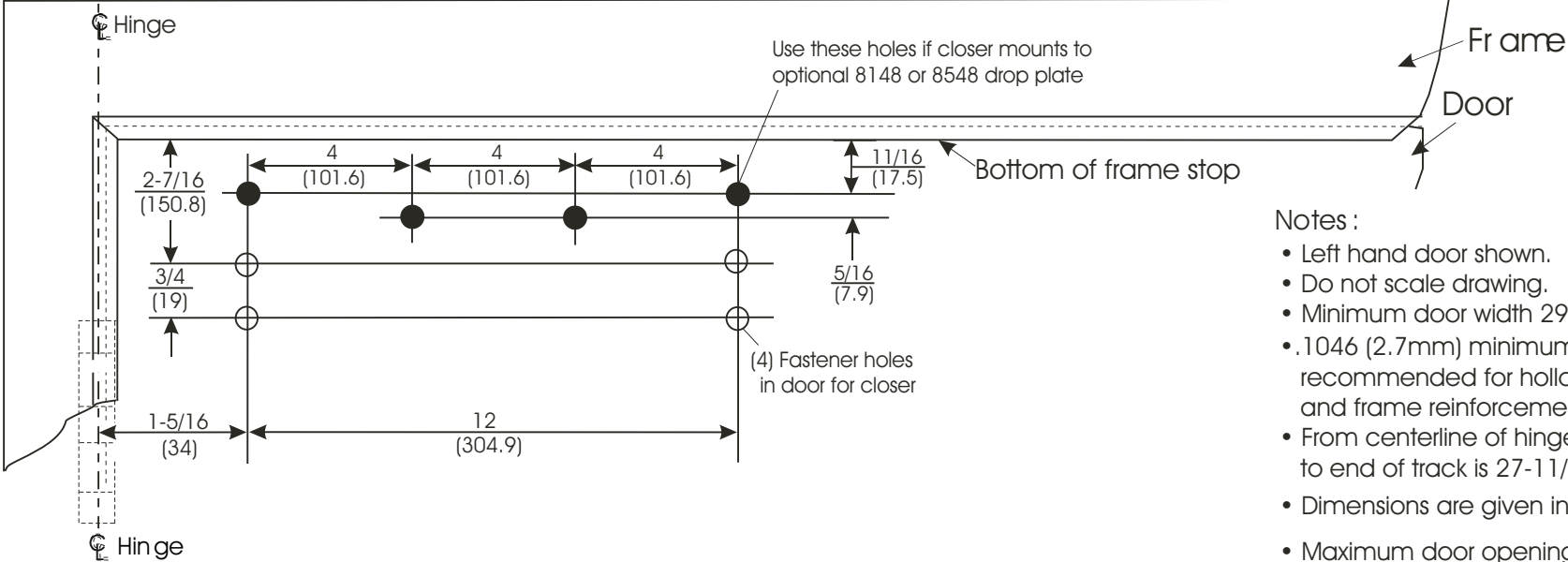
DATE

09-08

View From Top



Preparation for Fasteners		
Fasteners	Door or Frame	Drill Sizes
#14 type "A" S.M. screw Closer: 1-1/4" (32mm) Track: 2-3/4" (70mm)	Wood	7/32" (5.56mm)
1/4" -20 machine screw	Metal	drill: #7 (.201") tap: 1/4" -20
Sex-nuts and bolts	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door-face opposite to closer
	Aluminum or Wood	3/8" (9.50mm) through
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



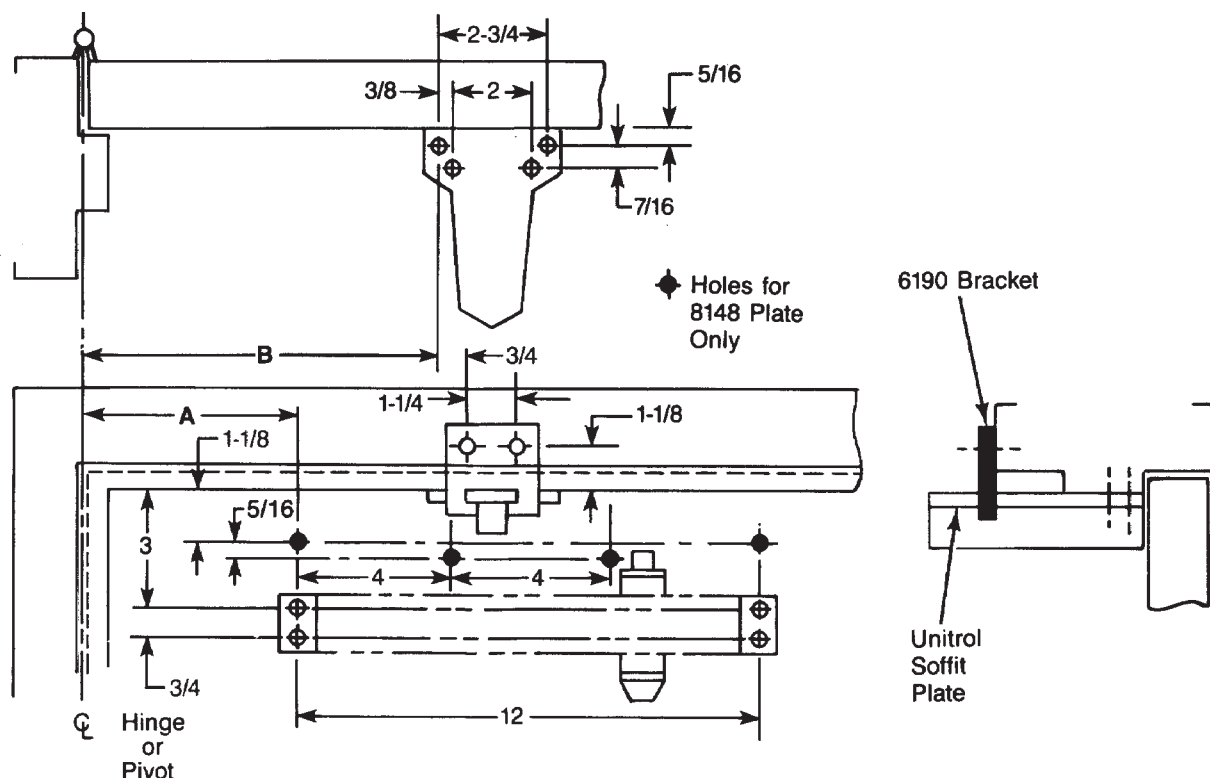
- Notes :
- Left hand door shown.
  - Do not scale drawing.
  - Minimum door width 29" (736.6mm).
  - .1046 (2.7mm) minimum thickness recommended for hollow metal door and frame reinforcement.
  - From centerline of hinge or pivot point to end of track is 27-11/16" (703.3mm)
  - Dimensions are given in inches (mm)
  - Maximum door opening: 120°.
  - Use of auxiliary door stop may be required, to prevent damage to door, frame, or hinges, conditions permitting.

PS8340ST, PS8540ST Series Non Hold Open Door Closer  
PS8340STH, PS8540STH Series Hold Open Door Closer  
Push (Stop) Side Slide Track Application  
Closer Sizes 1, 4, 5, or 6

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Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	5-1/8	10-3/8	5-3/4	11
90°	95°	4-1/2	9-3/4	5-1/8	10-3/8
95°	100°	4	9-1/4	4-5/8	9-7/8
100°	105°	3-5/8	8-7/8	4-1/4	9-1/2
105°	110°	3-1/4	8-1/2	3-7/8	9-1/8
110°	115°	2-7/8	8-1/8	3-5/8	8-7/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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

inches	mm.	inches	mm.	inches	mm.
5/16	8	3-1/4	82.5	8-1/2	216
3/8	9.5	3-5/8	92	8-7/8	225.5
7/16	11	3-7/8	98.5	9-1/8	232
3/4	19	4	101.5	9-1/4	235
1-1/8	28.5	4-1/4	108	9-1/2	241.5
1-1/4	31.5	4-1/2	114	9-3/4	247.5
2	51	4-5/8	117.5	9-7/8	251
2-3/4	70	5-1/8	130	10-3/8	263.5
2-7/8	73	5-3/4	146	11	279.5
3	76	8-1/8	206	12	305

**Unitrol® Standard Application**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 28" - 32" (0.70-0.80m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

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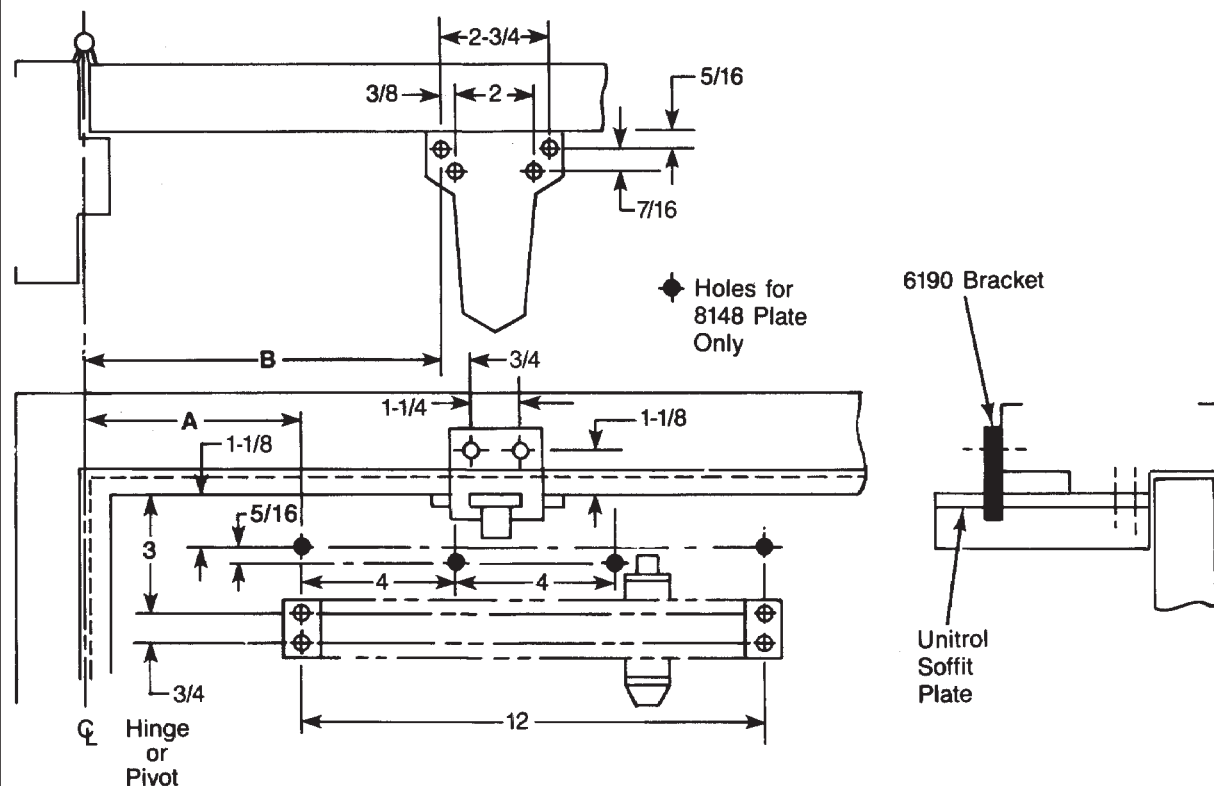
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TEMPLATE NUMBER

**7380-1351**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	7-1/2	12-3/4	8	13-1/4
90°	95°	6-3/4	12	7-3/8	12-5/8
95°	100°	6-1/4	11-1/2	6-3/4	12
100°	105°	5-3/4	11	6-1/4	11-1/2
105°	110°	5-1/4	10-1/2	5-7/8	11-1/8
110°	115°	4-7/8	10-1/8	5-1/2	10-3/4

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
5/16	8	5-1/4	133	10-3/4	273
3/8	9.5	5-1/2	139.5	11	279.5
7/16	11	5-3/4	146	11-1/8	282.5
3/4	19	5-7/8	149	11-1/2	292
1-1/8	28.5	6-1/4	158.5	12	305
1-1/4	31.5	6-3/4	171.5	12-5/8	320.5
2	51	7-3/8	187.5	12-3/4	324
2-3/4	70	7-1/2	190.5	13-1/4	336.5
3	76	8	203		
4	101.5	10-1/8	257		
4-7/8	124	10-1/2	266.5		

#### 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

**Unitrol® Standard Application**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 33" - 41" (0.85-1.00m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**  
**With or Without 6190 Bracket**

**Norton**

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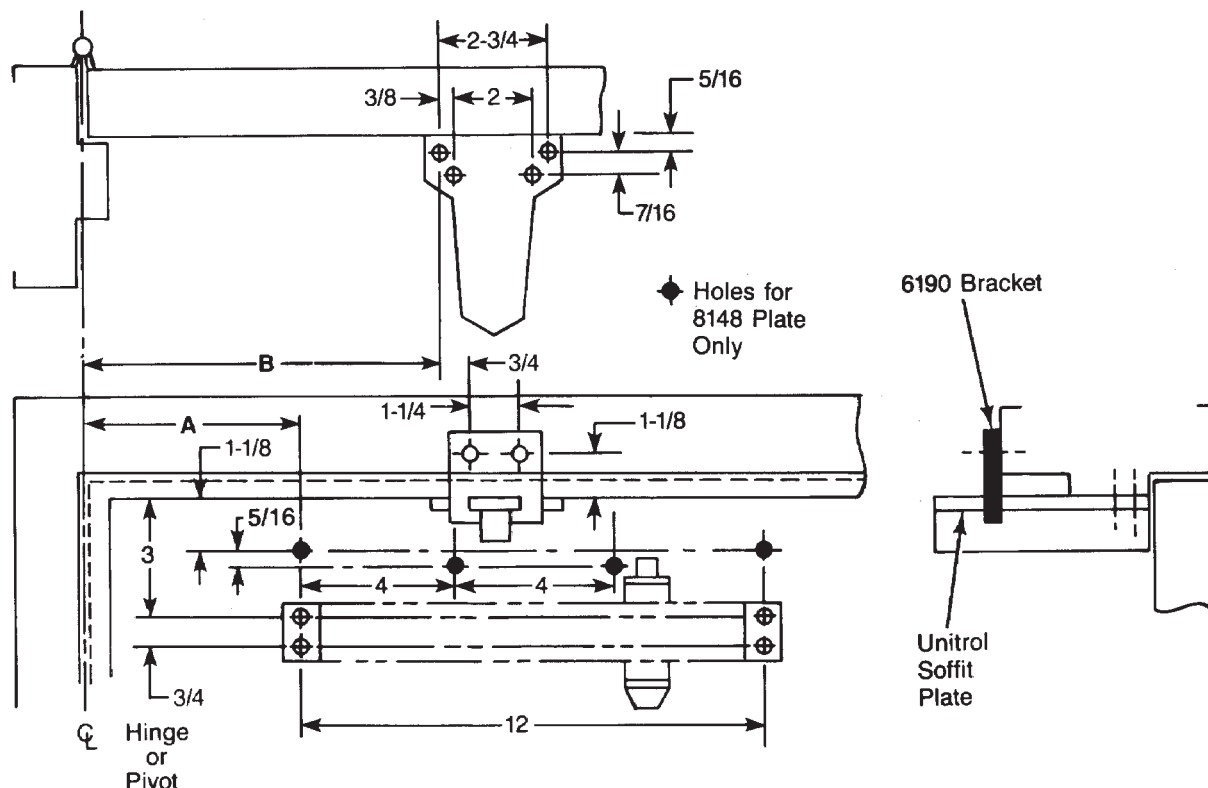
TEMPLATE NUMBER

**7380-1352**

DATE

**09-08**





Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	9-3/4	15-1/8	10-1/8	15-1/2
90°	95°	8-7/8	14-1/4	9-3/8	14-3/4
95°	100°	8-1/4	13-5/8	8-5/8	14
100°	105°	7-5/8	13	8-1/8	13-1/2
105°	110°	7-1/8	12-1/2	7-5/8	13
110°	115°	6-3/4	12-1/8	7-1/8	12-1/2

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
5/16	8	7-1/8	181	12-1/2	317.5
3/8	9.5	7-5/8	193.5	13	330
7/16	11	8-1/8	206	13-1/2	343
3/4	19	8-1/4	209.5	13-5/8	346
1-1/8	28.5	8-5/8	219	14	355.5
1-1/4	31.5	8-7/8	225.5	14-1/4	362
2	51	9-3/8	238	14-3/4	374.5
2-3/4	70	9-3/4	247.5	15-1/8	384
3	76	10-1/8	257	15-1/2	393.5
4	101.5	12	305		
6-3/4	171.5	12-1/8	308		

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

**Unitrol® Standard Application**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 42" - 48" (1.05-1.20m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**  
**With or Without 6190 Bracket**

**Norton**

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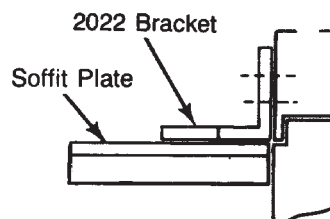
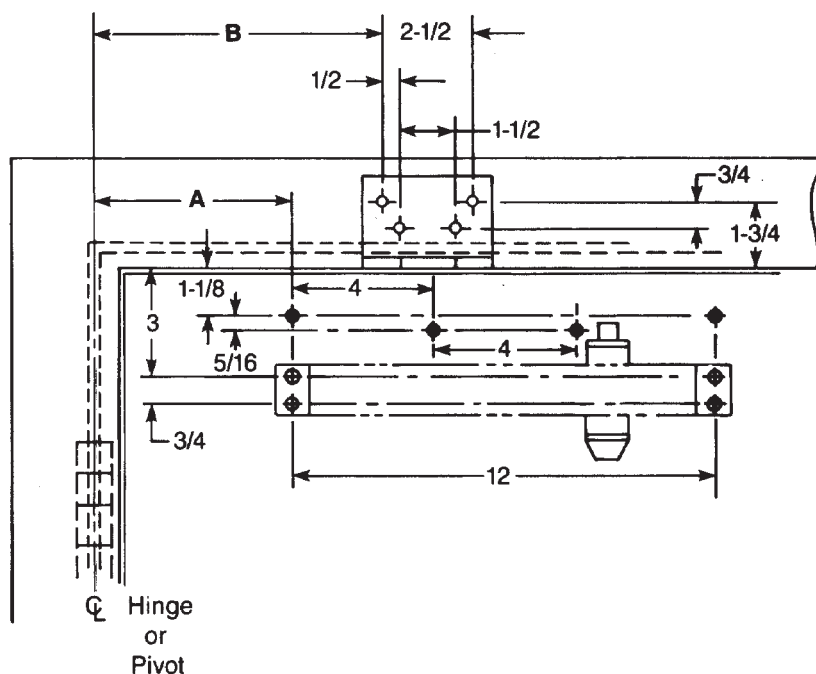
TEMPLATE NUMBER

**7380-1353**

DATE

**09-08**





Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	5-1/8	10-1/2	5-3/4	11-1/8
90°	95°	4-1/2	9-7/8	5-1/8	10-1/2
95°	100°	4	9-3/8	4-5/8	10
100°	105°	3-5/8	9	4-1/4	9-5/8
105°	110°	3-1/4	8-5/8	3-7/8	9-1/4
110°	115°	2-7/8	8-1/4	3-5/8	9

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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
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

inches	mm.	inches	mm.	inches	mm.
5/16	8	3-5/8	92	9	228.5
1/2	12.5	3-7/8	98.5	9-1/4	235
3/4	19	4	101.5	9-3/8	238
1-1/8	28.5	4-1/4	108	9-5/8	244.5
1-1/2	38	4-1/2	114	9-7/8	251
1-3/4	44.5	4-5/8	117.5	10	254
2-1/2	63.5	5-1/8	130	10-1/2	266.5
2-7/8	73	5-3/4	146	11-1/8	282.5
3	76	8-1/4	209.5	12	305
3-1/4	82.5	8-5/8	219		

**Unitrol® With 2022 Bracket**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 28" - 32" (0.70-0.80m) Wide**

**Parallel Arm Installation Template**  
**Flush Partitions**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

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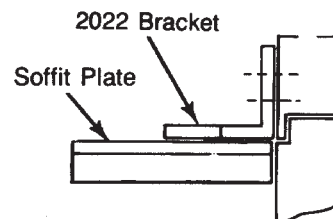
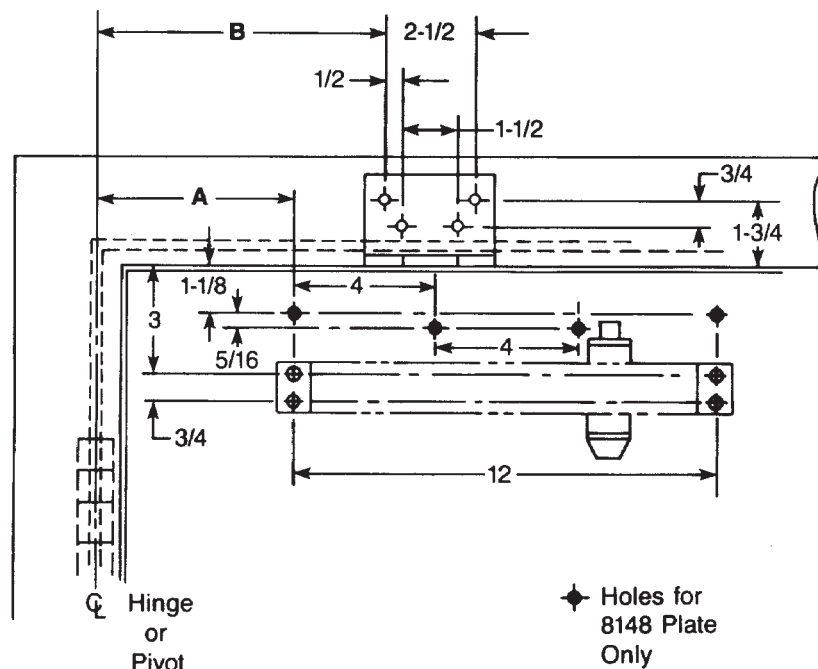
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TEMPLATE NUMBER

**7380-1354**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	7-1/2	12-7/8	8	13-3/8
90°	95°	6-3/4	12-1/8	7-3/8	12-3/4
95°	100°	6-1/4	11-5/8	6-3/4	12-1/8
100°	105°	5-3/4	11-1/8	6-1/4	11-5/8
105°	110°	5-1/4	10-5/8	5-7/8	11-1/4
110°	115°	4-7/8	10-1/4	5-1/2	10-7/8

★ Door must be free to swing 5° beyond hold-open position.

**Notes:**

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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
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

inches	mm.	inches	mm.	inches	mm.
5/16	8	5-1/2	139.5	11-1/8	282.5
1/2	12.5	5-3/4	146	11-1/4	286
3/4	19	5-7/8	149	11-5/8	295.5
1-1/8	28.5	6-1/4	159	12	305
1-1/2	38	6-3/4	171.5	12-1/8	308
1-3/4	44.5	7-3/8	187.5	12-3/4	324
2-1/2	63.5	7-1/2	190.5	12-7/8	327
3	76	8	203	13-3/8	339.5
4	101.5	10-1/4	260.5		
4-7/8	124	10-5/8	270		
5-1/4	133	10-7/8	276		

**Unitrol® With 2022 Bracket  
Series UNI-8300, UNI-8301,  
UNI-8500, UNI-8501  
Doors 33" - 41" (0.85-1.00m) Wide**

**Parallel Arm Installation Template  
Flush Partitions  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer  
With or Without 8148 Drop Plate**

**Norton**

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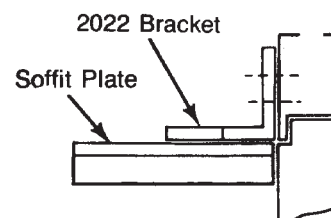
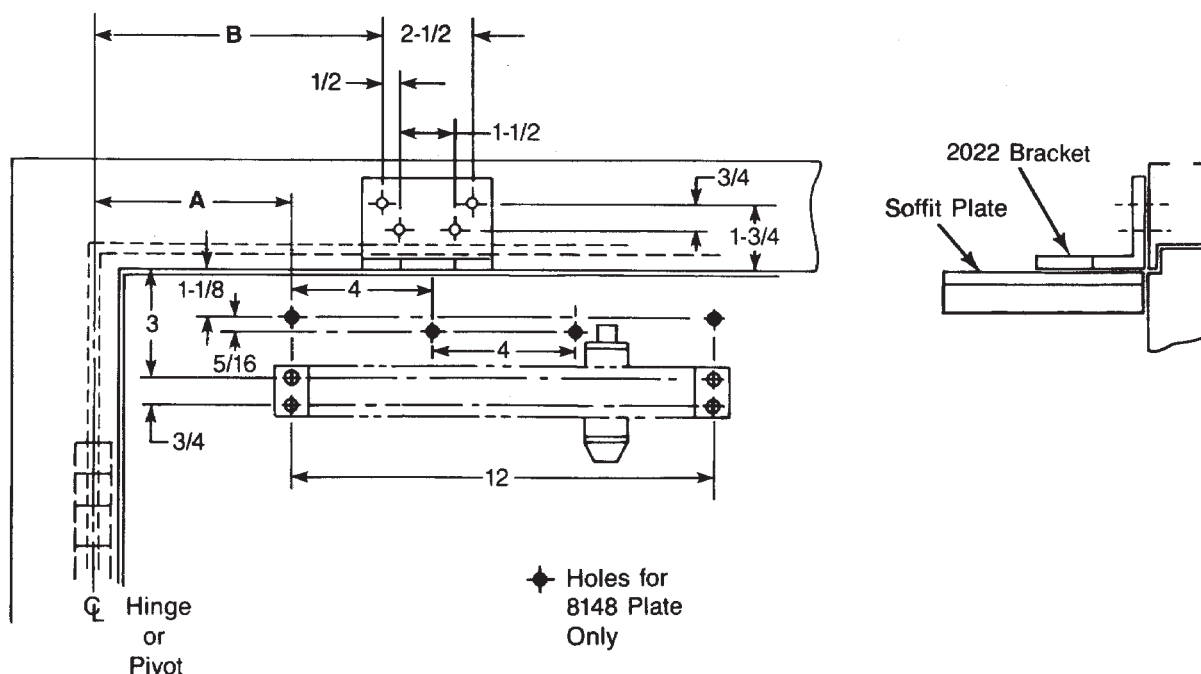
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TEMPLATE NUMBER

**7380-1355**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	9-3/4	15-1/4	10-1/8	15-5/8
90°	95°	8-7/8	14-3/8	9-3/8	14-7/8
95°	100°	8-1/4	13-3/4	8-5/8	14-1/8
100°	105°	7-5/8	13-1/8	8-1/8	13-5/8
105°	110°	7-1/8	12-5/8	7-5/8	13-1/8
110°	115°	6-3/4	12-1/4	7-1/8	12-5/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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
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

inches	mm.	inches	mm.	inches	mm.
5/16	8	7-5/8	193.5	13-1/8	333.5
1/2	12.5	8-1/8	206.5	13-5/8	346
3/4	19	8-1/4	209.5	13-3/4	349.5
1-1/8	28.5	8-5/8	219	14-1/8	359
1-1/2	38	8-7/8	225.5	14-3/8	365
1-3/4	44.5	9-3/8	238	14-7/8	378
2-1/2	63.5	9-3/4	247.5	15-1/4	387.5
3	76	10-1/8	257	15-5/8	397
4	101.5	12	305		
6-3/4	171.5	12-1/4	311		
7-1/8	181	12-5/8	320.5		

**Unitrol® With 2022 Bracket**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 42" - 48" (1.05-1.20m) Wide**

**Parallel Arm Installation Template**  
**Flush Partitions**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

ASSA ABLOY

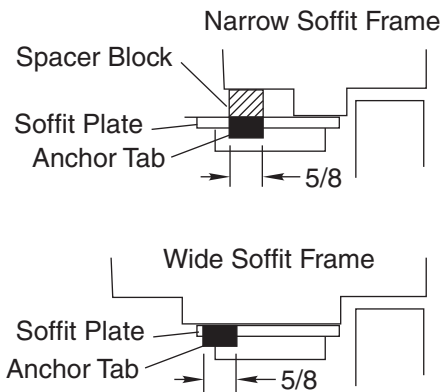
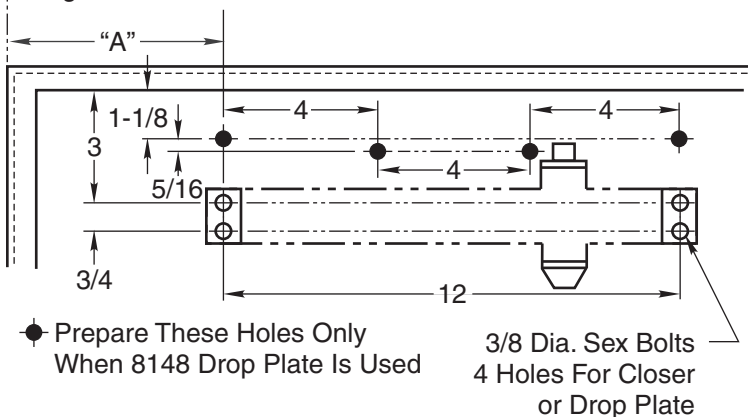
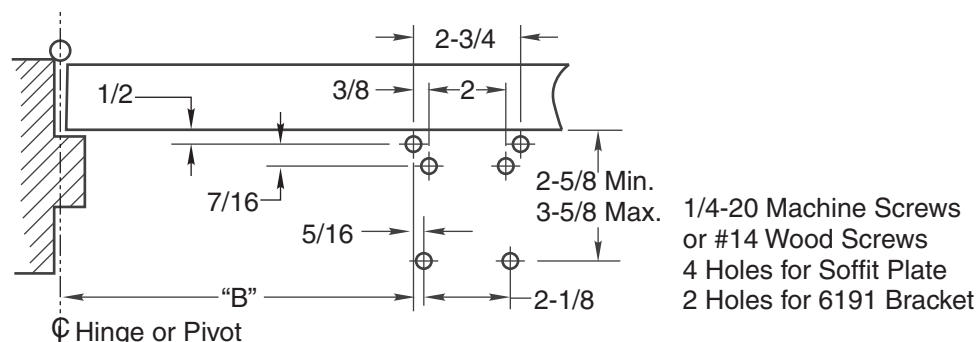
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TEMPLATE NUMBER

**7380-1356**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open*	Dead Stop	Butts & Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	5-1/8	10-3/8	5-3/4	11
90°	95°	4-1/2	9-3/4	5-1/8	10-3/8
95°	100°	4	9-1/4	4-5/8	9-7/8
100°	105°	3-5/8	8-7/8	4-1/4	9-1/2
105°	110°	3-1/4	8-1/2	3-7/8	9-1/8
110°	115°	2-7/8	8-1/8	3-5/8	8-7/8

★Door must be free to swing 5° beyond hold-open position.

Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified. Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

## Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill-Sizes
Sex nuts and bolts	Closer Drop Plate	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door face opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
#14 x 1-1/4" (32mm) type "A" S.M. screw	Soffit plate 6190 Bracket	Wood	3/16" (4.30 mm.)
1/4" - 20 machine screw		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Through-bolts and grommet-nuts	Optional	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door face opposite to closer

inches	mm	inches	mm	inches	mm	inches	mm
5/16	8	2-3/4	70	5-1/8	130	10-3/8	263.5
3/8	9.5	2-7/8	73	5-3/4	146	11	279.5
7/16	11	3	76	8-1/8	206	12	305
1/2	12.7	3-1/4	82.5	8-1/2	216		
5/8	16	3-5/8	92	8-7/8	225.5		
3/4	19	3-7/8	98.5	9-1/8	232		
1-1/8	28.5	4	101.5	9-1/4	235		
2	51	4-1/4	108	9-1/2	241.5		
2-1/8	54	4-1/2	114	9-3/4	247.5		
2-5/8	67	4-5/8	117	9-7/8	251		

**Unitrol® With 6191 Reinforcing Kit**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 28" - 32" (0.70 - 0.80m)**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

ASSA ABLOY

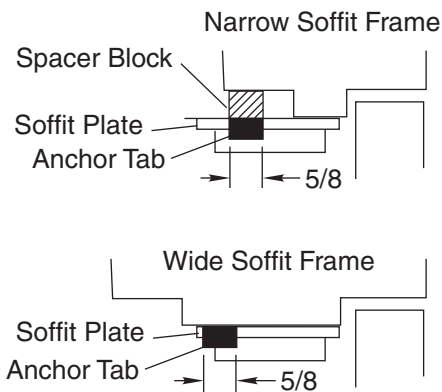
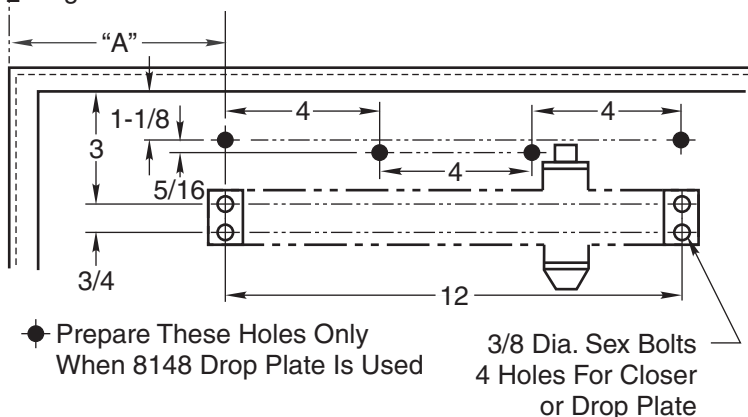
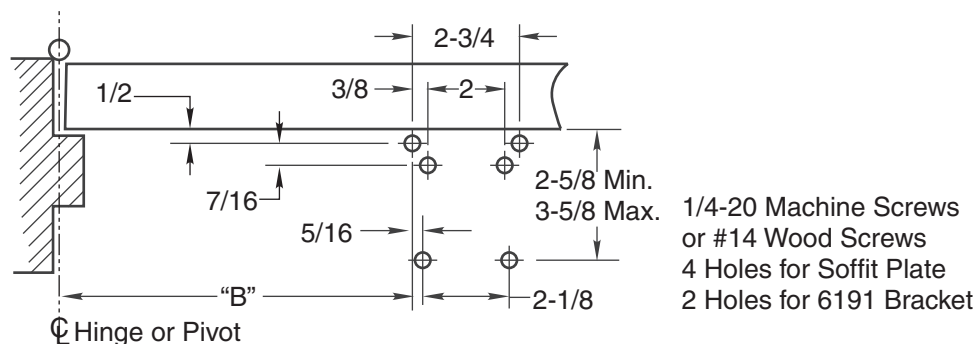
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TEMPLATE NUMBER

**7380-1357**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open*	Dead Stop	Butts & Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	7-1/2	12-3/4	8-1/8	13-3/8
90°	95°	6-3/4	12	7-3/8	12-5/8
95°	100°	6-1/4	11-1/2	6-7/8	12-1/8
100°	105°	5-3/4	11	6-3/8	11-5/8
105°	110°	5-1/4	10-1/2	5-7/8	11-1/8
110°	115°	4-7/8	10-1/8	5-1/2	10-3/4

★Door must be free to swing 5° beyond hold-open position.

Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified. Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

## Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill-Sizes
Sex nuts and bolts	Closer Drop Plate	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door face opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
#14 x 1-1/4" (32mm) type "A" S.M. screw	Soffit plate 6190 Bracket	Wood	3/16" (4.30 mm.)
1/4" - 20 machine screw		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Through-bolts and grommet-nuts	Optional	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door face opposite to closer

inches	mm	inches	mm	inches	mm	inches	mm
5/16	8	2-3/4	70	6-3/4	171	11-1/2	292
3/8	9.5	3-5/8	92	6-7/8	175	11-5/8	295
7/16	11	4	101.5	7-3/8	187	12	305
1/2	12.7	4-7/8	124	7-1/2	191	12-1/8	308
5/8	16	5-1/4	133	8-1/8	206	12-5/8	321
3/4	19	5-1/2	140	10-1/8	257	12-3/4	324
1-1/8	28.5	5-3/4	146	10-1/2	267	13-3/8	340
2	51	5-7/8	149	10-3/4	273		
2-1/8	54	6-1/4	159	11	279		
2-5/8	67	6-3/8	162	11-1/8	283		

**Unitrol® With 6191 Reinforcing Kit**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 33" - 41" (0.85 - 1.00m)**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

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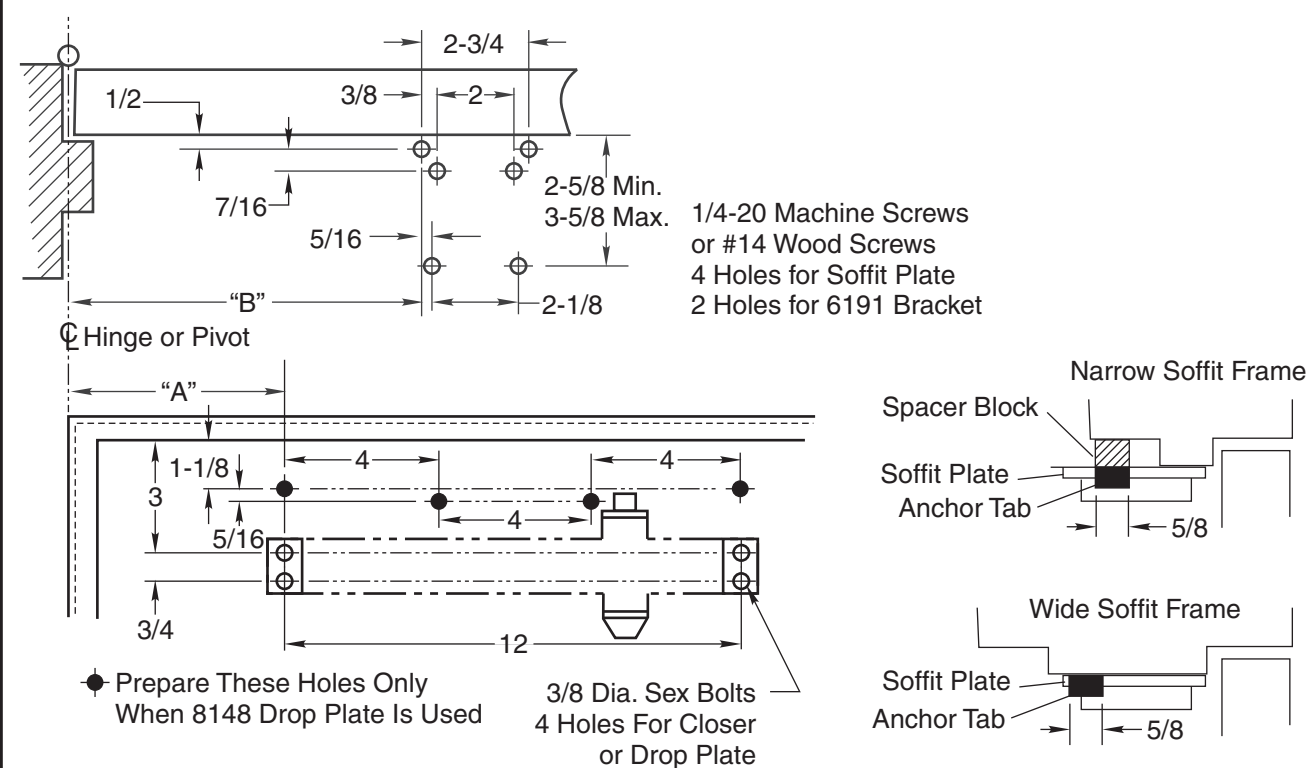
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TEMPLATE NUMBER

**7380-1358**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open*	Dead Stop	Butts & Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	9-3/4	15-1/8	10-1/8	15-1/2
90°	95°	8-7/8	14-1/4	9-3/8	14-3/4
95°	100°	8-1/4	13-5/8	8-5/8	14
100°	105°	7-5/8	13	8-1/8	13-1/2
105°	110°	7-1/8	12-1/2	7-5/8	13
110°	115°	6-3/4	12-1/8	7-1/8	12-1/2

★Door must be free to swing 5° beyond hold-open position.

Notes:  
Do not scale drawing.  
Left hand door shown.  
Dimensions are in inches.  
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.  
Sex-bolts required for wood or plastic faced fire-door mounting.  
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).  
Follow Conversion Chart for metric dimensions.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill-Sizes
Sex nuts and bolts	Closer Drop Plate	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door face opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
#14 x 1-1/4" (32mm) type "A" S.M. screw	Soffit plate 6190 Bracket	Wood	3/16" (4.30 mm.)
1/4" - 20 machine screw		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Through-bolts and grommet-nuts	Optional	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door face opposite to closer

inches	mm	inches	mm	inches	mm	inches	mm
5/16	8	2-3/4	70	8-7/8	225	14-1/4	362
3/8	9.5	3-5/8	92	9-3/8	238	14-3/4	375
7/16	11	4	101.5	10-1/8	257	15-1/8	384
1/2	12.7	6-3/4	171	12	305	15-1/2	394
5/8	16	7-1/8	181	12-1/8	308		
3/4	19	7-5/8	194	12-1/2	318		
1-1/8	28.5	7-3/4	197	13	330		
2	51	8-1/8	206	13-1/2	343		
2-1/8	54	8-1/4	210	13-5/8	346		
2-5/8	67	8-5/8	219	14	356		

Unitrol® With 6191 Reinforcing Kit  
Series UNI-8300, UNI-8301,  
UNI-8500, UNI-8501  
Doors 42" - 48" (1.05 - 1.20m)

Parallel Arm Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer  
With or Without 8148 Drop Plate

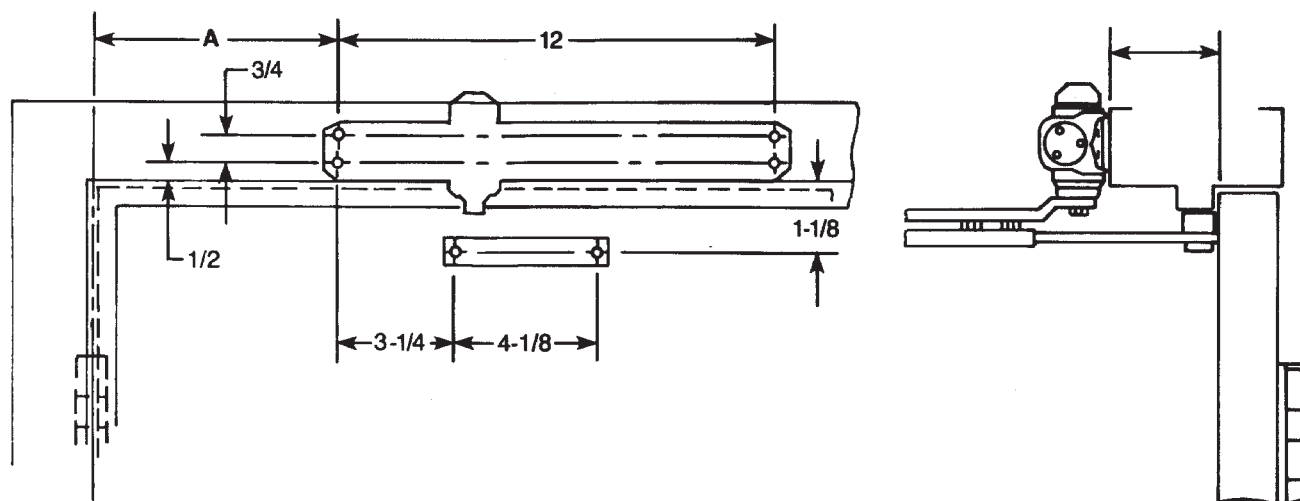
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TEMPLATE NUMBER	DATE
7380-1359	09-08





Door Opening Angle		Dimension "A"	
Hold Open ★	Dead Stop	Butts and Offset Pivots	Center Pivots
85°	90°	10	10-3/8
90°	95°	9-3/8	9-3/4
95°	100°	8-3/4	9-1/4
100°	105°	8-1/4	8-3/4
105°	110°	7-7/8	8-1/4
110°	115°	7-1/2	7-7/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex nuts and bolts	Arm-foot	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	Closer	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

inches	mm.	inches	mm.
1/2	12.5	8-3/4	222.5
3/4	19	9-1/4	235
1-1/8	28.5	9-3/8	238
3-1/4	82.5	9-3/4	247.5
4-1/8	104.5	10	254
7-1/2	190.5	10-3/8	263.5
7-7/8	200	12	305
8-1/4	209.5		

**Unitrol® Standard Application**  
**Series UNI-J8300, UNI-J8301,**  
**UNI-J8500, UNI-J8501**

**Top Jamb Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**

**Norton**

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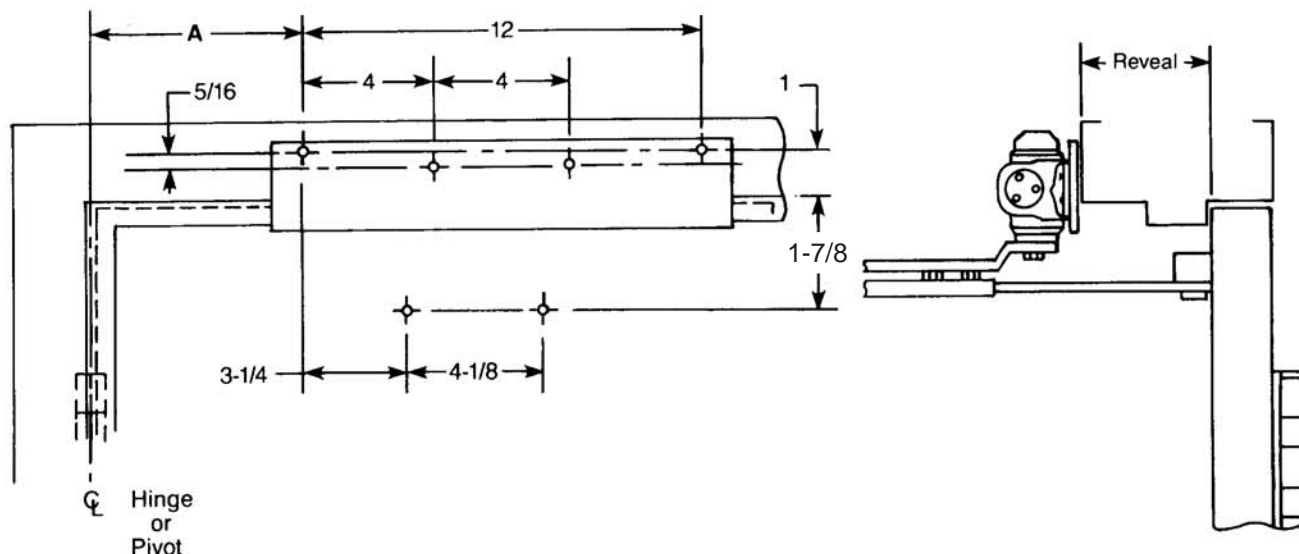
TEMPLATE NUMBER

**7380-1401**

DATE

**09-08**





Door Opening Angle		Dimension "A"	
Hold Open ★	Dead Stop	Butts and Offset Pivots	Center Pivots
85°	90°	10	10-3/8
90°	95°	9-3/8	9-3/4
95°	100°	8-3/4	9-1/4
100°	105°	8-1/4	8-3/4
105°	110°	7-7/8	8-1/4
110°	115°	7-1/2	7-7/8

† Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.
5/16	8	8-3/4	222.5
1	25.5	9-1/4	235
1-1/2	38	9-3/8	238
3-1/4	82.5	9-3/4	247.5
4	101.5	10	254
4-1/8	104.5	10-3/8	263.5
7-1/2	190.5	12	305
7-7/8	200		
8-1/4	209.5		

#### Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill Sizes
Sex nuts and bolts	Arm-foot	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	Closer	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

**Unitrol® With 8146 Drop Plate**  
**Series UNI-J8300, UNI-J8301,**  
**UNI-J8500, UNI-J8501**

**Top Jamb Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**

**Norton**

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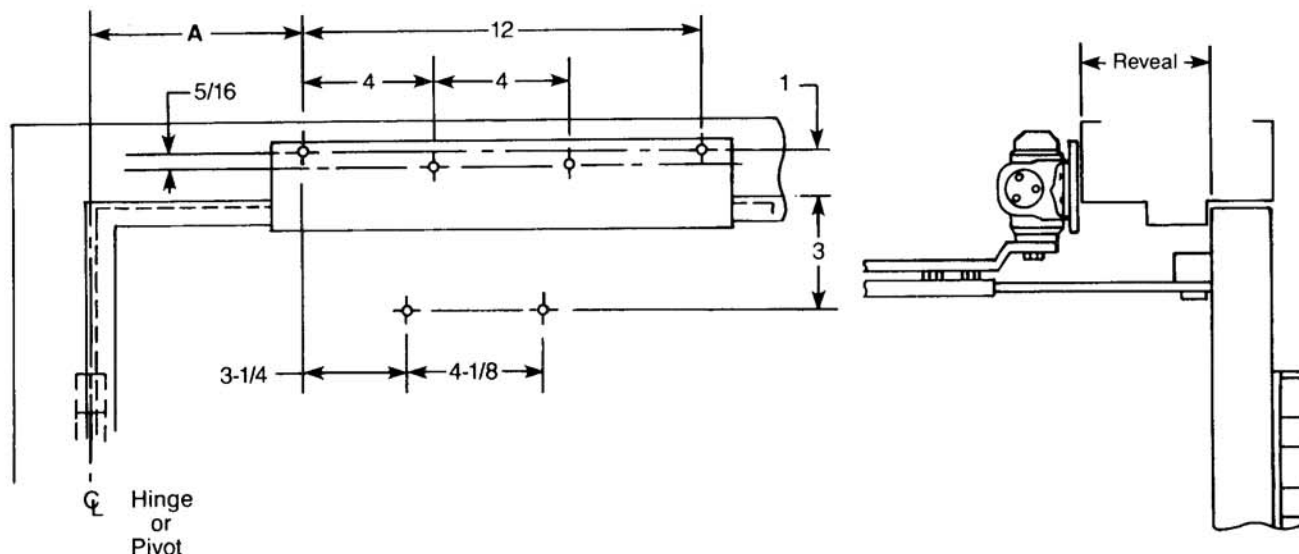
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TEMPLATE NUMBER

**7380-1406**

DATE

**09-10**



Door Opening Angle		Dimension "A"	
Hold Open ★	Dead Stop	Butts and Offset Pivots	Center Pivots
85°	90°	10	10-3/8
90°	95°	9-3/8	9-3/4
95°	100°	8-3/4	9-1/4
100°	105°	8-1/4	8-3/4
105°	110°	7-7/8	8-1/4
110°	115°	7-1/2	7-7/8

† Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.
5/16	8	8-3/4	222.5
1	25.5	9-1/4	235
1-1/2	38	9-3/8	238
3-1/4	82.5	9-3/4	247.5
4	101.5	10	254
4-1/8	104.5	10-3/8	263.5
7-1/2	190.5	12	305
7-7/8	200		
8-1/4	209.5		

#### Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill Sizes
Sex nuts and bolts	Arm-foot	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	Closer	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

**Unitrol® With 8148 Drop Plate  
Series UNI-J8300, UNI-J8301,  
UNI-J8500, UNI-J8501**

**Top Jamb Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer**

**Norton**

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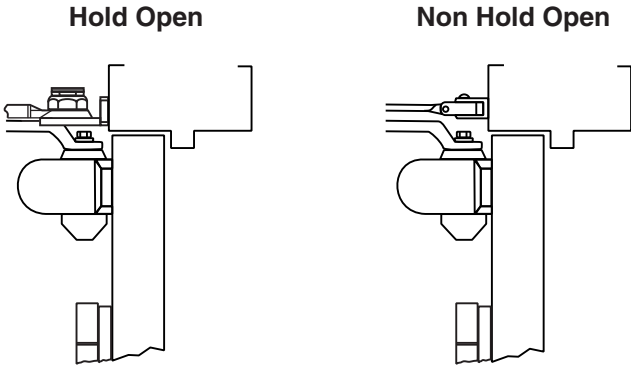
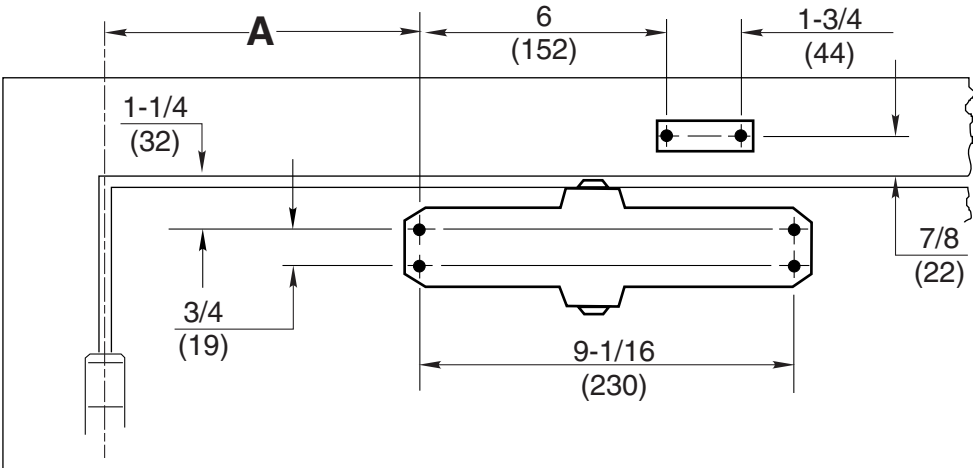
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TEMPLATE NUMBER

**7380-1408**

DATE

**09-08**



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

Door swing may be limited by door, frame, wall or hardware conditions.  
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.  
Sex-bolts required for wood or plastic faced fire-door mounting.  
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Opening	Dimension "A"
To 100°	$\frac{7}{(178)}$
101° to 120°	$\frac{6}{(152)}$
*121° to 180°	$\frac{3-1/2}{(89)}$

\* Door/Wall/Hardware/Jamb conditions permitting

Fasteners Chart			
Fasteners		Door or Frame	Drill-Sizes
Standard	1/4" - 20 combination screw	Wood	7/32" (5.54 mm.)
		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door opposite to closer
	Through-bolts and grommet-nuts	Aluminum or Wood	3/8" (9.50 mm.) through
		All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door opposite to closer

9300 Series Non Hold Open Door Closer

9300H Series Hold Open Door Closers (90° to 180°)

Regular Arm Application

Closer Sizes 2, 3, 4, and 5

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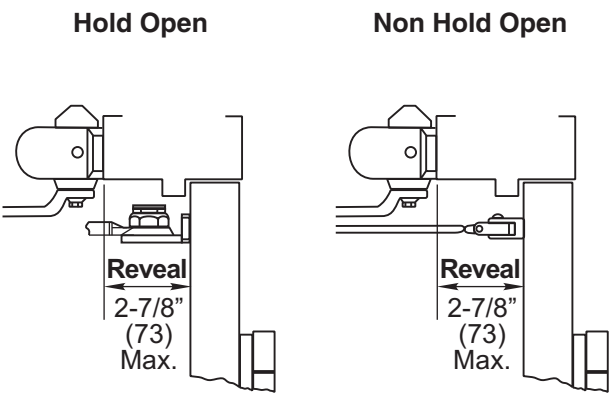
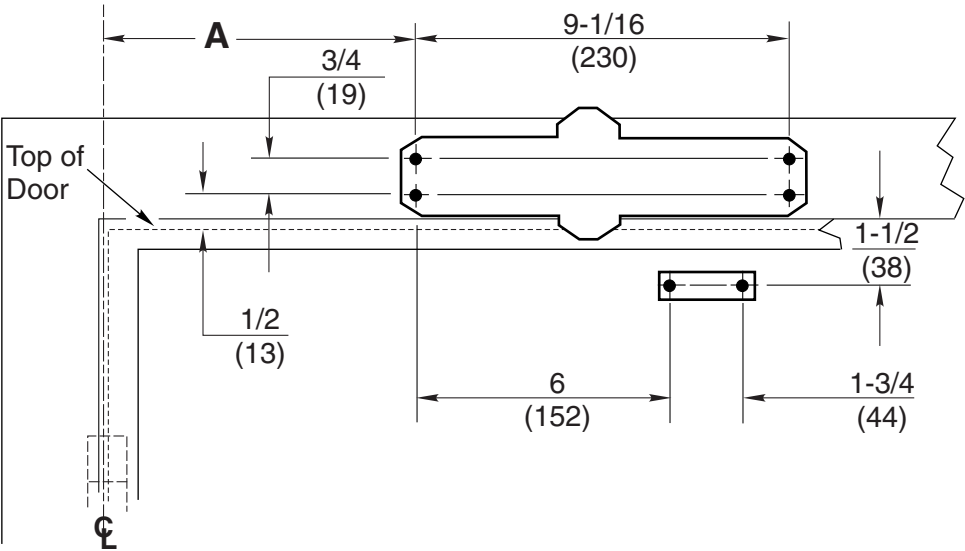
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TEMPLATE NUMBER

7393-0001

DATE

01-09



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

Door swing may be limited by door, frame, wall or hardware conditions. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified. Sex-bolts required for wood or plastic faced fire-door mounting. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Opening	Dimension "A"
To 100°	7-1/2 (191)
101° to 120°	6 (152)
*121° to 180°	3-1/2 (89)

\* Door/Wall/Hardware/Jamb conditions permitting

Fasteners Chart			
Fasteners		Door or Frame	Drill-Sizes
Standard	1/4" - 20 combination screw	Wood	7/32" (5.54 mm.)
		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door opposite to closer arm
		Aluminum or Wood	3/8" (9.50 mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door opposite to closer arm

9300 Series Non Hold Open Door Closer  
9300H Series Hold Open Door Closers  
Top Jamb Application  
Closer Sizes 2, 3, 4, and 5

Norton

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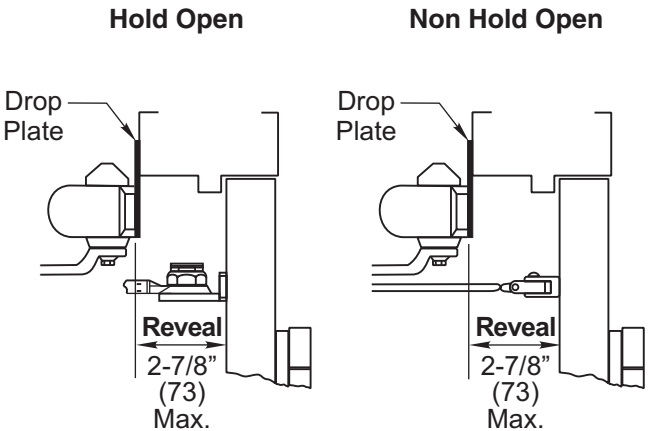
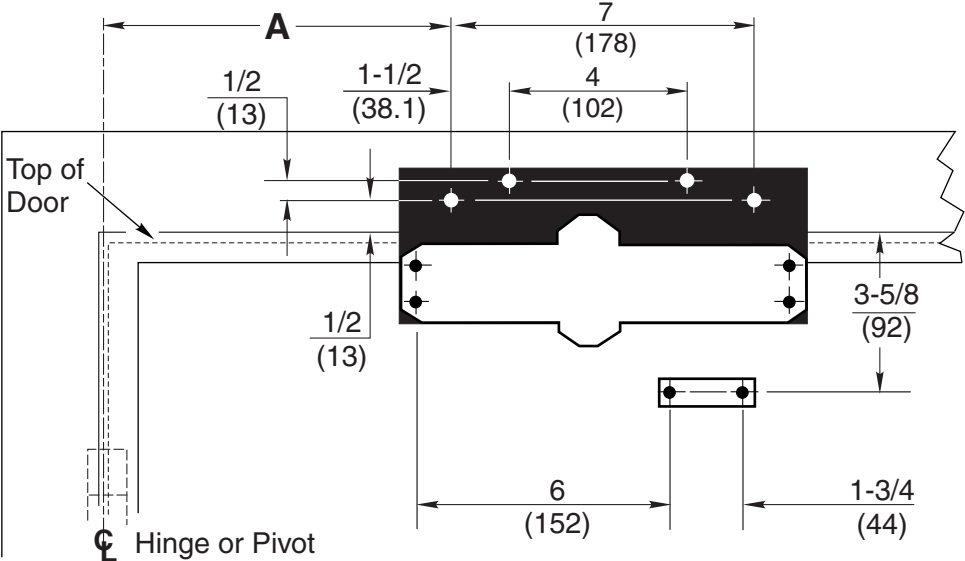
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TEMPLATE NUMBER

7393-0051

DATE

01-09



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

Door swing may be limited by door, frame, wall or hardware conditions.  
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.  
Sex-bolts required for wood or plastic faced fire-door mounting.  
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Opening	Dimension "A"
To 100°	$\frac{8}{(203)}$
101° to 120°	$\frac{6-1/2}{(165)}$
*121° to 180°	$\frac{4}{(102)}$

\* Door/Wall/Hardware/Jamb conditions permitting

Fasteners Chart			
Fasteners		Door or Frame	Drill-Sizes
Standard	1/4" - 20 combination screw	Wood	7/32" (5.54 mm.)
		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door opposite to closer arm
		Aluminum or Wood	3/8" (9.50 mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door opposite to closer arm

9300 Series Non Hold Open Door Closer  
9300H Series Hold Open Door Closers  
Top Jamb Application Using 9388 Drop Plate  
Closer Sizes 2, 3, 4, and 5

Norton®

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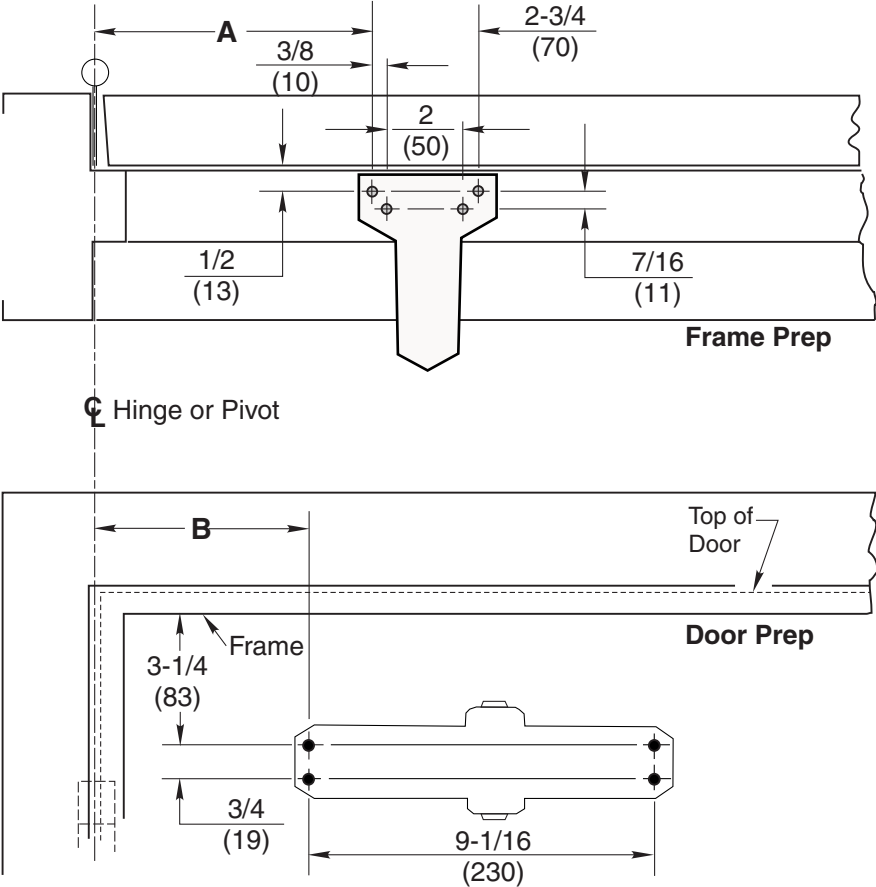
TEMPLATE NUMBER

7393-0061

DATE

01-09

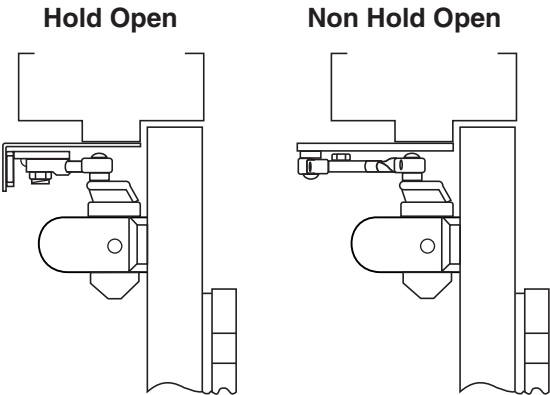




- Notes:
- Do not scale drawing.
  - Left hand door shown.
  - Dimensions are in inches (mm).

Door Opening	A	B
To 100°	9-1/4 (235)	7-5/8 (194)
101° to 130°	7-3/4 (197)	6-1/8 (156)
*131° to 180°	5-3/4 (146)	4-1/8 (105)

\* Door/Wall/Hardware/Jamb conditions permitting



Door swing may be limited by door, frame, wall or hardware conditions. Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified. Sex-bolts required for wood or plastic faced fire-door mounting. Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

Fasteners Chart			
Fasteners		Door or Frame	Drill-Sizes
Standard	1/4" - 20 combination screw	Wood	7/32" (5.54 mm.)
		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door opposite to closer

P9300 Series Non Hold Open Door Closer  
P9300H Series Hold Open Door Closers  
Parallel Arm Application  
Closer Sizes 2, 3, 4, and 5

Norton®

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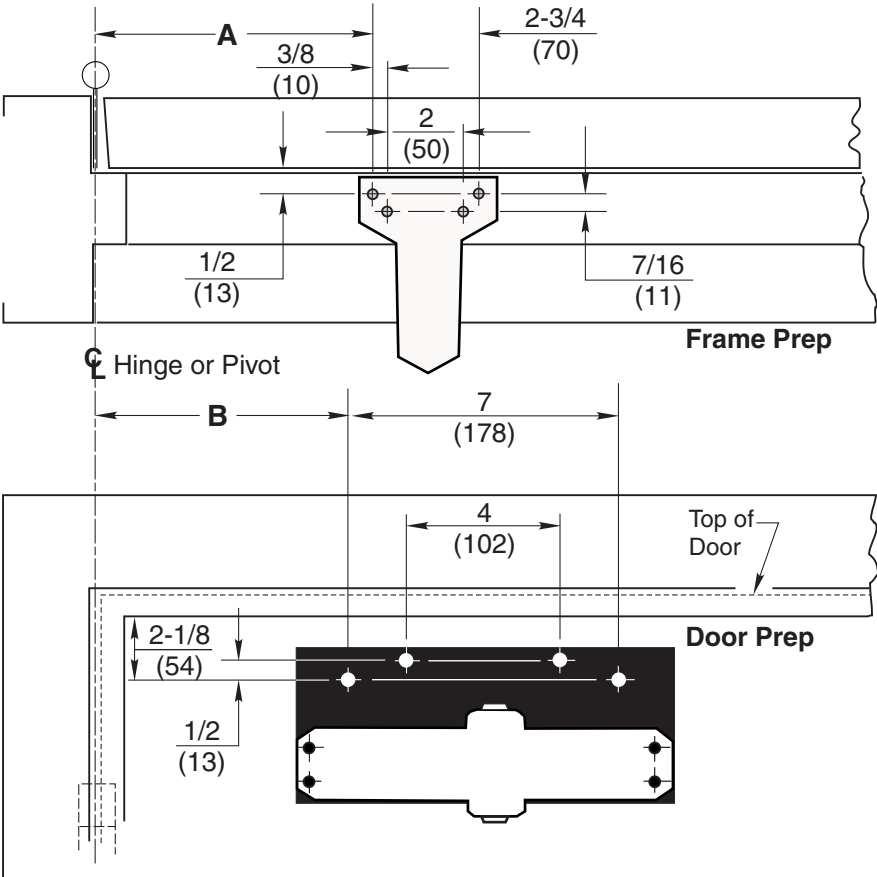
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TEMPLATE NUMBER

7393-0101

DATE

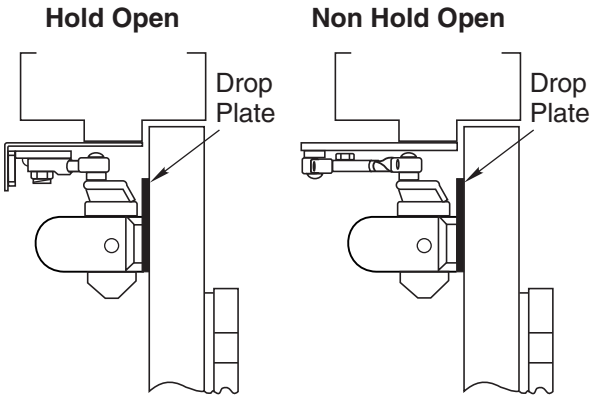
01-09



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

Door Opening	A	B
To 100°	9-1/4 (235)	8-5/8 (219)
101° to 130°	7-3/4 (197)	7-1/8 (181)
*131° to 180°	5-3/4 (146)	5-1/8 (130)

\* Door/Wall/Hardware/Jamb conditions permitting



Fasteners Chart			
Fasteners		Door or Frame	Drill-Sizes
Standard	1/4" - 20 combination screw	Wood	7/32" (5.54 mm.)
		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Optional	Sex nuts and bolts	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
	Through-bolts and grommet-nuts	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door opposite to closer

Door swing may be limited by door, frame, wall or hardware conditions.  
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.  
Sex-bolts required for wood or plastic faced fire-door mounting.  
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm) unless otherwise noted.

P9300 Series Non Hold Open Door Closer  
P9300H Series Hold Open Door Closers  
Parallel Arm Application Using 9388 Drop Plate  
Closer Sizes 2, 3, 4, and 5

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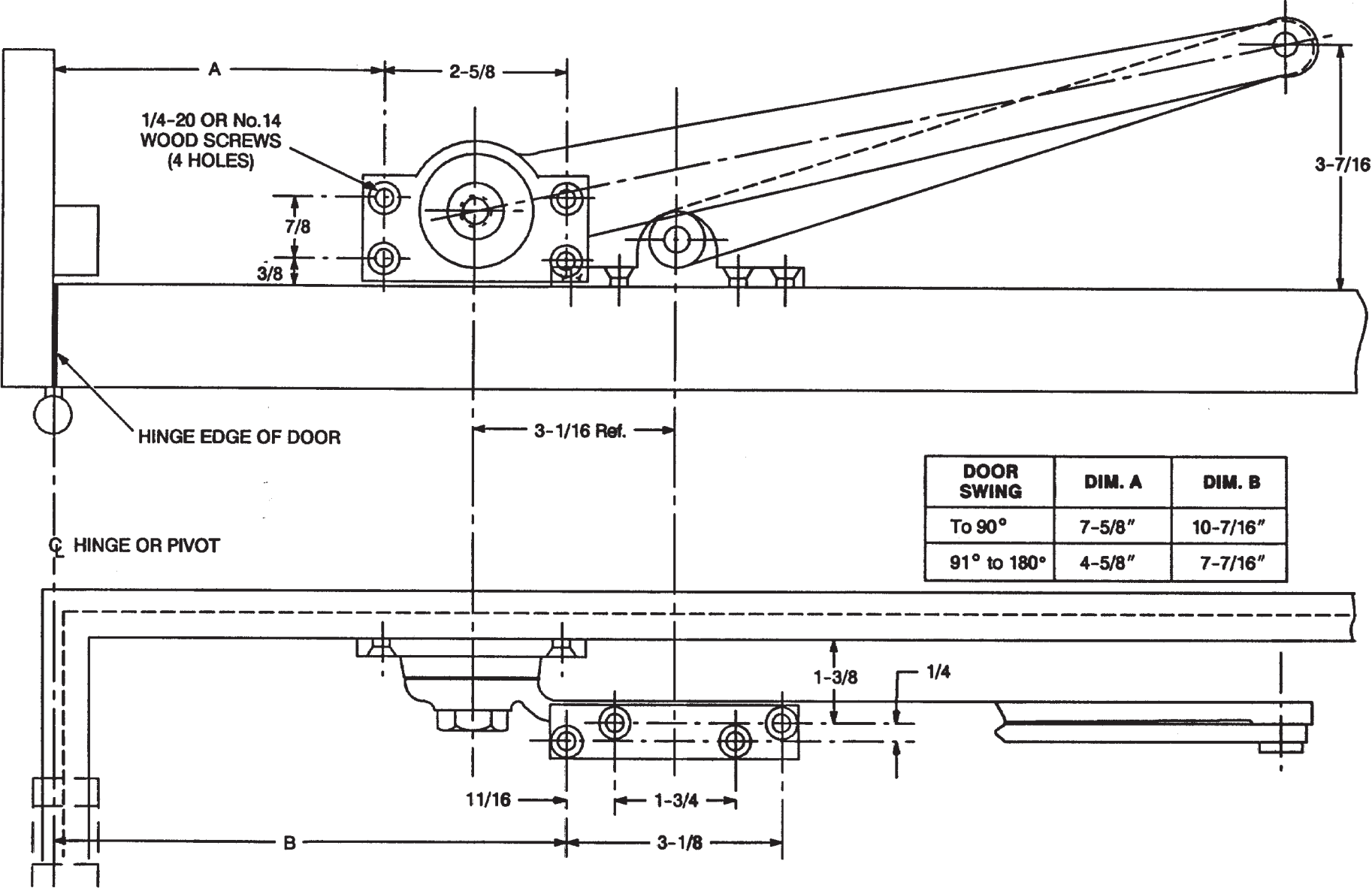
7393-0111

DATE

01-09



All dimensions given in inches.



No. 2 Door Holder  
Frame and Door Preparation  
(Old Template 02-DH)

  
ASSA ABLOY

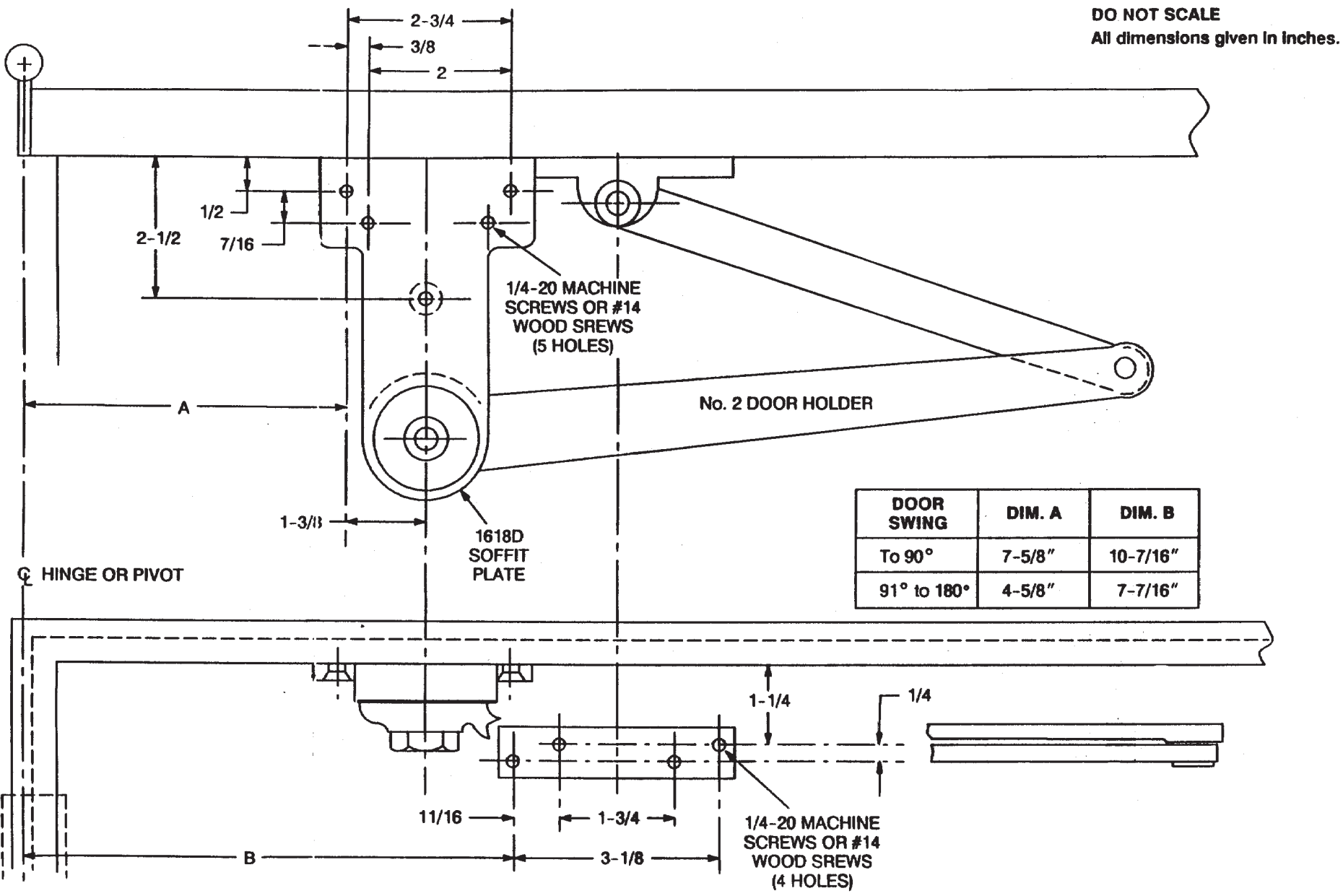
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TEMPLATE NUMBER

7501-0003

DATE

01-09

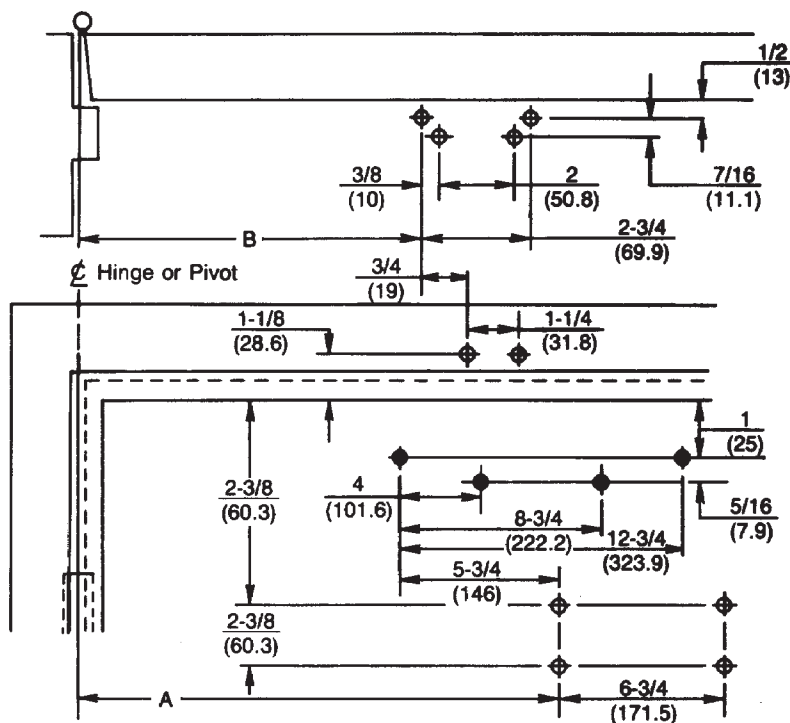


No. 2 Door Holder x 1618D Soffit Plate

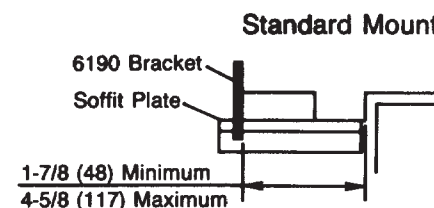
  
ASSA ABLOY  
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TEMPLATE NUMBER  
**7501-0004**

DATE  
**01-09**



◆ 7788 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"dia.) 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°	10 1/4	260	10 1/2	267	11 1/4	286	11 1/2	292
90°	95°	9 5/8	244	9 7/8	251	10 1/2	267	10 3/4	273
95°	100°	9 1/8	232	9 3/8	238	10	254	10 1/4	260
100°	105°	8 3/4	222	9	229	9 1/2	241	9 3/4	248
105°	110°	8 5/8	213	8 3/4	219	9 1/8	232	9 1/2	238
110°	115°	8	203	8 1/4	210	8 3/4	222	9	229

\* "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 UNI-7500 & UNI-7700**  
**Parallel Arm Installation Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**  
**Doors 28" - 32" (0.70-0.80m) Wide**

**Norton**

ASSA ABLOY

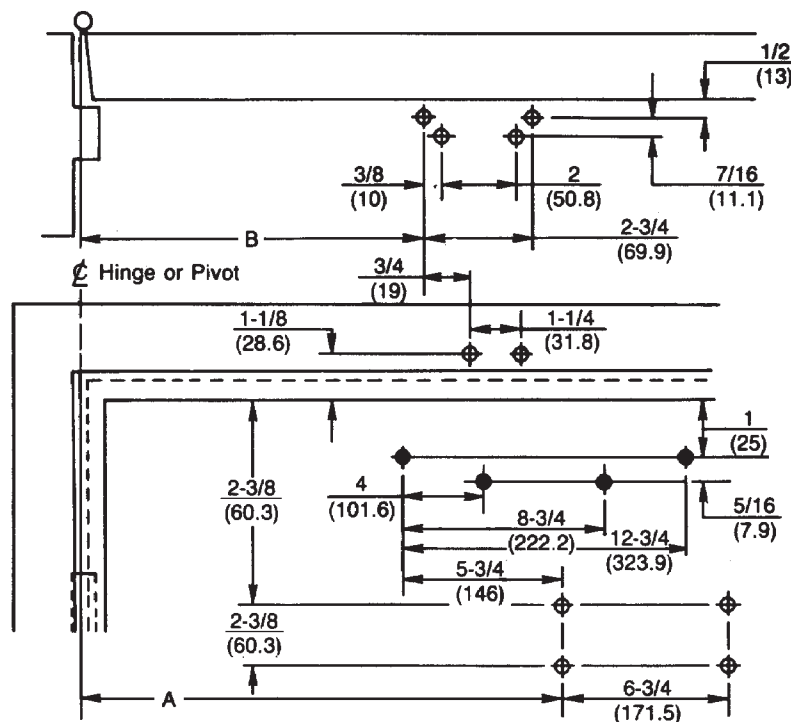
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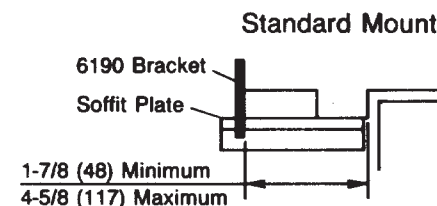
**7377-1351**

DATE

**07-08**



◆ 7788 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" dia.) 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°	12¾	324	12⅞	327	13¾	349	13⅞	352
90°	95°	12	305	12⅞	308	12⅞	327	13	330
95°	100°	11½	292	11⅝	295	12¼	311	12⅝	314
100°	105°	10⅞	276	11	279	11⅝	295	11¾	298
105°	110°	10½	267	10⅝	270	11⅞	283	11¼	286
110°	115°	10	254	10⅞	257	10¾	273	10⅞	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 UNI-7500 & UNI-7700**  
**Parallel Arm Installation Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate or 6190 Bracket**  
**Doors 33" - 41" (0.85-1.00m) Wide**

**Norton**

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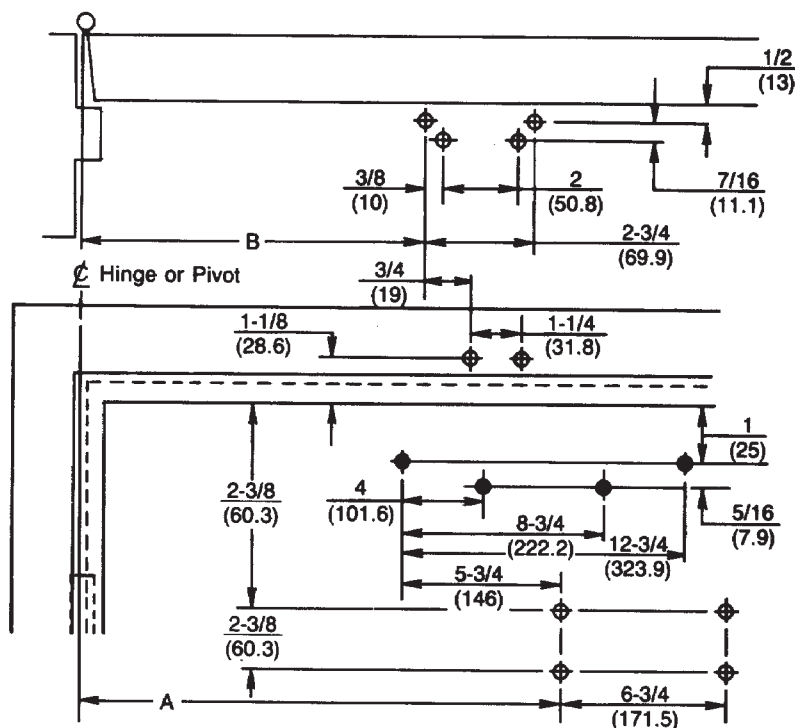
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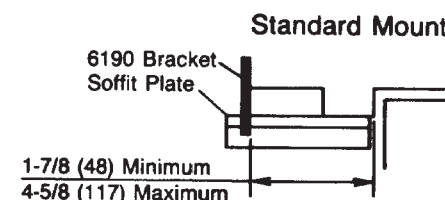
**7377-1352**

DATE

**07-08**



◆ 7788 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"dia.) 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 7/8	378	15 1/8	384	15 7/8	403	16 1/8	410
90°	95°	14	356	14 1/4	362	15	381	15 1/4	387
95°	100°	13 3/8	340	13 5/8	346	14 1/4	362	14 1/2	368
100°	105°	12 3/4	324	13	330	13 5/8	346	13 7/8	352
105°	110°	12 1/4	311	12 1/2	318	13	330	13 1/4	337
110°	115°	11 7/8	302	12 1/8	308	12 1/2	318	12 3/4	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 UNI-7500 & UNI-7700**  
**Parallel Arm Installation Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate or 6190 Bracket**  
**Doors 42" - 48" (1.05-1.20m) Wide**

**Norton**

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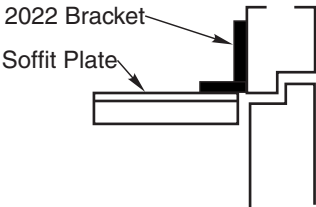
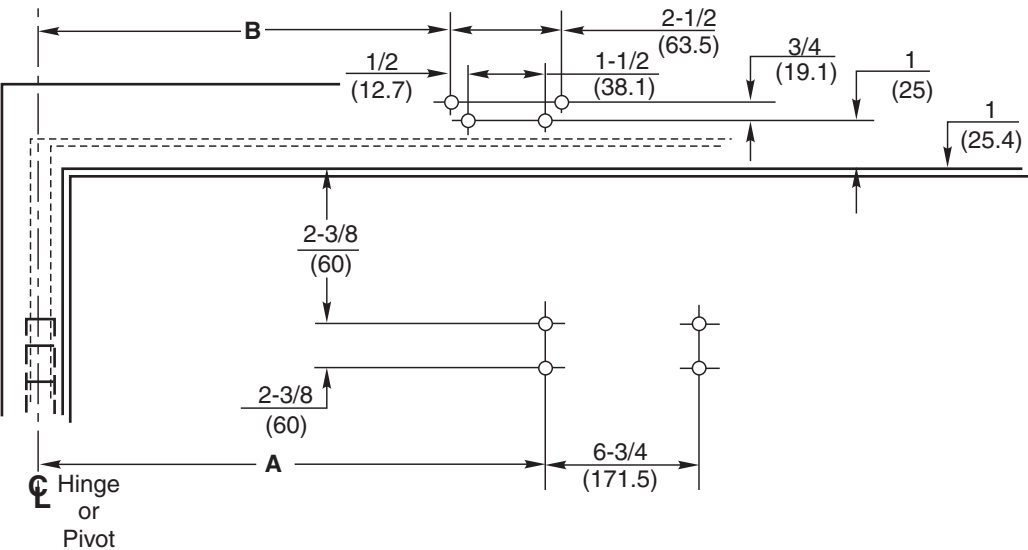
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TEMPLATE NUMBER

**7377-1353**

DATE

**07-08**



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.
- Series UNI-7500H, UNI-7500BF-H, UNI-7700H door closers are furnished with a hold open arm function and are not permitted to be used on fire door assemblies.

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
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°	10-1/4	260	10-5/8	270	11-1/4	286	11-5/8	295
90°	95°	9-5/8	244	10	254	10-1/2	267	10-7/8	276
95°	100°	9-1/8	232	9-1/2	241	10	254	10-3/8	264
100°	105°	8-3/4	222	9-1/8	232	9-1/2	241	9-7/8	251
105°	110°	8-3/8	213	8-3/4	222	9-1/8	232	9-1/2	241
110°	115°	8	203	8-3/8	213	8-3/4	222	9-1/8	232

★ "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 UNI-7500, UNI-7700 or  
Series UNI-7500H, UNI-7700H  
Doors 28"-32" (0.70-0.80m) Wide

Parallel Arm Installation Template —  
Flush Partitions  
Stop Only or Stop and Hold Open  
Unitrol® Door Closer

Norton

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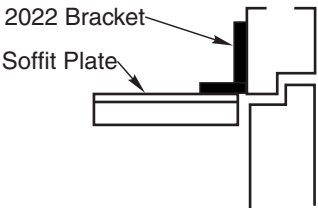
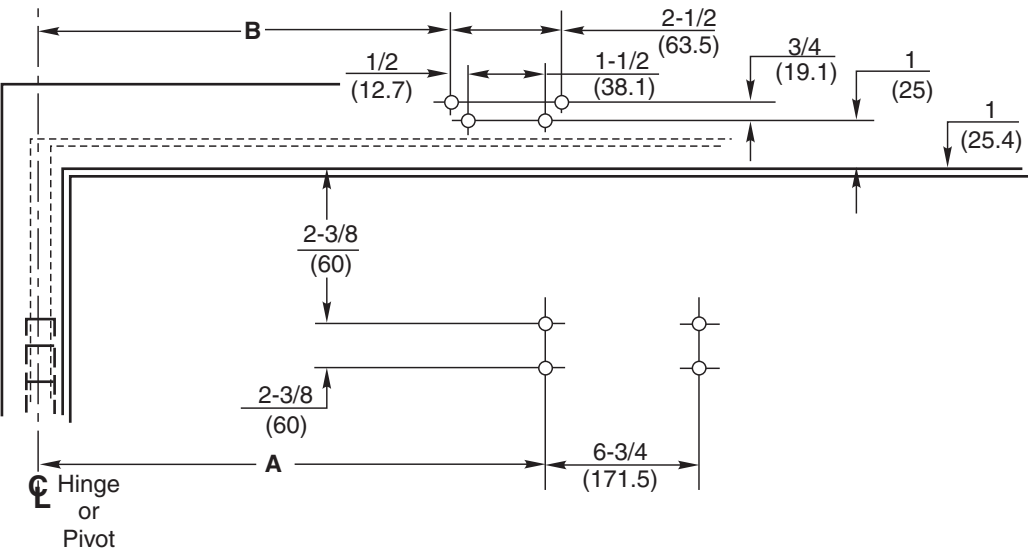
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TEMPLATE NUMBER

7377-1354

DATE

07-08



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.
- Series UNI-7500H, UNI-7500BF-H, UNI-7700H door closers are furnished with a hold open arm function and are not permitted to be used on fire door assemblies.

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
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°	12-3/4	324	13	330	13-3/4	349	14	356
90°	95°	12	305	12-1/4	311	12-7/8	327	13-1/8	333
95°	100°	11-1/2	292	11-3/4	298	12-1/4	311	12-1/2	318
100°	105°	10-7/8	276	11-1/8	283	11-5/8	295	11-7/8	302
105°	110°	10-1/2	267	10-3/4	273	11-1/8	283	11-3/8	289
110°	115°	10	254	10-1/4	260	10-3/4	273	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 UNI-7500, UNI-7700 or  
Series UNI-7500H, UNI-7700H  
Doors 33"-41" (0.85-1.00m) Wide

Parallel Arm Installation Template —  
Flush Partitions  
Stop Only or Stop and Hold Open  
Unitrol® Door Closer



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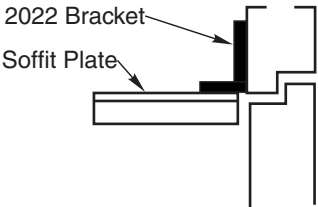
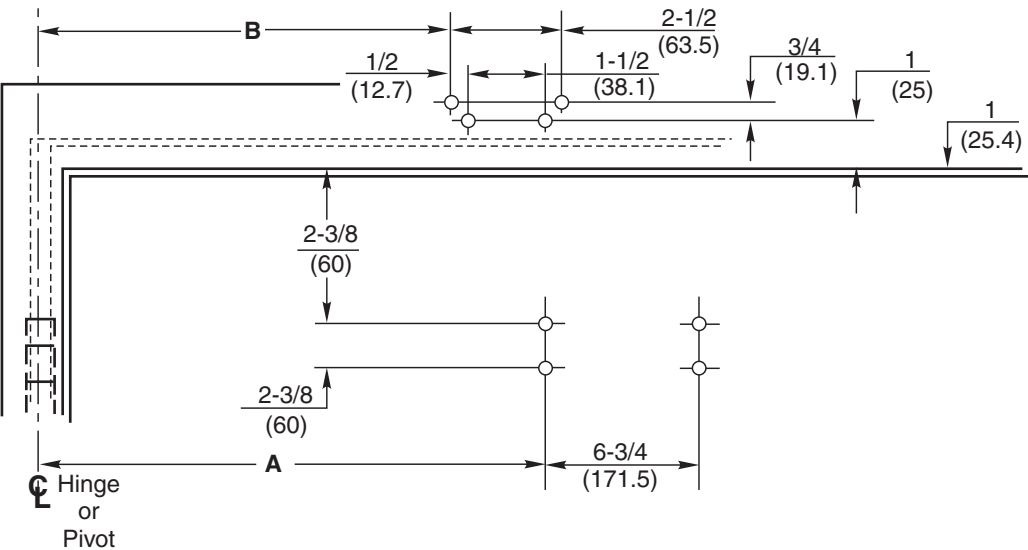
TEMPLATE NUMBER

7377-1355

DATE

07-08





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.
- Series UNI-7500H, UNI-7500BF-H, UNI-7700H door closers are furnished with a hold open arm function and are not permitted to be used on fire door assemblies.

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
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°	14-7/8	378	15-1/4	387	15-7/8	403	16-1/4	413
90°	95°	14	356	14-3/8	365	15	381	15-3/8	391
95°	100°	13-3/8	340	13-3/4	349	14-1/4	362	14-5/8	371
100°	105°	12-3/4	324	13-1/8	333	13-5/8	346	14	356
105°	110°	12-1/4	311	12-5/8	321	13	330	13-3/8	340
110°	115°	11-7/8	302	12-1/4	311	12-1/2	318	12-7/8	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 UNI-7500, UNI-7700 or  
Series UNI-7500H, UNI-7700H  
Doors 42"-48" (1.05-1.20m) Wide

Parallel Arm Installation Template —  
Flush Partitions  
Stop Only or Stop and Hold Open  
Unitrol® Door Closer

Norton

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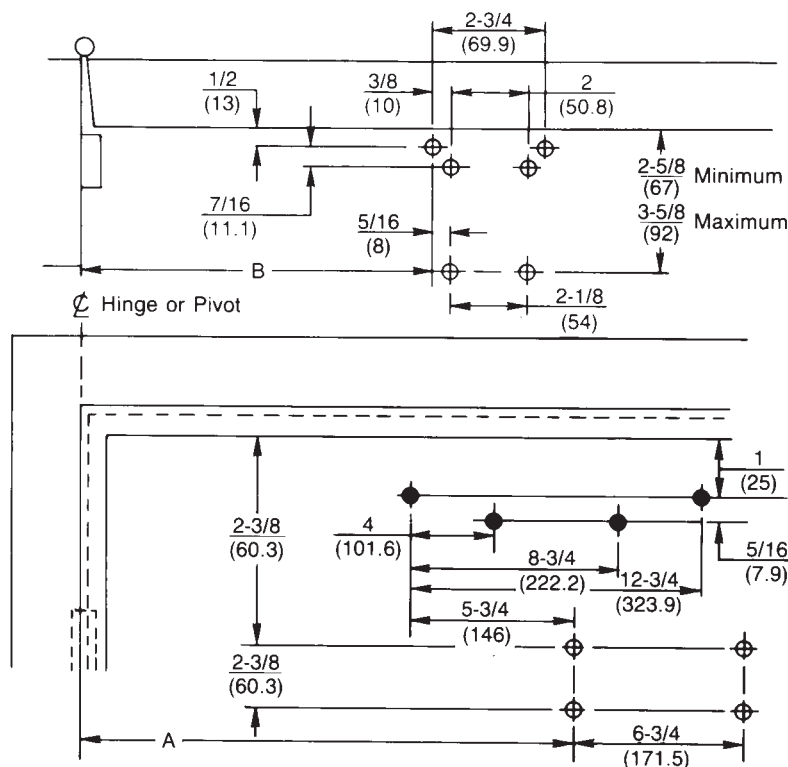
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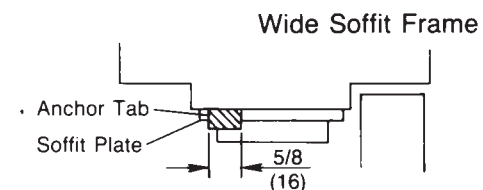
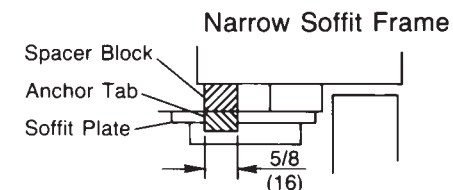
7377-1356

DATE

07-08



◆ 7788 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" dia.) 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°	10 1/4	260	10 1/2	267	11 1/4	286	11 1/2	292
90°	95°	9 5/8	244	9 7/8	251	10 1/2	267	10 3/4	273
95°	100°	9 1/8	232	9 3/8	238	10	254	10 1/4	260
100°	105°	8 3/4	222	9	229	9 1/2	241	9 3/4	248
105°	110°	8 3/8	213	8 5/8	219	9 1/8	232	9 3/8	238
110°	115°	8	203	8 1/4	210	8 3/4	222	9	229

\* "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 6191 Reinforcing Kit**  
**Series UNI-7500 & UNI-7700**  
**Doors 28"-32" (0.70-0.80m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**

**Norton**

ASSA ABLOY

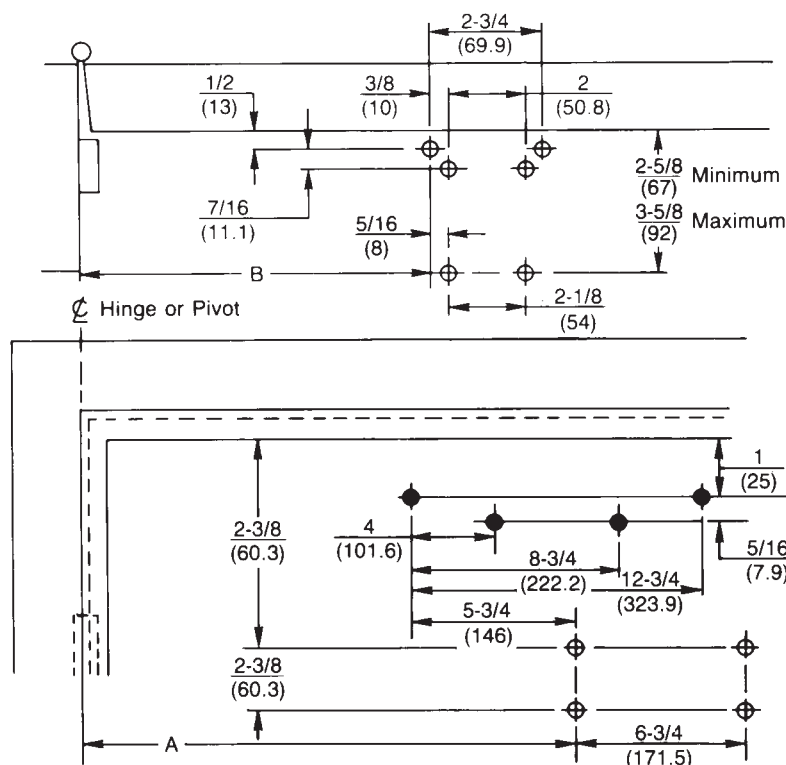
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TEMPLATE NUMBER

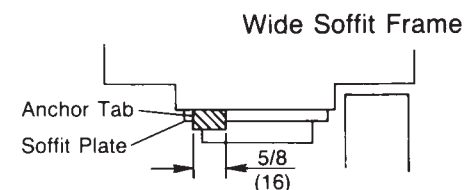
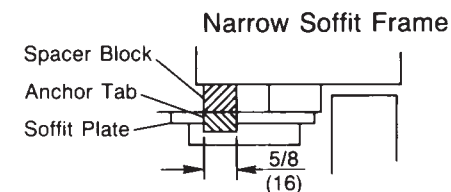
**7377-1357**

DATE

**07-08**



◆ 7788 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" dia.) 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°	12 3/4	324	12 7/8	327	13 3/4	349	13 7/8	352
90°	95°	12	305	12 1/8	308	12 7/8	327	13	330
95°	100°	11 1/2	292	11 5/8	295	12 1/4	311	12 3/8	314
100°	105°	10 7/8	276	11	279	11 5/8	295	11 3/4	298
105°	110°	10 1/2	267	10 5/8	270	11 1/8	283	11 1/4	286
110°	115°	10	254	10 1/8	257	10 3/4	273	10 7/8	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® with 6191 Reinforcing Kit**  
**Series UNI-7500 & UNI-7700**  
**Doors 33"-41" (0.85-1.00m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**

**Norton**

ASSA ABLOY

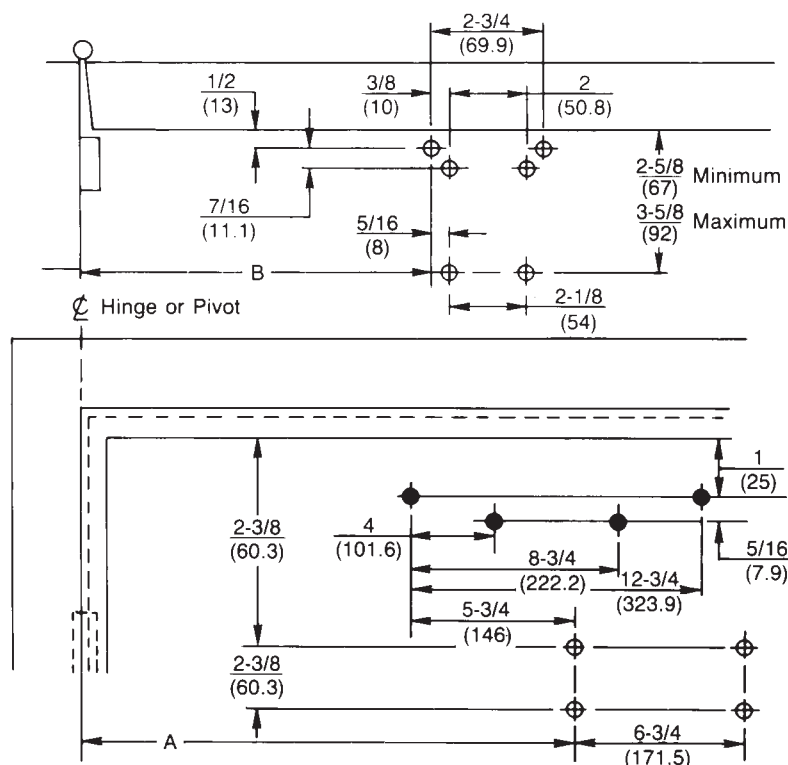
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TEMPLATE NUMBER

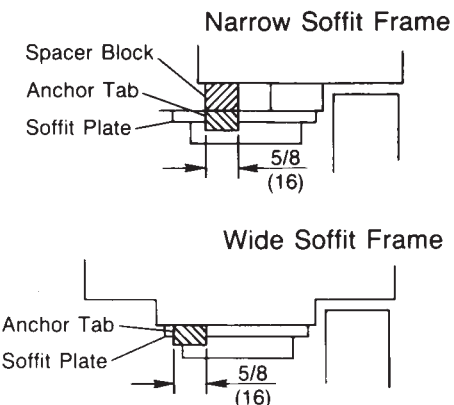
**7377-1358**

DATE

**07-08**



◆ 7788 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" dia.) 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 7/8	378	15 1/8	384	15 7/8	403	16 1/8	410
90°	95°	14	356	14 1/4	362	15	381	15 1/4	387
95°	100°	13 3/8	340	13 5/8	346	14 1/4	362	14 1/2	368
100°	105°	12 3/4	324	13	330	13 5/8	346	13 7/8	352
105°	110°	12 1/4	311	12 1/2	318	13	330	13 1/4	337
110°	115°	11 7/8	302	12 1/8	308	12 1/2	318	12 3/4	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® with 6191 Reinforcing Kit**  
**Series UNI-7500 & UNI-7700**  
**Doors 42"-48" (1.05-1.20m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 7788 Drop Plate**

**Norton**

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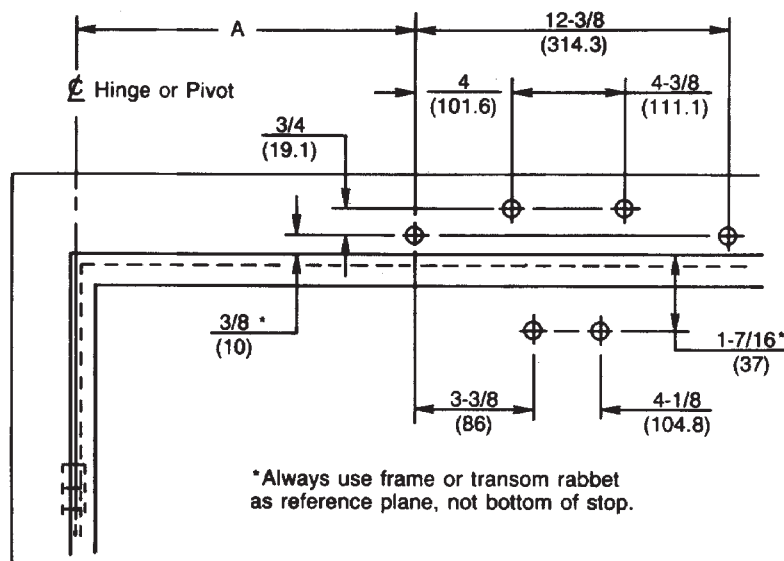
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TEMPLATE NUMBER

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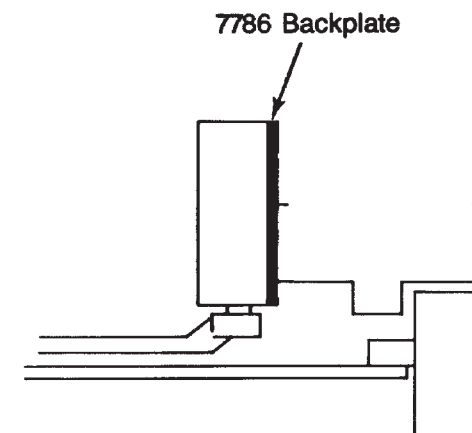
DATE

**07-08**



#### 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

Figure 6.

Fasteners	Application	Door or Frame	Drill Sizes
Sex-nuts and bolts	Arm-foot	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	7786 closer-backplate	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201"dia.) 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 A	
		Inches	mm.	Inches	mm.
85°	90°	9 3/4	248	10 1/4	260
90°	95°	9 1/8	232	9 5/8	244
95°	100°	8 1/2	216	9 1/8	232
100°	105°	8	203	8 5/8	219
105°	110°	7 3/4	197	8 1/8	206
110°	115°	7 3/8	187	7 7/8	200

**Unitrol® Standard Application  
Series UNI-J7500 & UNI-J7700  
(7786 Backplate)**

**Top Jamb Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer**

**Norton**

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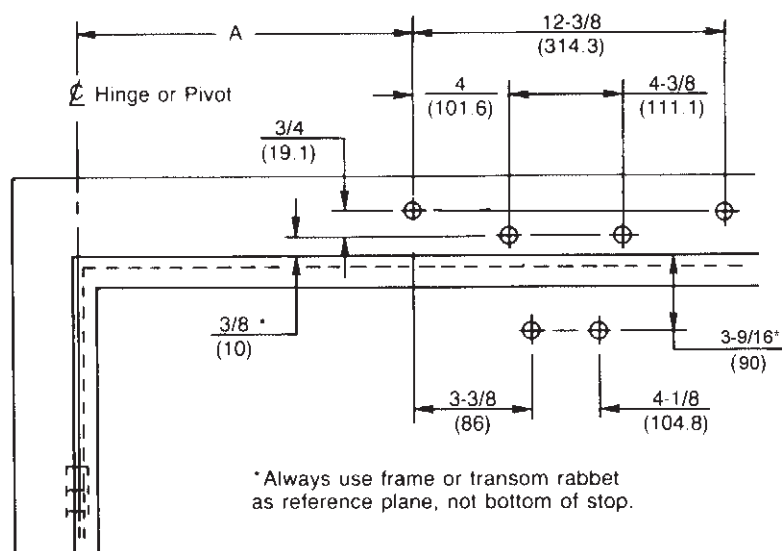
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TEMPLATE NUMBER

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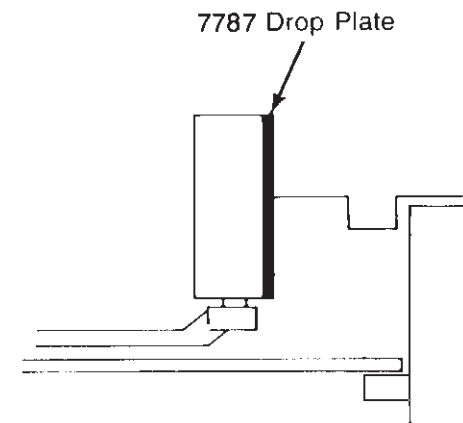
DATE

**07-08**



#### 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	Arm-foot	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	Drop plate	Wood	3/16" (4.30mm.)
1/4-20 machine screw		Metal	drill: #7 (.201" dia.) 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

Figure 6.

Door Opening Angle		Dimensions			
Hold Open	Dead Stop	Butts and Offset Pivots		Center Pivots	
		Dimension A		Dimension A	
		Inches	mm.	Inches	mm.
85°	90°	9 3/4	248	10 1/4	260
90°	95°	9 1/8	232	9 5/8	244
95°	100°	8 1/2	216	9 1/8	232
100°	105°	8	203	8 5/8	219
105°	110°	7 3/4	197	8 1/8	206
110°	115°	7 3/8	187	7 7/8	200

**Unitrol® with 7787 Drop Plate  
Series UNI-J7500 and UNI-J7700**

**Top Jamb Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer**

**Norton**

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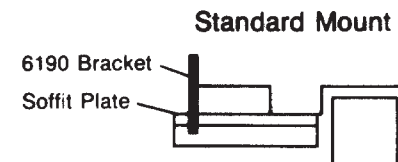
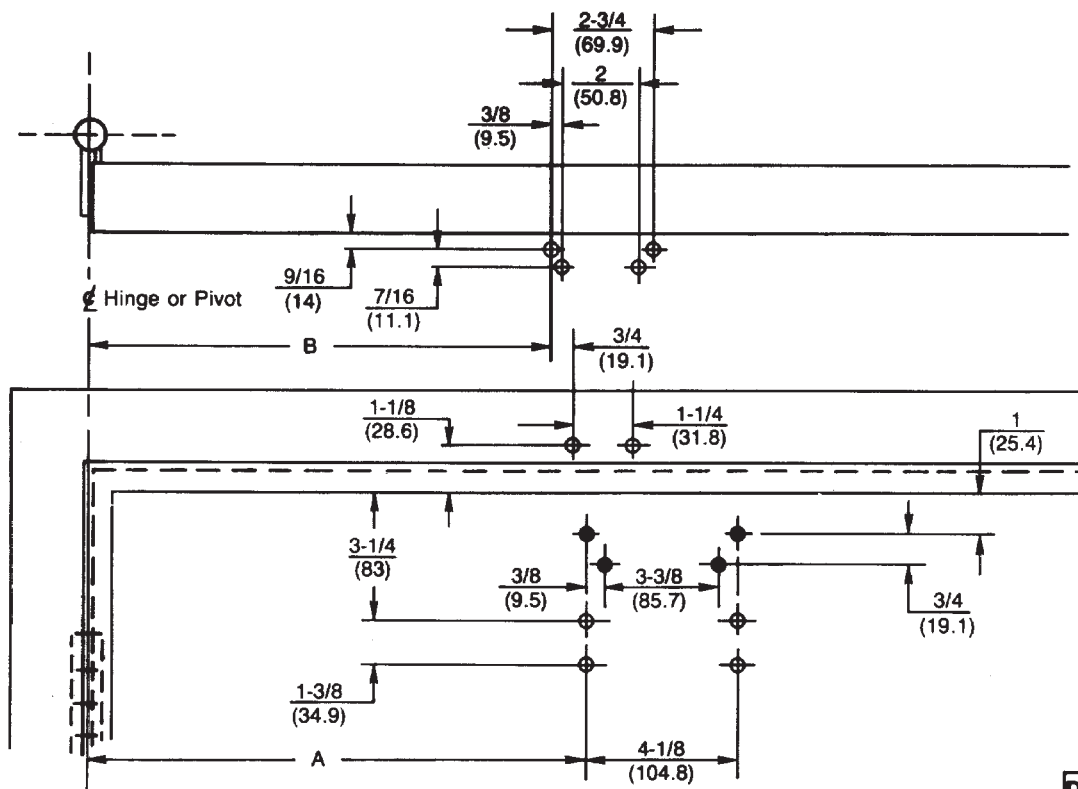
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TEMPLATE NUMBER

**7377-1411**

DATE

**07-08**



◆ 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**

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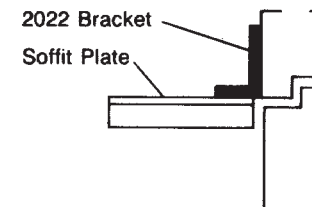
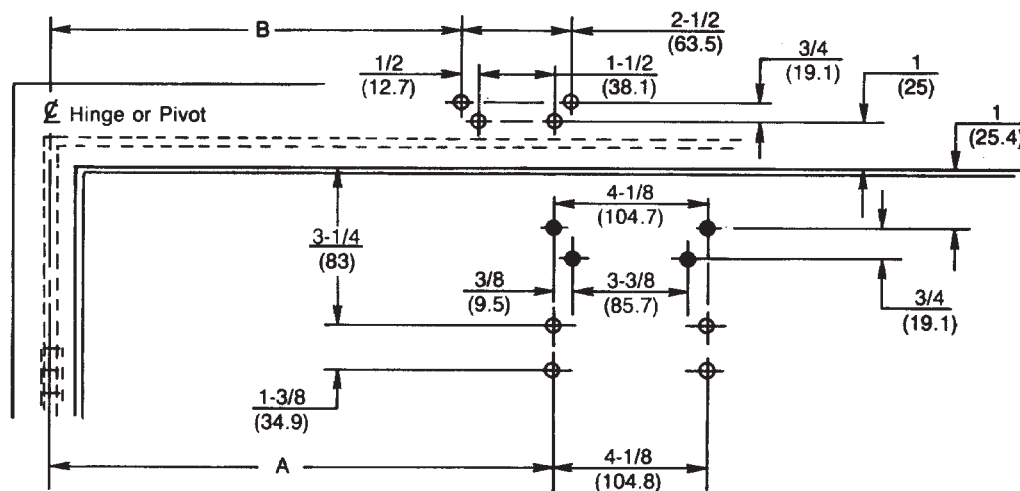
TEMPLATE NUMBER

**7349-1351**

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. 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 <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
90°	95°	11	279	9 <sup>7</sup> / <sub>8</sub>	251	11 <sup>3</sup> / <sub>4</sub>	298	10 <sup>5</sup> / <sub>8</sub>	270
95°	100°	10 <sup>1</sup> / <sub>2</sub>	266	9 <sup>1</sup> / <sub>2</sub>	241	11 <sup>1</sup> / <sub>4</sub>	286	10 <sup>1</sup> / <sub>8</sub>	257
100°	105°	10	254	8 <sup>7</sup> / <sub>8</sub>	225	10 <sup>3</sup> / <sub>4</sub>	273	9 <sup>5</sup> / <sub>8</sub>	244
105°	110°	9 <sup>1</sup> / <sub>2</sub>	241	8 <sup>3</sup> / <sub>8</sub>	213	10 <sup>1</sup> / <sub>4</sub>	260	9 <sup>1</sup> / <sub>8</sub>	232
110°	115°	9 <sup>1</sup> / <sub>8</sub>	231	8	203	9 <sup>7</sup> / <sub>8</sub>	251	8 <sup>3</sup> / <sub>4</sub>	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

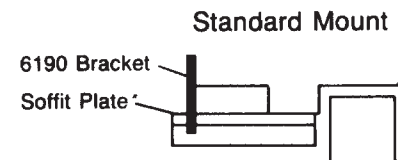
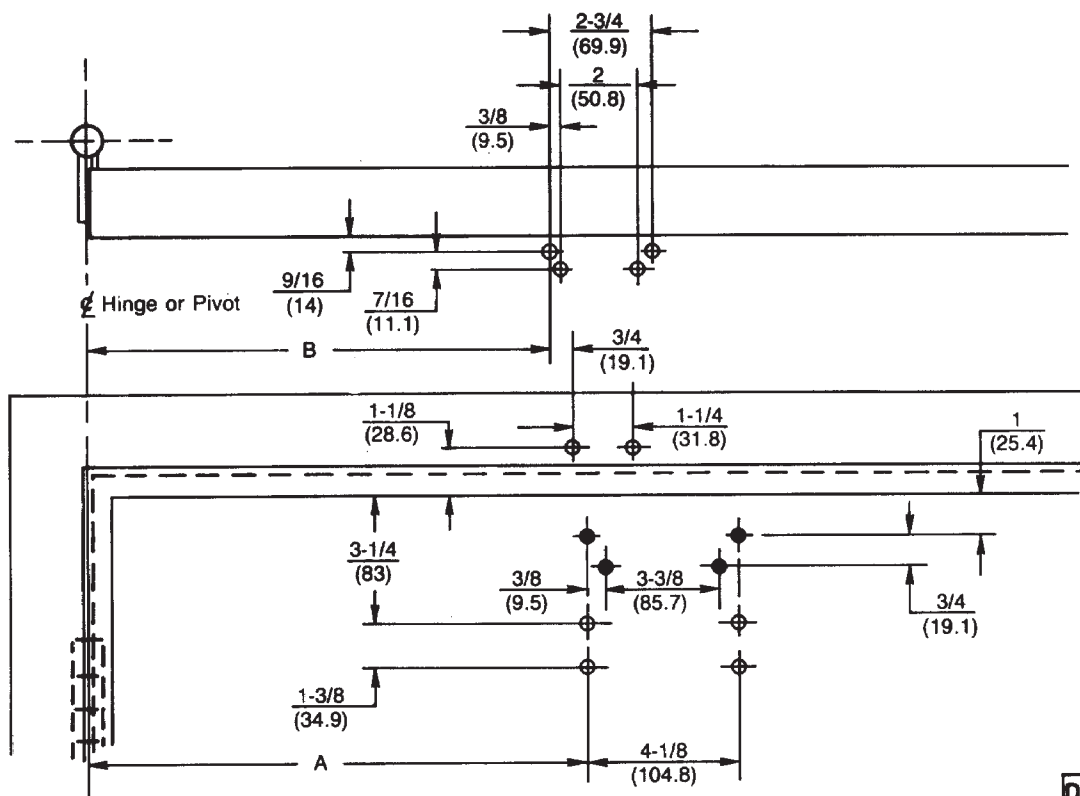
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TEMPLATE NUMBER

**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**

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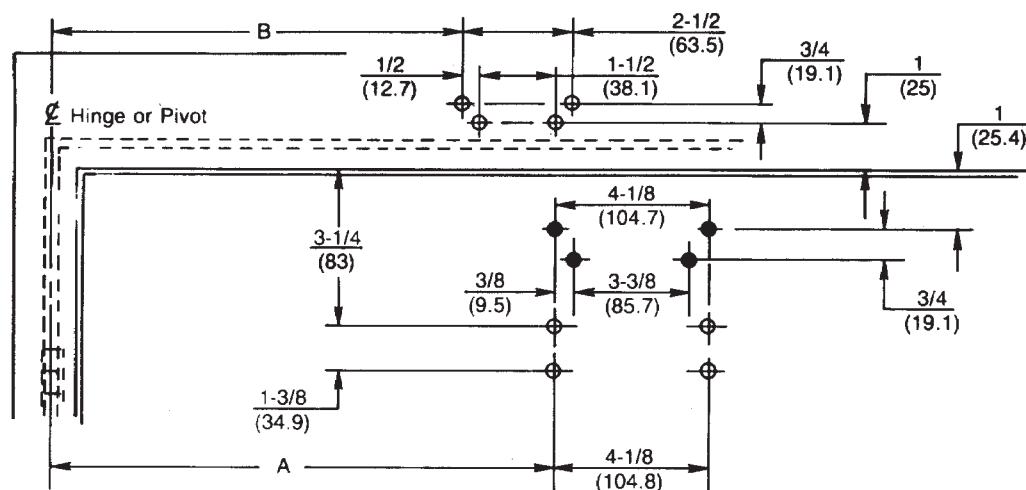
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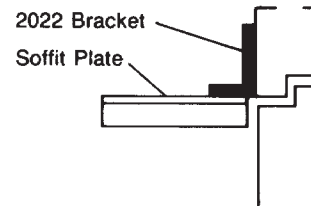
**7349-1353**

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. 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°	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

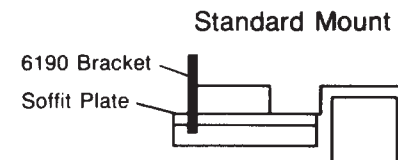
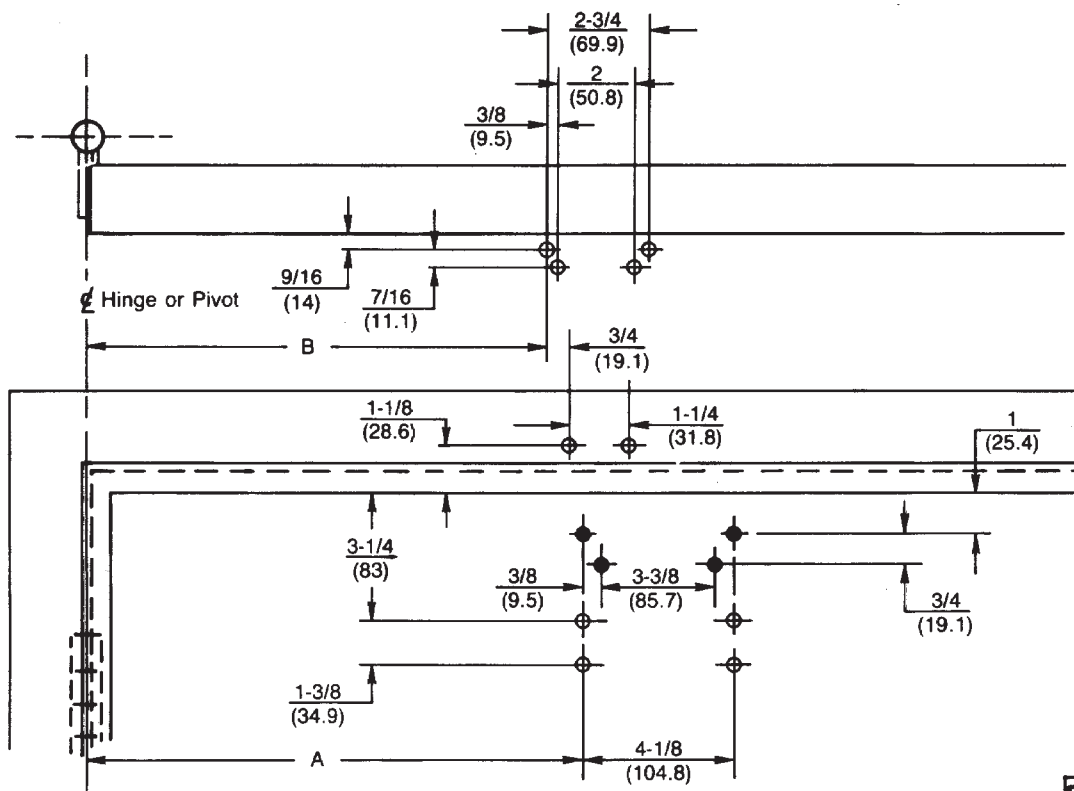
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TEMPLATE NUMBER

**7349-1354**

DATE

**02-09**



◆ 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

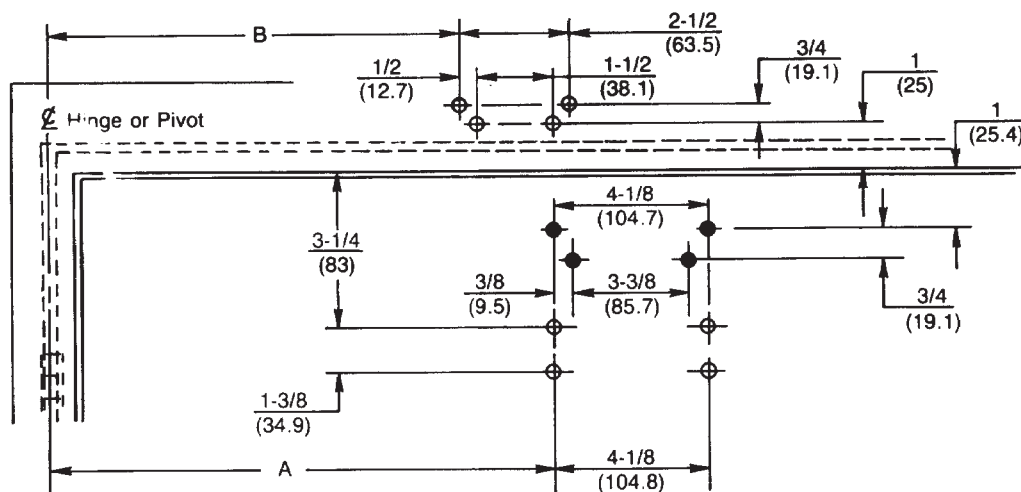
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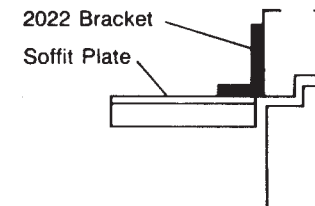
**7349-1355**

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. 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 3/8	416	15 3/8	391	17 1/8	435	16 1/8	410
90°	95°	15 1/2	394	14 1/2	368	16 1/4	413	15 1/4	387
95°	100°	14 3/4	375	13 3/4	349	15 1/2	394	14 1/2	368
100°	105°	14 1/8	359	13 1/8	333	14 7/8	378	13 7/8	352
105°	110°	13 5/8	346	12 5/8	321	14 3/8	365	13 3/8	340
110°	115°	13 1/8	333	12 1/8	308	13 7/8	352	12 7/8	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**

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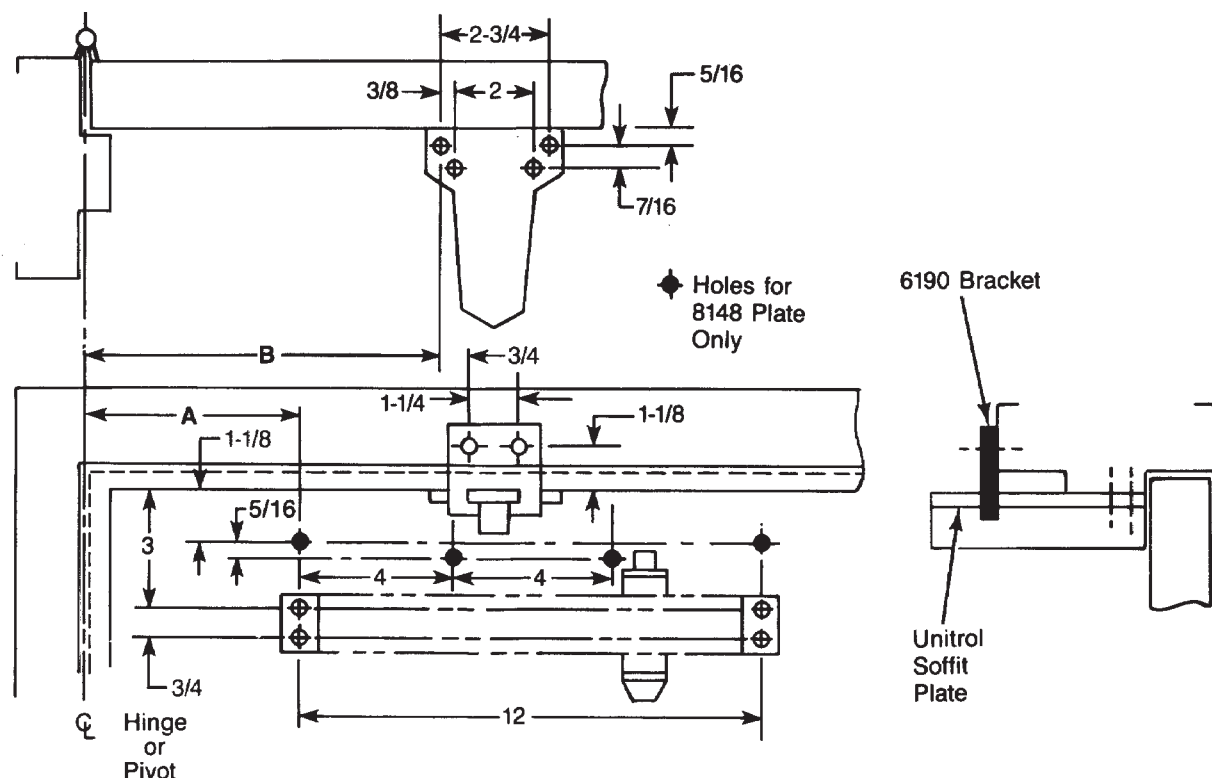
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**7349-1356**

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**02-09**



Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	5-1/8	10-3/8	5-3/4	11
90°	95°	4-1/2	9-3/4	5-1/8	10-3/8
95°	100°	4	9-1/4	4-5/8	9-7/8
100°	105°	3-5/8	8-7/8	4-1/4	9-1/2
105°	110°	3-1/4	8-1/2	3-7/8	9-1/8
110°	115°	2-7/8	8-1/8	3-5/8	8-7/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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

inches	mm.	inches	mm.	inches	mm.
5/16	8	3-1/4	82.5	8-1/2	216
3/8	9.5	3-5/8	92	8-7/8	225.5
7/16	11	3-7/8	98.5	9-1/8	232
3/4	19	4	101.5	9-1/4	235
1-1/8	28.5	4-1/4	108	9-1/2	241.5
1-1/4	31.5	4-1/2	114	9-3/4	247.5
2	51	4-5/8	117.5	9-7/8	251
2-3/4	70	5-1/8	130	10-3/8	263.5
2-7/8	73	5-3/4	146	11	279.5
3	76	8-1/8	206	12	305

**Unitrol® Standard Application**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 28" - 32" (0.70-0.80m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

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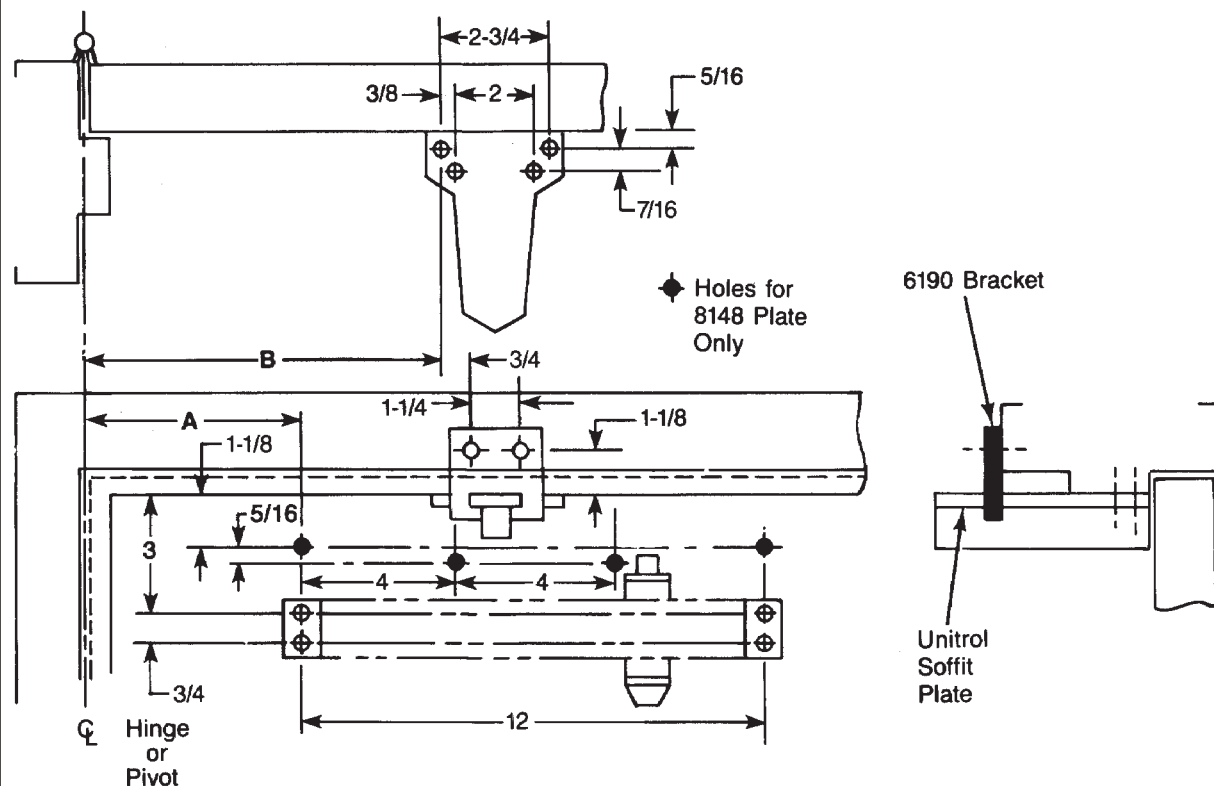
TEMPLATE NUMBER

**7380-1351**

DATE

**09-08**





Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	7-1/2	12-3/4	8	13-1/4
90°	95°	6-3/4	12	7-3/8	12-5/8
95°	100°	6-1/4	11-1/2	6-3/4	12
100°	105°	5-3/4	11	6-1/4	11-1/2
105°	110°	5-1/4	10-1/2	5-7/8	11-1/8
110°	115°	4-7/8	10-1/8	5-1/2	10-3/4

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
5/16	8	5-1/4	133	10-3/4	273
3/8	9.5	5-1/2	139.5	11	279.5
7/16	11	5-3/4	146	11-1/8	282.5
3/4	19	5-7/8	149	11-1/2	292
1-1/8	28.5	6-1/4	158.5	12	305
1-1/4	31.5	6-3/4	171.5	12-5/8	320.5
2	51	7-3/8	187.5	12-3/4	324
2-3/4	70	7-1/2	190.5	13-1/4	336.5
3	76	8	203		
4	101.5	10-1/8	257		
4-7/8	124	10-1/2	266.5		

#### 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

**Unitrol® Standard Application**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 33" - 41" (0.85-1.00m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**  
**With or Without 6190 Bracket**

**Norton**

ASSA ABLOY

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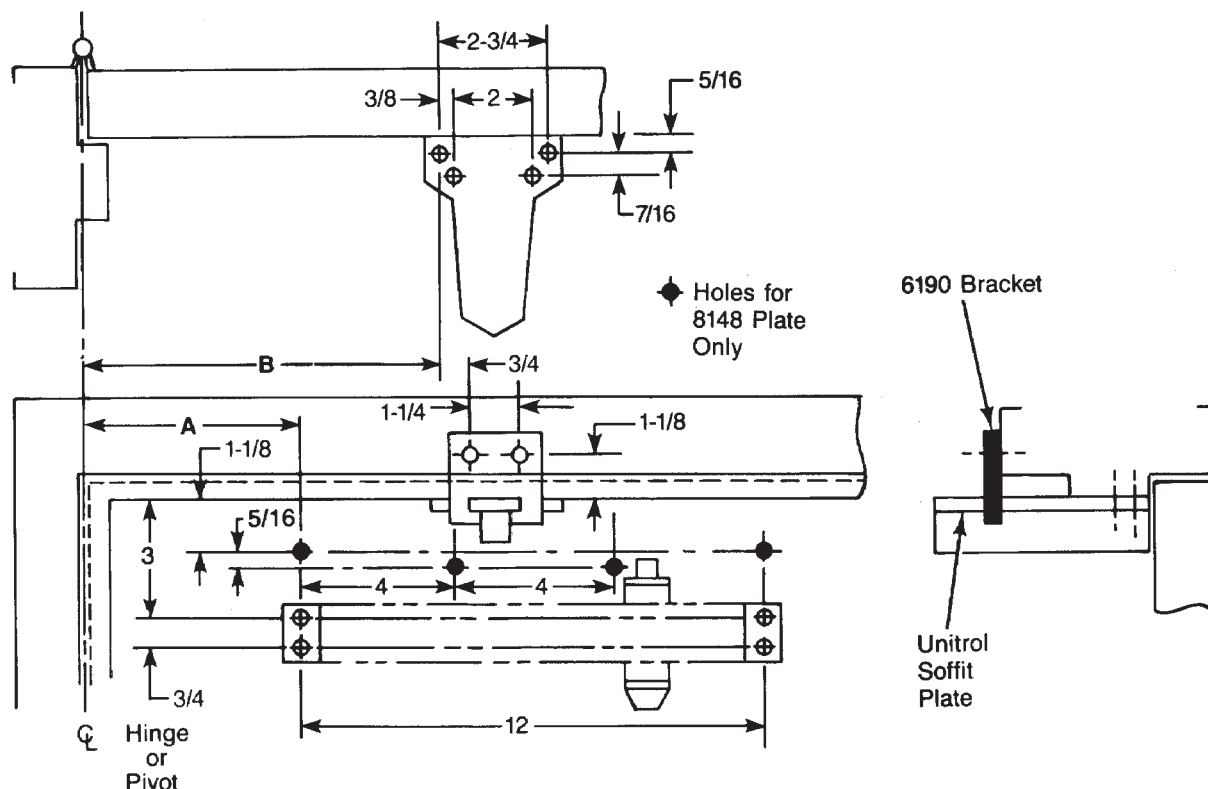
TEMPLATE NUMBER

**7380-1352**

DATE

**09-08**





Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	9-3/4	15-1/8	10-1/8	15-1/2
90°	95°	8-7/8	14-1/4	9-3/8	14-3/4
95°	100°	8-1/4	13-5/8	8-5/8	14
100°	105°	7-5/8	13	8-1/8	13-1/2
105°	110°	7-1/8	12-1/2	7-5/8	13
110°	115°	6-3/4	12-1/8	7-1/8	12-1/2

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.	inches	mm.
5/16	8	7-1/8	181	12-1/2	317.5
3/8	9.5	7-5/8	193.5	13	330
7/16	11	8-1/8	206	13-1/2	343
3/4	19	8-1/4	209.5	13-5/8	346
1-1/8	28.5	8-5/8	219	14	355.5
1-1/4	31.5	8-7/8	225.5	14-1/4	362
2	51	9-3/8	238	14-3/4	374.5
2-3/4	70	9-3/4	247.5	15-1/8	384
3	76	10-1/8	257	15-1/2	393.5
4	101.5	12	305		
6-3/4	171.5	12-1/8	308		

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

**Unitrol® Standard Application**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 42" - 48" (1.05-1.20m) Wide**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**  
**With or Without 6190 Bracket**

**Norton**

ASSA ABLOY

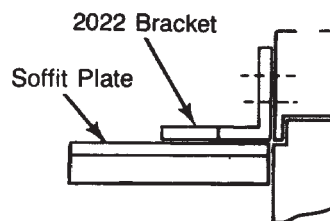
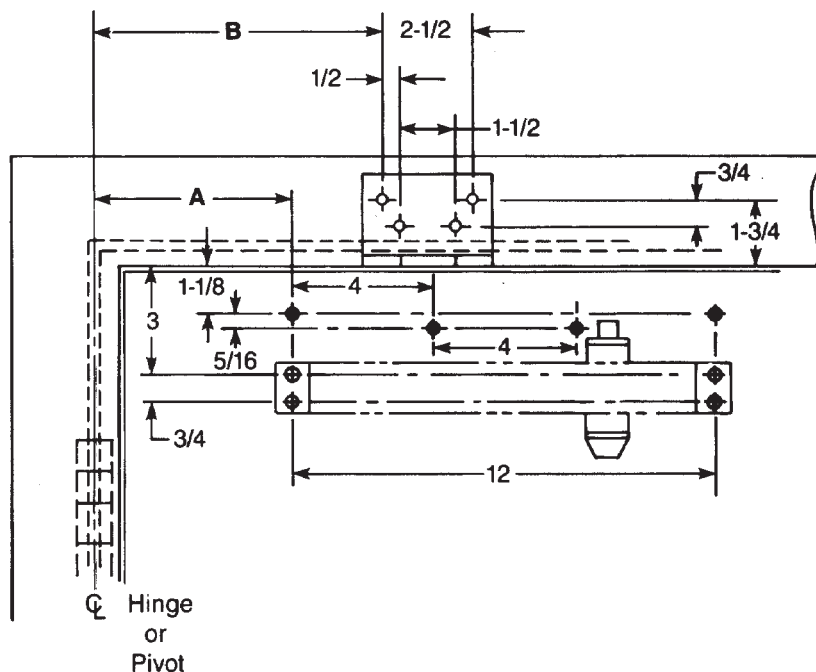
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**7380-1353**

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Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	5-1/8	10-1/2	5-3/4	11-1/8
90°	95°	4-1/2	9-7/8	5-1/8	10-1/2
95°	100°	4	9-3/8	4-5/8	10
100°	105°	3-5/8	9	4-1/4	9-5/8
105°	110°	3-1/4	8-5/8	3-7/8	9-1/4
110°	115°	2-7/8	8-1/4	3-5/8	9

★ Door must be free to swing 5° beyond hold-open position.

**Notes:**

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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
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

inches	mm.	inches	mm.	inches	mm.
5/16	8	3-5/8	92	9	228.5
1/2	12.5	3-7/8	98.5	9-1/4	235
3/4	19	4	101.5	9-3/8	238
1-1/8	28.5	4-1/4	108	9-5/8	244.5
1-1/2	38	4-1/2	114	9-7/8	251
1-3/4	44.5	4-5/8	117.5	10	254
2-1/2	63.5	5-1/8	130	10-1/2	266.5
2-7/8	73	5-3/4	146	11-1/8	282.5
3	76	8-1/4	209.5	12	305
3-1/4	82.5	8-5/8	219		

**Unitrol® With 2022 Bracket  
Series UNI-8300, UNI-8301,  
UNI-8500, UNI-8501  
Doors 28" - 32" (0.70-0.80m) Wide**

**Parallel Arm Installation Template  
Flush Partitions  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer  
With or Without 8148 Drop Plate**

**Norton**

ASSA ABLOY

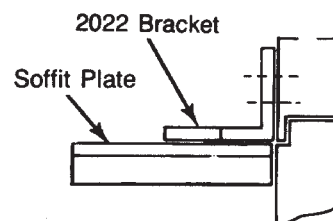
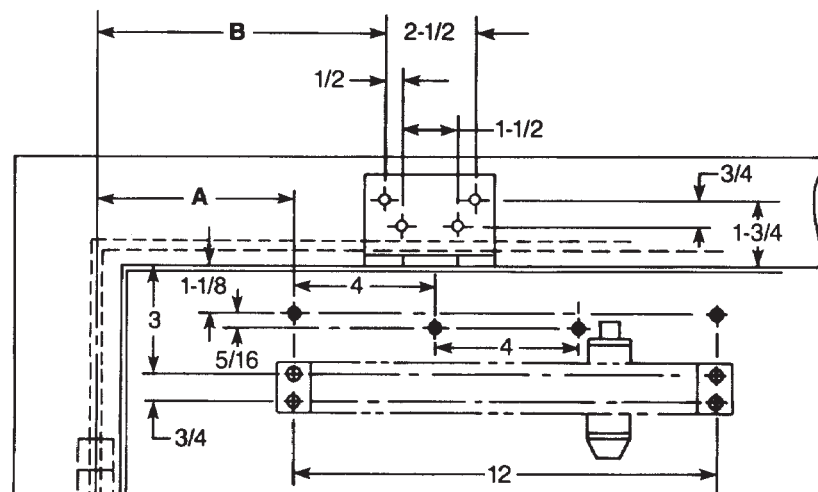
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DATE

**09-08**



◆ Holes for  
8148 Plate  
Only

Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	7-1/2	12-7/8	8	13-3/8
90°	95°	6-3/4	12-1/8	7-3/8	12-3/4
95°	100°	6-1/4	11-5/8	6-3/4	12-1/8
100°	105°	5-3/4	11-1/8	6-1/4	11-5/8
105°	110°	5-1/4	10-5/8	5-7/8	11-1/4
110°	115°	4-7/8	10-1/4	5-1/2	10-7/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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
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

inches	mm.	inches	mm.	inches	mm.
5/16	8	5-1/2	139.5	11-1/8	282.5
1/2	12.5	5-3/4	146	11-1/4	286
3/4	19	5-7/8	149	11-5/8	295.5
1-1/8	28.5	6-1/4	159	12	305
1-1/2	38	6-3/4	171.5	12-1/8	308
1-3/4	44.5	7-3/8	187.5	12-3/4	324
2-1/2	63.5	7-1/2	190.5	12-7/8	327
3	76	8	203	13-3/8	339.5
4	101.5	10-1/4	260.5		
4-7/8	124	10-5/8	270		
5-1/4	133	10-7/8	276		

**Unitrol® With 2022 Bracket**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 33" - 41" (0.85-1.00m) Wide**

**Parallel Arm Installation Template**  
**Flush Partitions**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

ASSA ABLOY

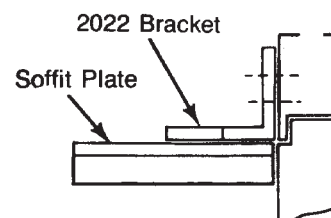
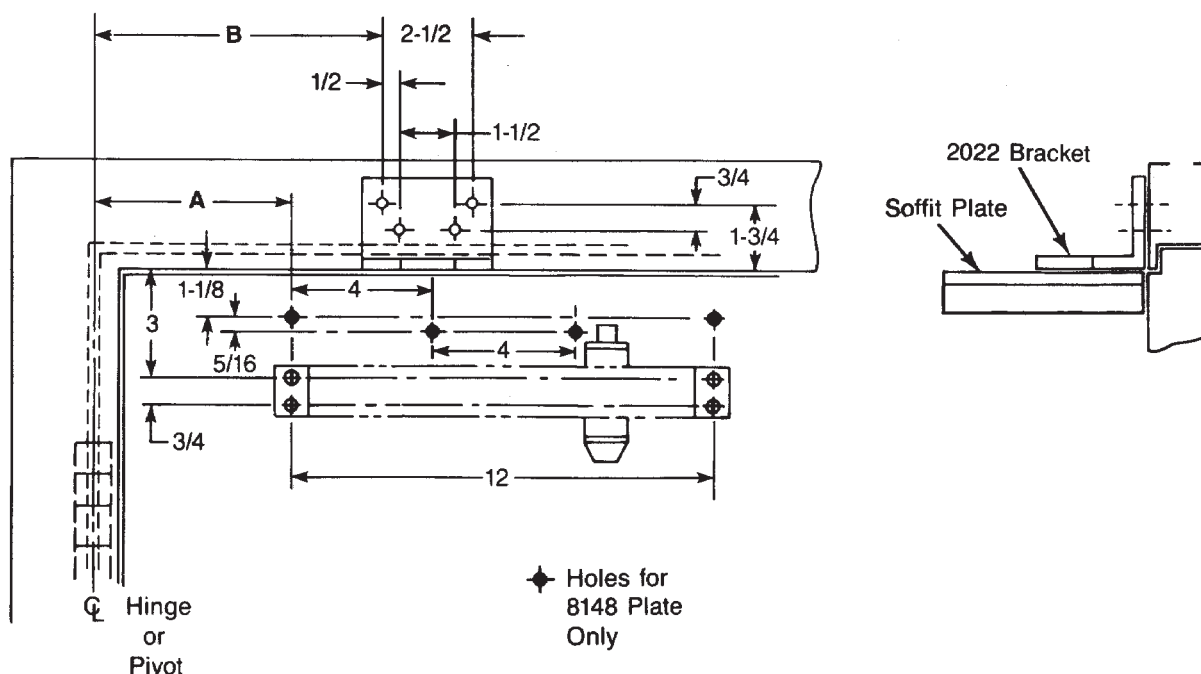
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**09-08**



Door Opening Angle		Dimensions			
Hold Open ★	Dead Stop	Butts and Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	9-3/4	15-1/4	10-1/8	15-5/8
90°	95°	8-7/8	14-3/8	9-3/8	14-7/8
95°	100°	8-1/4	13-3/4	8-5/8	14-1/8
100°	105°	7-5/8	13-1/8	8-1/8	13-5/8
105°	110°	7-1/8	12-5/8	7-5/8	13-1/8
110°	115°	6-3/4	12-1/4	7-1/8	12-5/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

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
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

inches	mm.	inches	mm.	inches	mm.
5/16	8	7-5/8	193.5	13-1/8	333.5
1/2	12.5	8-1/8	206.5	13-5/8	346
3/4	19	8-1/4	209.5	13-3/4	349.5
1-1/8	28.5	8-5/8	219	14-1/8	359
1-1/2	38	8-7/8	225.5	14-3/8	365
1-3/4	44.5	9-3/8	238	14-7/8	378
2-1/2	63.5	9-3/4	247.5	15-1/4	387.5
3	76	10-1/8	257	15-5/8	397
4	101.5	12	305		
6-3/4	171.5	12-1/4	311		
7-1/8	181	12-5/8	320.5		

**Unitrol® With 2022 Bracket**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 42" - 48" (1.05-1.20m) Wide**

**Parallel Arm Installation Template**  
**Flush Partitions**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

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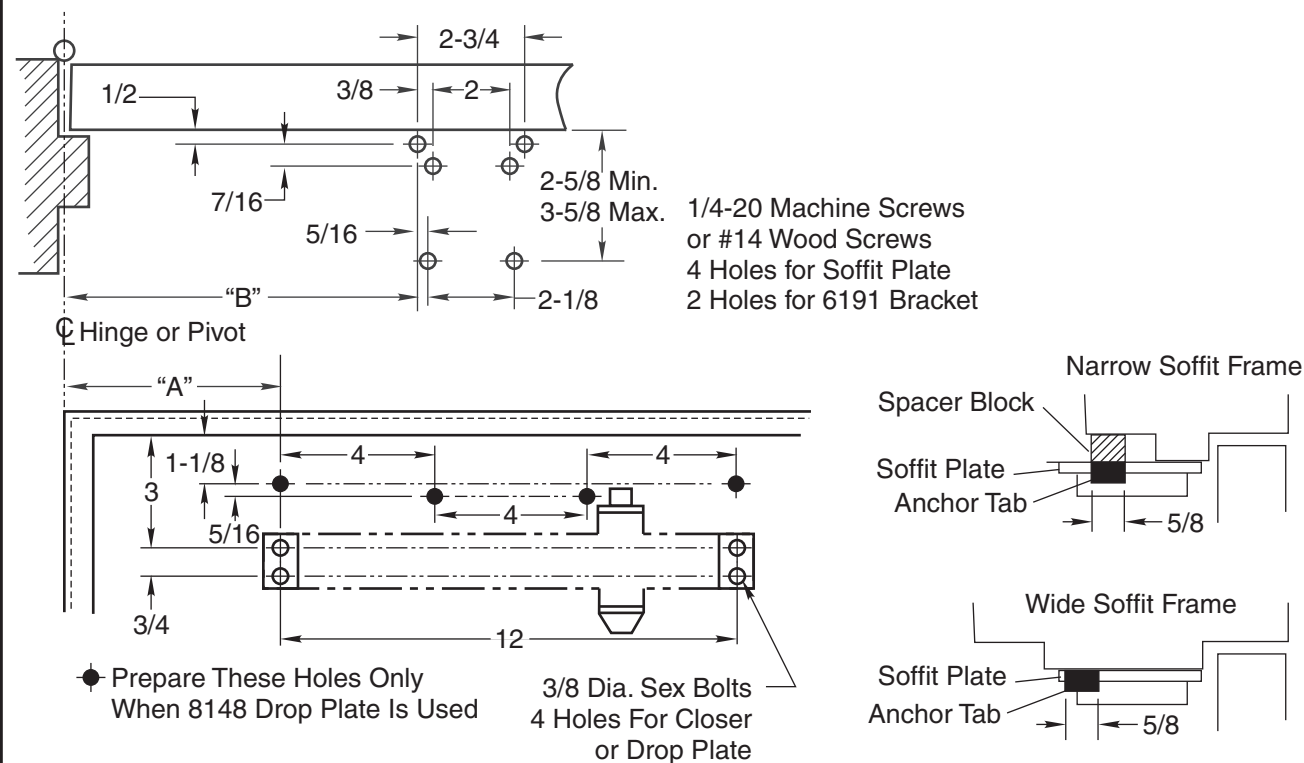
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TEMPLATE NUMBER

**7380-1356**

DATE

**09-08**



Door Opening Angle		Dimensions			
Hold Open*	Dead Stop	Butts & Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	5-1/8	10-3/8	5-3/4	11
90°	95°	4-1/2	9-3/4	5-1/8	10-3/8
95°	100°	4	9-1/4	4-5/8	9-7/8
100°	105°	3-5/8	8-7/8	4-1/4	9-1/2
105°	110°	3-1/4	8-1/2	3-7/8	9-1/8
110°	115°	2-7/8	8-1/8	3-5/8	8-7/8

★Door must be free to swing 5° beyond hold-open position.

Notes:  
Do not scale drawing.  
Left hand door shown.  
Dimensions are in inches.  
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.  
Sex-bolts required for wood or plastic faced fire-door mounting.  
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).  
Follow Conversion Chart for metric dimensions.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill-Sizes
Sex nuts and bolts	Closer Drop Plate	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door face opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
#14 x 1-1/4" (32mm) type "A" S.M. screw	Soffit plate 6190 Bracket	Wood	3/16" (4.30 mm.)
1/4" - 20 machine screw		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Through-bolts and grommet-nuts	Optional	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door face opposite to closer

inches	mm	inches	mm	inches	mm	inches	mm
5/16	8	2-3/4	70	5-1/8	130	10-3/8	263.5
3/8	9.5	2-7/8	73	5-3/4	146	11	279.5
7/16	11	3	76	8-1/8	206	12	305
1/2	12.7	3-1/4	82.5	8-1/2	216		
5/8	16	3-5/8	92	8-7/8	225.5		
3/4	19	3-7/8	98.5	9-1/8	232		
1-1/8	28.5	4	101.5	9-1/4	235		
2	51	4-1/4	108	9-1/2	241.5		
2-1/8	54	4-1/2	114	9-3/4	247.5		
2-5/8	67	4-5/8	117	9-7/8	251		

Unitrol® With 6191 Reinforcing Kit  
Series UNI-8300, UNI-8301,  
UNI-8500, UNI-8501  
Doors 28" - 32" (0.70 - 0.80m)

Parallel Arm Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer  
With or Without 8148 Drop Plate

Norton

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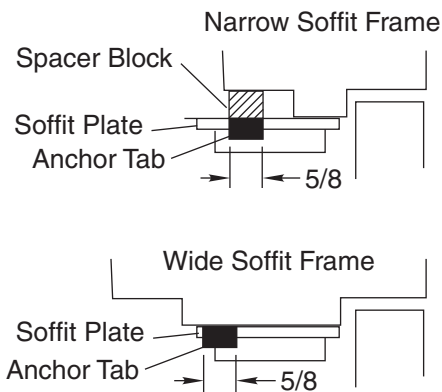
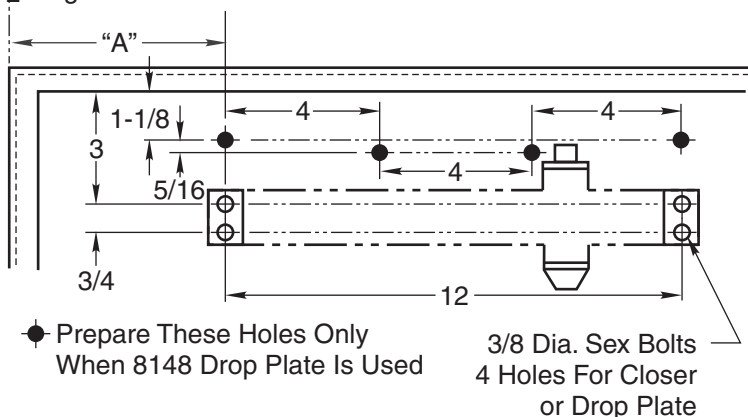
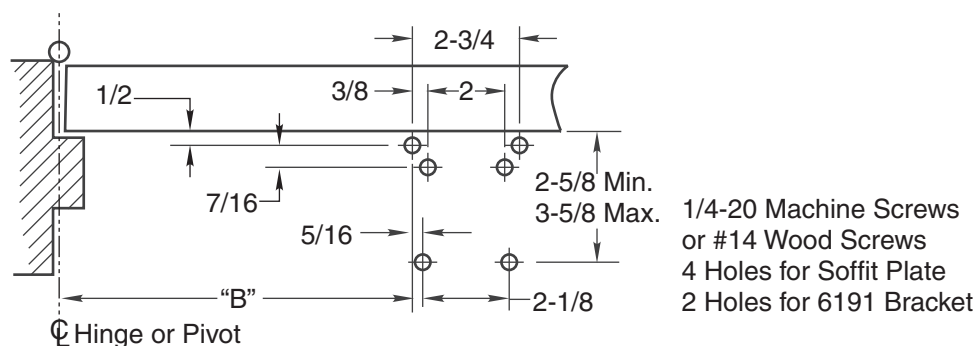
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TEMPLATE NUMBER

7380-1357

DATE

09-08



Door Opening Angle		Dimensions			
Hold Open*	Dead Stop	Butts & Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	7-1/2	12-3/4	8-1/8	13-3/8
90°	95°	6-3/4	12	7-3/8	12-5/8
95°	100°	6-1/4	11-1/2	6-7/8	12-1/8
100°	105°	5-3/4	11	6-3/8	11-5/8
105°	110°	5-1/4	10-1/2	5-7/8	11-1/8
110°	115°	4-7/8	10-1/8	5-1/2	10-3/4

★Door must be free to swing 5° beyond hold-open position.

Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified. Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

## Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill-Sizes
Sex nuts and bolts	Closer Drop Plate	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door face opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
#14 x 1-1/4" (32mm) type "A" S.M. screw	Soffit plate 6190 Bracket	Wood	3/16" (4.30 mm.)
1/4" - 20 machine screw		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Through-bolts and grommet-nuts	Optional	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door face opposite to closer

inches	mm	inches	mm	inches	mm	inches	mm
5/16	8	2-3/4	70	6-3/4	171	11-1/2	292
3/8	9.5	3-5/8	92	6-7/8	175	11-5/8	295
7/16	11	4	101.5	7-3/8	187	12	305
1/2	12.7	4-7/8	124	7-1/2	191	12-1/8	308
5/8	16	5-1/4	133	8-1/8	206	12-5/8	321
3/4	19	5-1/2	140	10-1/8	257	12-3/4	324
1-1/8	28.5	5-3/4	146	10-1/2	267	13-3/8	340
2	51	5-7/8	149	10-3/4	273		
2-1/8	54	6-1/4	159	11	279		
2-5/8	67	6-3/8	162	11-1/8	283		

**Unitrol® With 6191 Reinforcing Kit**  
**Series UNI-8300, UNI-8301,**  
**UNI-8500, UNI-8501**  
**Doors 33" - 41" (0.85 - 1.00m)**

**Parallel Arm Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**  
**With or Without 8148 Drop Plate**

**Norton**

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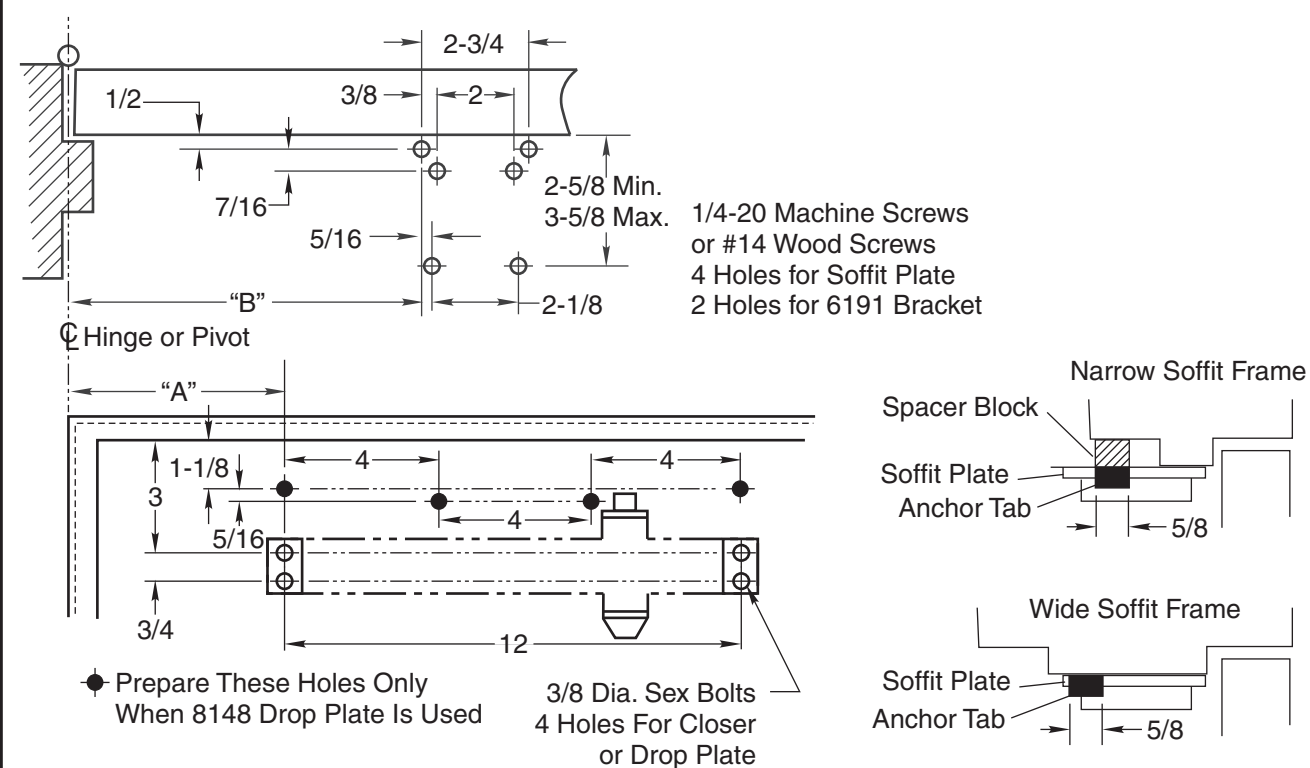
TEMPLATE NUMBER

**7380-1358**

DATE

**09-08**





Door Opening Angle		Dimensions			
Hold Open*	Dead Stop	Butts & Offset Pivots		Center Pivots	
		A	B	A	B
85°	90°	9-3/4	15-1/8	10-1/8	15-1/2
90°	95°	8-7/8	14-1/4	9-3/8	14-3/4
95°	100°	8-1/4	13-5/8	8-5/8	14
100°	105°	7-5/8	13	8-1/8	13-1/2
105°	110°	7-1/8	12-1/2	7-5/8	13
110°	115°	6-3/4	12-1/8	7-1/8	12-1/2

★Door must be free to swing 5° beyond hold-open position.

Notes:  
Do not scale drawing.  
Left hand door shown.  
Dimensions are in inches.  
Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.  
Sex-bolts required for wood or plastic faced fire-door mounting.  
Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).  
Follow Conversion Chart for metric dimensions.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill-Sizes
Sex nuts and bolts	Closer Drop Plate	Hollow-Metal	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) on door face opposite to closer
		Aluminum or Wood	3/8" (9.50 mm.) through
#14 x 1-1/4" (32mm) type "A" S.M. screw	Soffit plate 6190 Bracket	Wood	3/16" (4.30 mm.)
1/4" - 20 machine screw		Metal	drill: #7 (0.201" dia.) tap: 1/4" - 20
Through-bolts and grommet-nuts	Optional	All	9/32" (7.00 mm.) through; 3/8" (9.50 mm.) dia. x 3/8" (9.50 mm.) deep on door face opposite to closer

inches	mm	inches	mm	inches	mm	inches	mm
5/16	8	2-3/4	70	8-7/8	225	14-1/4	362
3/8	9.5	3-5/8	92	9-3/8	238	14-3/4	375
7/16	11	4	101.5	10-1/8	257	15-1/8	384
1/2	12.7	6-3/4	171	12	305	15-1/2	394
5/8	16	7-1/8	181	12-1/8	308		
3/4	19	7-5/8	194	12-1/2	318		
1-1/8	28.5	7-3/4	197	13	330		
2	51	8-1/8	206	13-1/2	343		
2-1/8	54	8-1/4	210	13-5/8	346		
2-5/8	67	8-5/8	219	14	356		

Unitrol® With 6191 Reinforcing Kit  
Series UNI-8300, UNI-8301,  
UNI-8500, UNI-8501  
Doors 42" - 48" (1.05 - 1.20m)

Parallel Arm Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer  
With or Without 8148 Drop Plate

Norton

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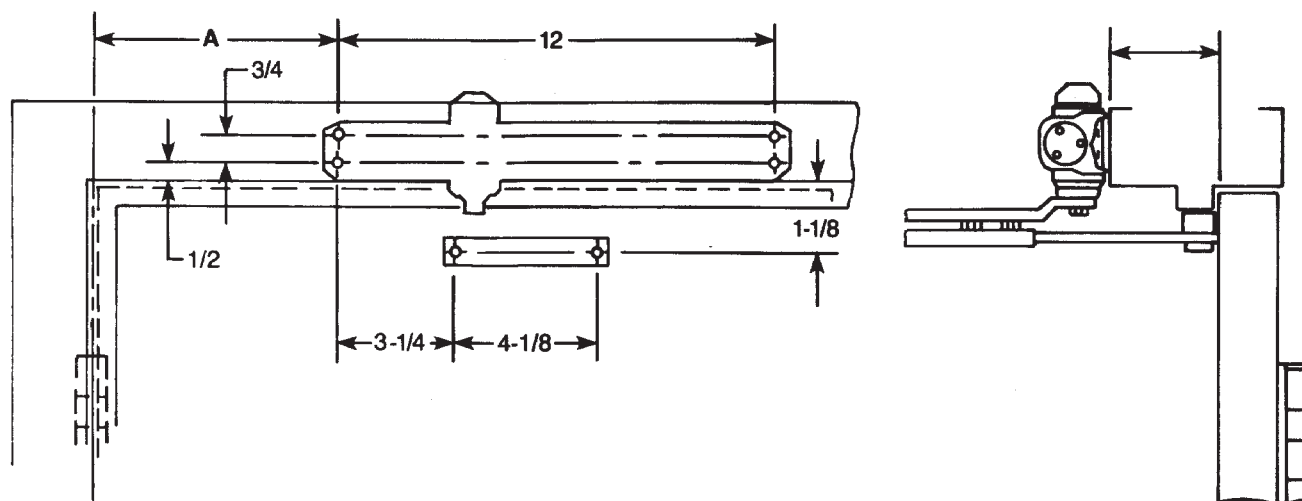
TEMPLATE NUMBER

7380-1359

DATE

09-08





Door Opening Angle		Dimension "A"	
Hold Open ★	Dead Stop	Butts and Offset Pivots	Center Pivots
85°	90°	10	10-3/8
90°	95°	9-3/8	9-3/4
95°	100°	8-3/4	9-1/4
100°	105°	8-1/4	8-3/4
105°	110°	7-7/8	8-1/4
110°	115°	7-1/2	7-7/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

Preparation for Fasteners			
Fasteners	Application	Door or Frame	Drill Sizes
Sex nuts and bolts	Arm-foot	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	Closer	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

inches	mm.	inches	mm.
1/2	12.5	8-3/4	222.5
3/4	19	9-1/4	235
1-1/8	28.5	9-3/8	238
3-1/4	82.5	9-3/4	247.5
4-1/8	104.5	10	254
7-1/2	190.5	10-3/8	263.5
7-7/8	200	12	305
8-1/4	209.5		

**Unitrol® Standard Application**  
**Series UNI-J8300, UNI-J8301,**  
**UNI-J8500, UNI-J8501**

**Top Jamb Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**

**Norton**

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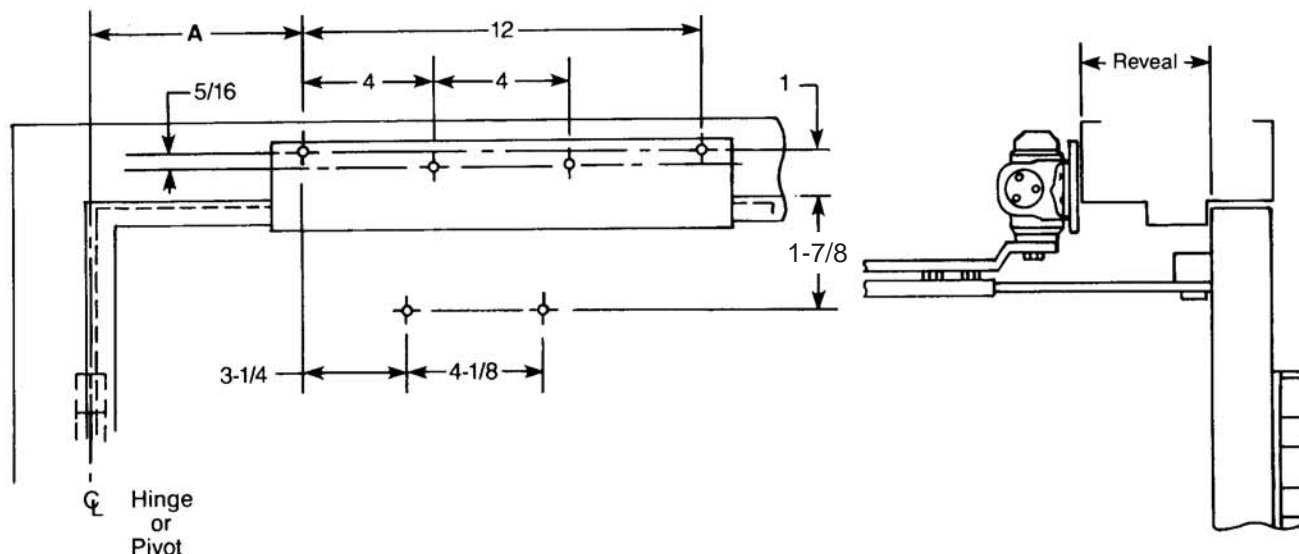
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TEMPLATE NUMBER

**7380-1401**

DATE

**09-08**



Door Opening Angle		Dimension "A"	
Hold Open ★	Dead Stop	Butts and Offset Pivots	Center Pivots
85°	90°	10	10-3/8
90°	95°	9-3/8	9-3/4
95°	100°	8-3/4	9-1/4
100°	105°	8-1/4	8-3/4
105°	110°	7-7/8	8-1/4
110°	115°	7-1/2	7-7/8

† Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.
5/16	8	8-3/4	222.5
1	25.5	9-1/4	235
1-1/2	38	9-3/8	238
3-1/4	82.5	9-3/4	247.5
4	101.5	10	254
4-1/8	104.5	10-3/8	263.5
7-1/2	190.5	12	305
7-7/8	200		
8-1/4	209.5		

#### Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill Sizes
Sex nuts and bolts	Arm-foot	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door face opposite to closer
		Alluminum or Wood	3/8" (9.50mm) through
#14 x 1-1/4" (32mm) type "A" S.M. screws	Closer	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

**Unitrol® With 8146 Drop Plate**  
**Series UNI-J8300, UNI-J8301,**  
**UNI-J8500, UNI-J8501**

**Top Jamb Installation Template**  
**Stop Only or Hold Open Unitrol®**  
**Backcheck or Delayed Action Door Closer**

**Norton**

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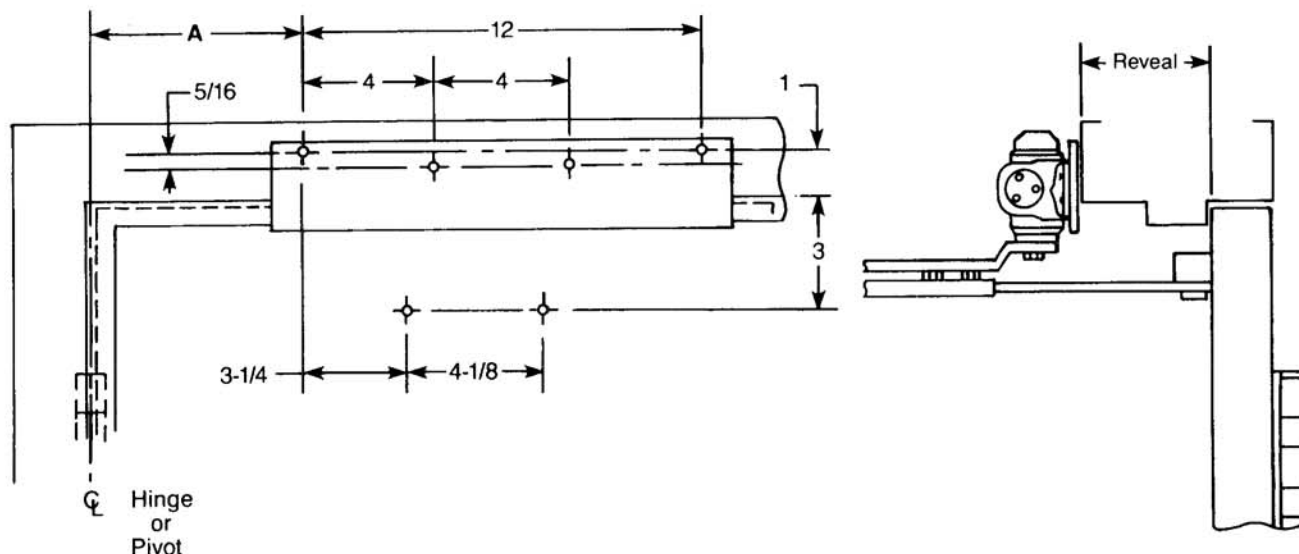
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TEMPLATE NUMBER

**7380-1406**

DATE

**09-10**



Door Opening Angle		Dimension "A"	
Hold Open ★	Dead Stop	Butts and Offset Pivots	Center Pivots
85°	90°	10	10-3/8
90°	95°	9-3/8	9-3/4
95°	100°	8-3/4	9-1/4
100°	105°	8-1/4	8-3/4
105°	110°	7-7/8	8-1/4
110°	115°	7-1/2	7-7/8

★ Door must be free to swing 5° beyond hold-open position.

#### Notes:

Do not scale drawing.

Left hand door shown.

Dimensions are in inches.

Hollow-metal doors require channel or box-type reinforcement when thru-bolt mount is specified.

Sex-bolts required for wood or plastic faced fire-door mounting.

Minimum thickness recommended for reinforcements in hollow-metal doors and frames: .1046" (2.66mm).

Follow Conversion Chart for metric dimensions.

inches	mm.	inches	mm.
5/16	8	8-3/4	222.5
1	25.5	9-1/4	235
1-1/2	38	9-3/8	238
3-1/4	82.5	9-3/4	247.5
4	101.5	10	254
4-1/8	104.5	10-3/8	263.5
7-1/2	190.5	12	305
7-7/8	200		
8-1/4	209.5		

#### Preparation for Fasteners

Fasteners	Application	Door or Frame	Drill Sizes
Sex nuts and bolts	Arm-foot	Hollow Metal	9/32" (7.00mm) through 3/8" (9.50mm) door face opposite to closer
		Alluminum or Wood	3/8" (9.50mm) through
#14 x 1-1/4" (32mm) type "A" S.M. screws	Closer	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

**Unitrol® With 8148 Drop Plate  
Series UNI-J8300, UNI-J8301,  
UNI-J8500, UNI-J8501**

**Top Jamb Installation Template  
Stop Only or Hold Open Unitrol®  
Backcheck or Delayed Action Door Closer**

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TEMPLATE NUMBER

**7380-1408**

DATE

**09-08**