**INSTALLATION INSTRUCTIONS**

**BTS 75V/E,F, 75V BF/E,F, 80/E,F**

**3/4” OFFSET PACKAGES**

1. Slide washer over tapered square end of spindle until fully seated in groove. Fasten spindle with spindle screw provided. Tighten securely with 5mm HEX KEY.

   ![Diagram 1](image1)

   **CRITICAL**

   **WASHER MUST BE INSTALLED.**

2. Center closer in cement case. Tighten fastening screws.

   ![Diagram 2](image2)

   **FASTENING SCREWS**

3. Install closer and cement case in floor.
   Top of cement case must be flush with finished floor. Cement case must be level and installed parallel to frame. Spindle center line must be accurately located. Grout cement case in place.

   ![Diagram 3](image3)

   **FINISHED FLOOR**

4. Install top pivot.
   Remove set screw, cover cap, pivot pin and then install top pivot.

   ![Diagram 4](image4)

   **FRAME PORTION**

   **SET SCREW**

   **1/8” HEX KEY**

5. Install bottom arm.

   ![Diagram 5](image5)

   **BOTTOM OF DOOR**

   **BOTTOM ARM**

6. Install door.
   With door parallel to frame, place bottom arm onto closer spindle. Align door and frame portions of top pivot. Install pivot pin, set screw and cover cap (See step #4). Install cover over bottom arm with screw provided.

   ![Diagram 6](image6)

7. Adjust bottom door clearances. (If necessary)
   Closer can be raised approximately 5/32” within the cement case. Loosen fastening screws "A". Turn height adjustment screws "B" clockwise until desired height is obtained. **Closer must remain level!** Re-tighten fastening screws "A". If more clearance is necessary, change spindle to appropriate size.

   ![Diagram 7](image7)

   **A**

   **B**

   **A**
8 Adjust closing speed.

**BTS 80F**

**VALVE “D”**— controls closing speed from approx. 180°–0°. Clockwise turns decrease closing speed. Counterclockwise turns increase closing speed.

**VALVE “E”**— increases closing speed from approx. 7°–0°. Counterclockwise turns increase closing speed. Clockwise turns return speed to that set by valve “D”.

**BTS 75V**

**VALVE “D”**— controls closing speed from approx. 175°–15°.

**VALVE “E”**— controls closing speed from approx. 15°–0°.

**BTS 75V BF**

**VALVE “D”**— controls closing speed from approx. 175°–70°.

**VALVE “E”**— controls closing speed from approx. 70°–0°.

9 **BTS 75V/75V BF ONLY.**

Adjust spring tension, if required.

**CRITICAL**

BTS75VF—Adjust only if more spring tension is required to positively close and latch the door. Depending on opening conditions, a door adjusted to meet barrier-free forces may not have sufficient power to reliably close and latch the door.

BTS75V—Adjust according to chart.

<table>
<thead>
<tr>
<th>DOOR WIDTH</th>
<th>FULL TURNS OF SPRING ADJUSTING NUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERIOR INCHES (MM)</td>
<td>INTERIOR INCHES (MM)</td>
</tr>
<tr>
<td>2’–6”</td>
<td>762</td>
</tr>
<tr>
<td>3’–0”</td>
<td>914</td>
</tr>
<tr>
<td>3’–6”</td>
<td>1067</td>
</tr>
</tbody>
</table>

**NOTE:** "MAX. 12 TURNS FROM MINIMUM SETTING”.

10 Sealing compound (Optional)

Sealing compound is recommended for exterior doors or areas with excessive moisture. Make all final adjustments before adding compound. Refer to instructions packed with compound for full details.

11 Install cover plate or threshold.

Trim cover plate as required to match profile of pivot jamb. Install cover plate with four screws provided. Press tab in place behind spindle. If threshold is installed, do not anchor threshold to closer body since closer is adjustable within cement case.

12 If intermediate pivot is to be used, refer to installation instructions packed with pivot.

**CRITICAL**

**WHEN USING "BTS 75V" OR "BTS 75V BF" ON A FIRE LABELED DOOR, AN AUXILIARY STOP MUST BE USED TO LIMIT DOOR SWING TO 175°.**

**AUXILIARY STOP MUST BE SUPPLIED BY OTHERS.**
**CEMENT CASE**

**TOP VIEW**

- 5/8" INSET DOOR
- 3/4" FLUSH DOOR AND FRAME
- 1/16" CLEARANCE MINIMUM

**SIDE VIEW**

- BTS 80 - 3-1/8 (78)
- BTS 75V - 3-1/4 (82)
- BTS 80 - 13-9/16 (39)
- BTS 75V - 1-9/16 (39)
- BTS 80 - 2-3/8 (60)
- BTS 75V - 2 (50)

**NOTES**
1. DO NOT SCALE DRAWING.
2. DIMENSIONS ARE IN INCHES/(mm).
3. TOP OF CEMENT CASE MUST BE FLUSH WITH FINISH FLOOR LINE.
4. CEMENT CASE MUST BE LEVEL AND PARALLEL TO FRAME.
5. INSTALL CEMENT CASE WITH CLOSER CENTERED IN CASE.
6. 1/8" INSET INSTALLATION SHOWN.

**SPINDLE NO. CLEARANCE**

<table>
<thead>
<tr>
<th>SPINDLE NO.</th>
<th>CLEARANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>74003</td>
<td>5/16&quot;</td>
</tr>
<tr>
<td>74005</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>74007</td>
<td>5/8&quot;</td>
</tr>
<tr>
<td>(STD.) 74010</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>74012</td>
<td>13/16&quot;</td>
</tr>
<tr>
<td>74015</td>
<td>7/8&quot;</td>
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<td>74020</td>
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<td>2-1/16&quot;</td>
</tr>
<tr>
<td>74050</td>
<td>2-5/16&quot;</td>
</tr>
</tbody>
</table>
**TOP PIVOT**

- **Minimum Clearance**: 1/16" (2)
- **Frame Leaf**: 3/16" R.
- **Clearance**: 1/16" (2)
- **5/16" (8)**
- **3/4" (19)**
- **1-3/8" (35)**

For 1/4-20 machine screws use No. 7 drill.

For No. 14 wood screws use 5/32" drill.

Four (4) holes each in door and frame.

**Notes**

1. Do not scale drawing.
2. Dimensions are in inches/(mm).
3. Right hand door shown.
4. Bevel heel edge of door 1/8" in 2".
5. All necessary reinforcing for pivot by others.
6. Flush door portion shown.

**BOTTOM ARM**

- **Front View**: 5/8" (16)
- **Finished Floor**: 3/4" (19)
- **3/16" R.**
- **5/16" (8)**
- **7/16" (11)**
- **1-13/16" (46)**
- **1-13/16" (46)**
- **1-13/16" (46)**
- **6-3/8" (162)**

For 1/4-20 machine screws use No. 7 drill.

For No. 14 wood screws use 5/32" drill.

Four (4) holes in door.

**Notes**

1. Do not scale drawing.
2. Dimensions are in inches/(mm).
3. Right hand door shown.
4. Bevel heel edge of door 1/8" in 2".
5. All necessary reinforcement for arm by others.