# SWAY STRUT ASSEMBLY

## ☐ Fig. 211, ☐ Fig. C-211 (Corrosion Resistant) Sway Strut Assembly
## ☐ Fig. 640, ☐ Fig. C-640 (Corrosion Resistant) Field Welded Strut

**Note:** Second lock nut available by special request only.

**Finish:** Painted (Fig. 211 & Fig. 640) or Galvanized (Fig. C-211 & C-640)
**Service:** Used to restrain movement of piping while allowing for movement in the other two directions.
**How to size:**
(1) Select size consistent with max. load to be restrained.
(2) C to C is obtained by subtracting E and A from the distance from structural steel to center of pipe. Verify that the calculated C to C is within the min/max limits.
(3) Determine W dimension by: W=(C to C)-2F.
**Installation:** Shipped assembled. Securely fasten bracket to structure, make necessary adjustment in overall length, and fasten clamp to pipe.
**Features:**
- Effective under either tensile or compressive force.
- Provides 3 1/2" (Fig. 211) or 2" (Fig. 640) of field adjustment in either direction.
- Self-aligning bushings permits ±5° misalignment or angular motion. Bushings are coated with a dry lubricant.

**Ordering:** Specify figure number, assembly size, name, option number, normal pipe size or special O.D., and "W" dimension. Please specify temperature for pipe clamp. For restraint parallel to the pipe axis using two sway strut assemblies, a riser clamp is available. If a riser clamp is required, consult the nearest Anvil representative for information about this clamp.
**Note:** The rear bracket assembly can be ordered separately.

**E-TAKE OUT**

| OD** | E-Take Out: Dimensions (in) at 650°F | | | | | | | | | E Dimension at 1005°F and 1075°F* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sizes | | | | | | | | | Sizes | | | | | | | | | | |
| | A | B & C | 1 & 2 | 3 | 4 | 5 | 6 | 7 | 8 | A | B | C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3/4 | 2 7/16 | – | – | – | – | – | – | – | – | 8 | – | – | – | – | – | – | – | – | – | – |
| 1 | 2 9/16 | – | – | – | – | – | – | – | – | 8 1/8 | – | – | – | – | – | – | – | – | – | – |
| 1 1/4 | 2 11/16 | – | – | – | – | – | – | – | – | 8 1/4 | – | – | – | – | – | – | – | – | – | – |
| 1 1/2 | 4 1/8 | – | – | – | – | – | – | – | – | 8 3/8 | – | – | – | – | – | – | – | – | – | – |
| 2 | 5 1/8 | 6 3/8 | 6 3/8 | – | – | – | – | – | – | 8 5/8 | 8 5/8 | 8 5/8 | 8 5/8 | 8 5/8 | | | | | | |
| 2 1/2 | 5 3/8 | | | | – | – | – | – | – | 8 7/8 | 8 7/8 | 8 7/8 | 8 7/8 | 8 7/8 | | | | | | |
| 3 | 5 15/16 | 7 | 7 | 8 1/8 | – | – | – | – | – | 9 1/8 | 9 1/8 | 9 1/8 | 9 1/8 | 9 1/8 | | | | | | |
| 3 1/2 | 6 3/16 | | | | – | | – | – | – | 9 3/8 | 9 3/8 | 9 3/8 | 9 3/8 | 9 3/8 | 9 3/8 | | | | | |
| 4 | 6 1/2 | 7 1/4 | 7 1/4 | 8 3/8 | – | 10 | – | – | – | 9 5/8 | 9 5/8 | 9 5/8 | 9 5/8 | 9 5/8 | 9 5/8 | | | | | |
| 5 | 7 3/4 | 7 3/4 | 7 3/4 | 9 1/8 | 9 1/8 | | – | – | – | 10 1/4 | 10 1/4 | 10 1/4 | 10 1/4 | 10 1/4 | 10 1/4 | 10 1/4 | | | | |
| 6 | 8 3/8 | 8 3/8 | 8 3/8 | 10 | 10 | | 11 7/8 | – | – | 10 3/4 | 10 3/4 | 10 3/4 | 10 3/4 | 10 3/4 | 10 3/4 | 10 3/4 | 11 1/8 | 12 | 11 7/8 | 12 1/4 |
| 8 | 9 3/8 | 9 3/8 | 9 3/8 | 11 1/4 | 11 1/4 | 11 1/4 | 12 5/8 | – | – | 11 3/4 | 11 3/4 | 11 3/4 | 11 3/4 | 11 3/4 | 11 3/4 | 11 3/4 | 12 3/8 | 13 3/8 | 13 3/8 | 13 7/8 |
| 10 | 10 1/2 | 10 1/2 | 10 1/2 | 12 3/4 | 12 3/4 | 12 3/4 | 14 1/4 | 14 1/4 | 16 1/4 | 12 3/4 | 12 3/4 | 12 3/4 | 12 3/4 | 12 3/4 | 12 3/4 | 12 7/8 | 13 5/8 | 14 3/4 | 14 3/4 | 15 1/2 |
| 12 | – | 11 7/8 | 11 7/8 | 13 7/8 | 13 7/8 | 13 7/8 | 15 3/8 | 15 3/8 | 17 1/4 | – | 13 3/4 | 13 3/4 | 13 3/4 | 13 3/4 | 13 3/4 | 14 | 14 3/4 | 15 7/8 | 16 | 16 3/4 |
| 14 | – | 12 5/8 | 12 5/8 | 14 1/2 | 14 1/2 | 14 1/2 | 16 | 16 1/4 | 18 | – | 14 3/8 | 14 3/8 | 14 3/8 | 14 3/8 | 14 3/8 | 14 5/8 | 15 3/8 | 17 1/4 | 17 1/4 | 17 1/2 |
| 16 | – | 13 5/8 | 13 5/8 | 15 1/4 | 15 1/4 | 15 1/4 | 17 1/8 | 17 1/2 | 19 | – | 15 3/8 | 15 3/8 | 15 3/8 | 15 3/8 | 15 3/8 | 15 3/4 | 16 7/8 | 18 3/8 | 18 1/2 | 18 3/4 |
| 18 | – | 14 5/8 | 14 5/8 | 16 3/8 | 16 3/8 | 16 3/8 | 18 1/4 | 18 1/2 | 20 1/4 | – | 16 3/8 | 16 3/8 | 16 3/8 | 16 3/8 | 16 1/2 | 16 7/8 | 18 | 19 1/2 | 19 5/8 | 20 |
| 20 | – | 15 3/4 | 15 3/4 | 17 3/4 | 17 3/4 | 17 3/4 | 19 1/4 | 19 3/4 | 21 1/2 | – | 17 3/8 | 17 3/8 | 17 3/8 | 17 3/8 | 17 1/2 | 17 7/8 | 19 3/8 | 20 3/8 | 20 7/8 | 21 1/8 |
| 24 | – | 18 1/8 | 18 1/8 | 19 7/8 | 19 7/8 | 19 7/8 | 21 3/4 | 21 3/4 | 24 | – | 19 3/8 | 19 3/8 | 19 3/8 | 19 3/8 | 20 3/8 | 20 3/8 | 21 1/2 | 22 1/2 | 23 | 23 3/8 |
| 30 | – | 21 1/4 | 21 1/4 | 23 | 23 | 23 | 25 | 25 | 28 | – | 22 3/8 | 22 3/8 | 22 3/8 | 22 3/8 | 23 1/2 | 23 1/2 | 24 1/2 | 26 3/8 | 26 1/4 | 26 5/8 |
| 36 | – | 24 | 24 | 26 1/2 | 26 1/2 | 26 1/2 | 28 1/8 | 28 1/8 | 31 1/4 | – | 25 3/8 | 25 3/8 | 25 3/8 | 25 3/8 | 26 5/8 | 26 5/8 | 27 1/2 | 29 5/8 | – | – |

* Please specify whether a 1005°F clamp or 1075°F clamp is required when ordering.
**When calculating strut C-C for intermediate sizes, use the takeout "E" for the next largest pipe diameter.
**Note:** Carbon steel clamps will accomodate 4" of insulation. Alloy clamps will accomodate 6".
High temperature clamps will be made from alloy steel. Stainless steel available upon request. For other special design requirements, please contact your Anvil EPS sales representative.

| PROJECT INFORMATION | APPROVAL STAMP |
|---|---|
| **Project:** | ☐ Approved |
| **Address:** | ☐ Approved as noted |
| **Contractor:** | ☐ Not approved |
| **Engineer:** | **Remarks:** |
| **Submittal Date:** | |
| **Notes 1:** | |
| **Notes 2:** | |

# Fig. 211, Fig. C-211 Fig. 640, Fig. C-640: Field Welded Strut

## Sway Strut Assembly

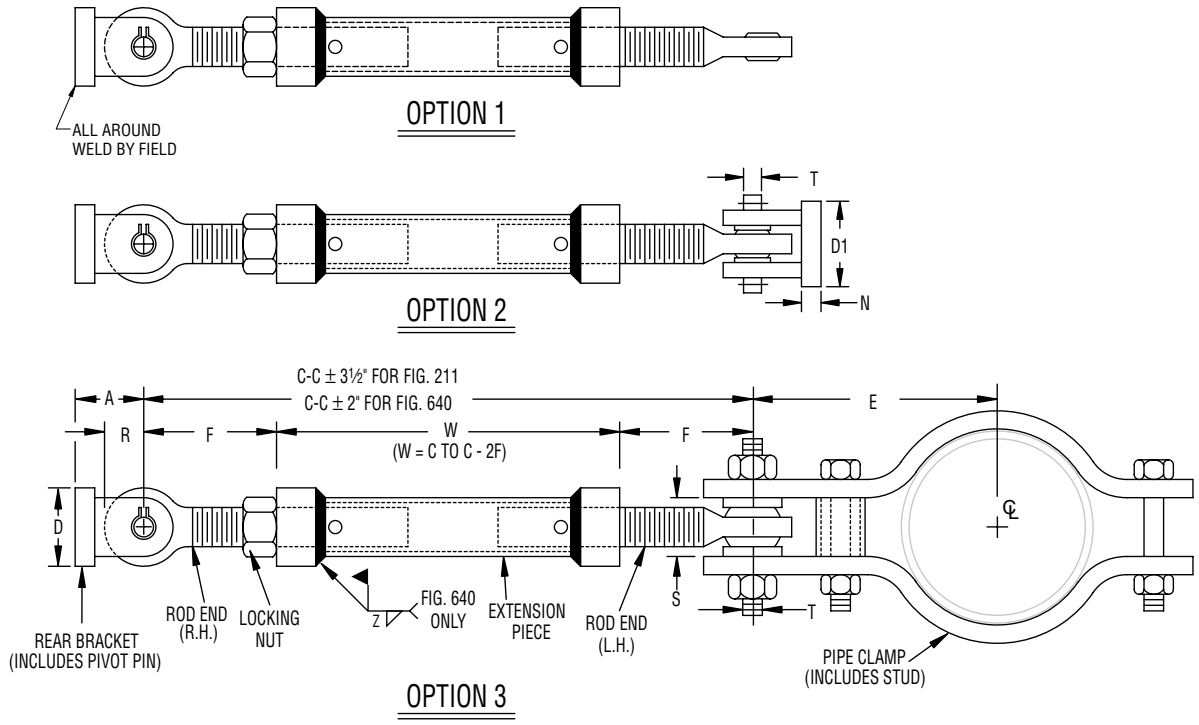


**FIG. 211, C-211, FIG. 640 & FIG. C-640: LOAD (LBS) • DIMENSIONS (IN)**

| Size | Fig. 211 & Fig. 640 | | | | | | | | | | Fig. 211 | | | | | Fig. 640 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Load ■ | Rod End | Ext. Piece | A | D | D1 | N | R | S | T | C-C Max | C-C Min | W Max | W Min | F | Weld Z | C-C Max | C-C Min | F |
| A | 650 | ¾ | 1 | 1 | 2 | 1¼ | ¼ | ⅝ | ⅝ | 0.374<br>0.372 | 60 | 16½ | 53⅛ | 9⅝ | 3⁷⁄₁₆ | 3⁄16 | 60 | 12⅛ | 2¹¹⁄₁₆ |
| B | 1,500 | 1 | 1½ | 2½ | | 2⅜ | ⅝ | 1⅜ | 1⅜ | 0.749<br>0.747 | 108 | 19 | 99⅛ | 10⅛ | 4⁷⁄₁₆ | | 96 | 14⁷⁄₁₆ | 3¹¹⁄₁₆ |
| C | 4,500 | 1 | 2 | | | | | | | 0.749<br>0.747 | 120 | | 111⅛ | 10⅛ | | | | | |
| 1 | 8,000 | 1¼ | | | | 2⅞ | ¾ | 1½ | | 0.999<br>0.997 | | 21 | 110⅜ | 11⅜ | 4⅞ | 5⁄16 | | 16½ | 4⅛ |
| 2 | 11,630 | 1½ | 2½ | | | | | | | 0.999<br>0.997 | | 21⅜ | 110 | | 5 | | | 16⅞ | 4¼ |
| 3 | 15,700 | 1¾ | | 3 | 3 | 3³⁄₁₆ | ¾ | 2 | 1¹¹⁄₁₆ | 1.249<br>1.247 | | 22⅞ | 108½ | | 5¾ | | | 18⅜ | 5 |
| 4 | 20,700 | 2 | 3 | | | | | | | 1.249<br>1.247 | | 25 | 108 | | 6 | | | 20½ | 5¼ |
| 5 | 27,200 | 2¼ | | 4 | 6⅛ | 4¼ | 1¼ | 2½ | 2 | 1.499<br>1.497 | | 26½ | 106½ | 13 | 6¾ | ⅜ | | 22 | 6 |
| 6 | 33,500 | 2½ | 4 | 5 | 7⅞ | 5⅜ | 1¾ | 3 | 2⅜ | 1.749<br>1.747 | | 28¼ | 104¾ | | 7⅝ | | | 23¾ | 6⅞ |
| 7 | 68,200 | 3 | | 5¾ | 9⅛ | 6¼ | 2 | 3½ | 3 | 1.999<br>1.997 | | 32½ | 102½ | 15 | 8¾ | ⅝ | | 28 | 8 |
| 8 | 120,000 | 4 | 6 | 7¼ | 14 | 8¾ | 2¼ | 4¾ | 3⅜ | 2.499<br>2.497 | | 39¼ | 98 | 17¼ | 11 | ¾ | | 34¾ | 10¼ |

■ Loads must not be applied outside a 10° included angle cone of action to the pipe clamp axis without special authorization.
Fig. 640 shipped at maximum length C-C, field cut to "W" to suit, unless otherwise specified.