Installation Instructions
80-9316-2502-020 (12-09)

Norton®
Tri-Style
1600 Series
Non Handed Door Closer

"DA" suffix (Delayed Action) is an optional feature. A separate sheet is supplied showing closer adjustments.

NOTE: For special applications a separate door and frame preparation template is packed with these instructions. Use this instruction sheet for installation sequence and closer adjustments only.

- Doors should be hung on ball bearing or anti-friction hinges.
- A separate door stop is recommended.
- Door and frame must be properly reinforced.
- Adjust closing time speed between 3 and 7 seconds from 90° to 0°.
- These door closers should NOT be installed on the exposed side (weather side) of exterior doors.

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

**Standard Components**
- Closer Body
- "BC" Valve
- "L" Valve
- "S" Valve
- Pinion Cap
- Closer Size Stamp

**Arm Assembly**
- Regular Arm/Top Jamb Shoe
- Main Arm
- Connecting Rod
- Forearm Screw
- Arm Slide

**Optional Components**
- 1688 Plate
- 1601 BF Plate

**Non Hold Open Models**
- Sized (Sizes 2, 3, 4, 5, 6)
  - 1602BC
  - 1603BC
  - 1604BC
  - 1605BC
  - 1606BC

- Adjustable (Sizes 1 thru 4)
  - 1601

**Regular Arm Installation**
- See Page 2

**Top Jamb Installation**
- See Page 5

**Parallel Arm Installation**
- See Pages 3 & 4

**Sleeve Nut and Bolt**
- Drill 9/32 thru from Closer Side
- 3/8 Drill other side

**Thru Bolt and Grommet Nut**
- Drill 9/32 thru from Closer Side
- 3/8 Drill other side

**Self Drilling Screws**
Wood and Metal
- #7 Drill, 1/4-20 Tap

**Machine Screws**
- For Wood drill 3/16 hole

**Spring Power Adjustment Screw**
- 1601(BF) Series Only

**Pinion Cap**
- Closer Size Stamp

**CAUTION**
- Use this instruction sheet for installation sequence and closer adjustments only.

**CAUTION**
- Doors should be hung on ball bearing or anti-friction hinges.
- Adjust closing time speed between 3 and 7 seconds from 90° to 0°.
- These door closers should NOT be installed on the exposed side (weather side) of exterior doors.
1600 Series

Non Hold Open Door Closers — Regular Arm

Parts

Optional

Right Hand Shown

<table>
<thead>
<tr>
<th>Opening</th>
<th>Dimension “A”</th>
</tr>
</thead>
<tbody>
<tr>
<td>To 100°</td>
<td>7 (178)</td>
</tr>
<tr>
<td>101° to 120°</td>
<td>6 (152)</td>
</tr>
<tr>
<td>*121° to 180°</td>
<td>3-1/2 (89)</td>
</tr>
</tbody>
</table>

* Door/Wall/Hardware/Jamb conditions permitting

Backcheck

Caution:
Don’t completely close valve

Sweep

Faster +
Slower -

Latch

Faster +
Slower -

Pinion Cap or Optional Cover

1601(BF) Only
Spring Power Adjust (If Necessary)

Optional Cover
### 1600 Series

**Non Hold Open Door Closers — Parallel Arm**

80-9316-2502-020 (12-09)

#### Parts
- **Cover**: Optional
- **1688 Plate**: Optional

#### Right Hand Shown

- **A**: 2-3/4 (70)
- **B**: 3/8 (10)
- **C**: 7/16 (11)
- **D**: 1/2 (13)

#### Door Opening

<table>
<thead>
<tr>
<th>Opening</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>To 100°</td>
<td>9-1/4 (235)</td>
<td>7-5/8 (194)</td>
<td>8-5/8 (219)</td>
</tr>
<tr>
<td>101° to 130°</td>
<td>7-3/4 (197)</td>
<td>6-1/8 (156)</td>
<td>7-1/8 (181)</td>
</tr>
<tr>
<td>131° to 180°</td>
<td>5-3/4 (146)</td>
<td>4-1/8 (105)</td>
<td>5-1/8 (130)</td>
</tr>
</tbody>
</table>

* Door/Wall/Hardware/Jamb conditions permitting

#### Close Valves

- **Latch**
- **Sweep**
- **Slower**

#### Close Valves Steps

1. Place Arm on Spindle
2. Rotate
3. Remove Arm from Spindle
4. See Step 6 on Page 4

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**Dimensions (mm)**

- **A**: 7 (178)
- **B**: 4 (102)
- **C**: 1-1/2 (38)
- **D**: 2-1/8 (54)
- **E**: 1/2 (13)
- **F**: 3-1/4 (83)
- **G**: 9-1/16 (230)
- **H**: 3/4 (19)

**Holes for 1688 Plate only**

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See Step 6 on Page 4
1600 Series
Non Hold Open Door Closers — Parallel Arm

6
Right Hand Door
or
Left Hand Door

7
Open Valves
Caution: Do Not Back Valve Out Completely

8
Assemble Arm

9
Arm Screw

10
Spring Power Adjust
1601(BF) only
(If necessary)

11
Sweep

12
Latch

13
Backcheck
Caution: Don't completely close valve

14
Pinion Cap
or Optional Cover

---

weaker
+  +
+  +
-
-
-
-

stronger
-  -
-  -
+
+
+

slower
-  -
-  -
+
+
+

faster
+  +
+  +
-
-
-
-

1-1/2 (38)
## 1600 Series

### Non Hold Open Door Closers — Top Jamb Arm

#### Parts

- **Cover**
- **Optional**

#### Diagrams

1. **Top Jamb Arm Diagram**
2. **Dimensions Diagram**
3. **Parts Diagram**
4. **Sweep Diagram**
5. **Latch Diagram**
6. **Backcheck Diagram**
7. **Pinion Cap or Optional Cover Diagram**

#### Table: Opening and Dimension "A"

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<td>101° to 120°</td>
<td>6 (152)</td>
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<tr>
<td>*121° to 180°</td>
<td>3-1/2 (89)</td>
</tr>
</tbody>
</table>

*A longer connecting rod is required for reveals greater than 3" (76)*

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**Notes:**

- **Backcheck**: Stronger +
- **Optional Cover**: Faster +
- **Pinion Cap or Optional Cover**: Slower +

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**Caution:**
Don’t completely close valve.
1600 Series Adjustments

80-9316-2502-020 (12-09)

Backcheck

Sweep

Latch

(Use 1/8" Hex Wrench for these Adjustments)

Backcheck

Spring Power Adjust
1601 (BF) only

(Use 3/16" Hex Wrench for this Adjustment)

Adjustment Chart

Number of Turns Required

MAXIMUM DOOR SIZE

<table>
<thead>
<tr>
<th>DOOR</th>
<th>TYPE OF INST.</th>
<th>&quot;1601BF&quot;</th>
<th>&quot;1601&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERIOR</td>
<td>Regular Arm Top Jamb</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>EXTERIOR</td>
<td>Parallel Arm</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>EXTERIOR</td>
<td>Regular Arm Top Jamb</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>EXTERIOR</td>
<td>Parallel Arm</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

NOT RECOMMENDED USE 1601

1601BF

FULL 360° TURNS OF 3/16" POWER ADJUSTMENT WRENCH

34" (0.85M) | 36" (0.90M) | 40" (1.00M) | 44" (1.10M) | 48" (1.20M)

2 | 2 | 3 | 4 | 5

5 | 6 | 8 | 9 | 12

8 FULL (360°) TURNS MAXIMUM AVAILABLE

= 8 Turns As Shipped

To identify your model:

Size Code

2=1602BC
3=1603BC
4=1604BC
5=1605BC
6=1606BC

Date Code

3-6=1601
1-4=1601BF

Arm Placement in Shoe

7-1/2 % Stronger

7-1/2 % Weaker

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