

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

**Finish:** Painted (Fig. 211 & Fig. 640) or Galvanized or CZ11 (Fig. C-211 & C-640)

**Service:** Used to restrain movement of piping while allowing for movement in the other two directions.

**How To Size:**

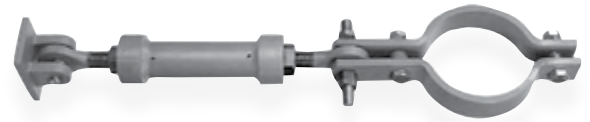
- (1) Select size consistent with max. load to be restrained.
- (2) C to C is obtained by subtracting E and A from the distance from structural steel to center of pipe. Verify that the calculated C to C is within the min/max limits.
- (3) Determine W dimension by:  $W=(C \text{ to } C)-2F$ .

**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 3½" (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 ASC Engineering Solutions™ representative for information about this clamp.

**Note:** The rear bracket assembly can be ordered separately.



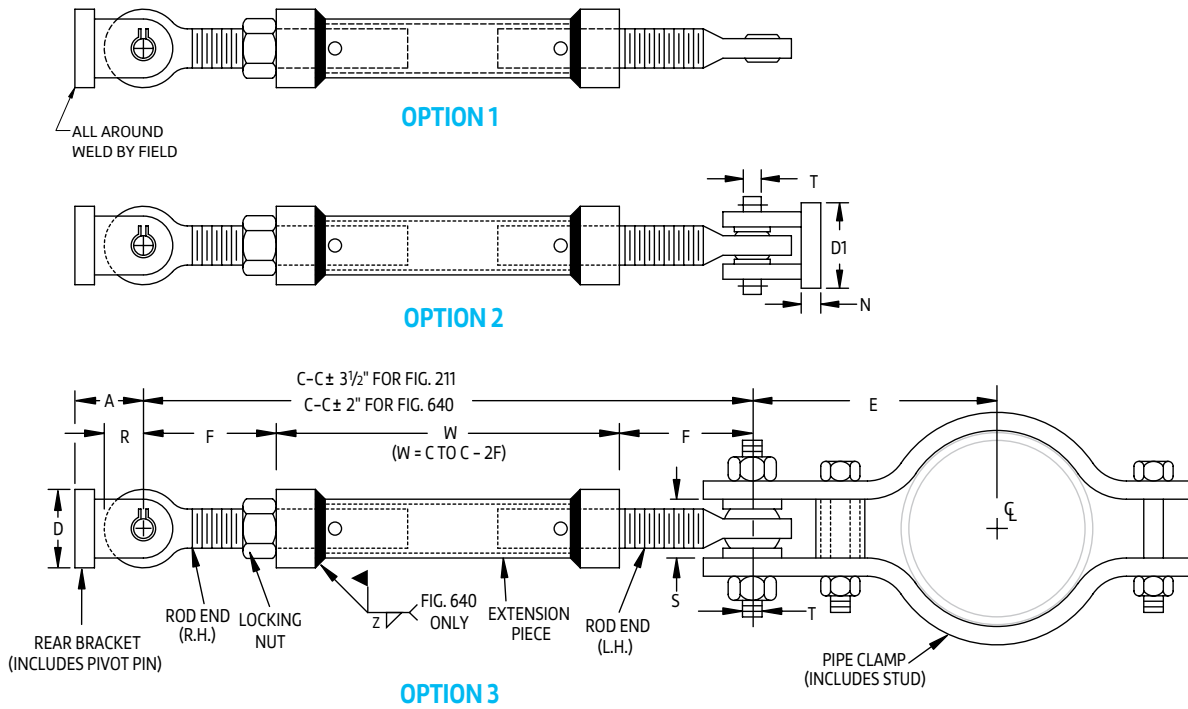
### E-Take Out Dimensions (in)

Pipe Size**	E-Take Out Dimensions 650°F (Max.)									E Dimensions 1075°F* (Max.)												
	A	B & C	1 & 2	3	Sizes		5	6	7	8	A	B	C	1	2	3	4	5	6	7	8	
¾	2 <sup>7</sup> / <sub>16</sub>	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-
1	2 <sup>9</sup> / <sub>16</sub>	-	-	-	-	-	-	-	-	-	8 <sup>1</sup> / <sub>8</sub>	-	-	-	-	-	-	-	-	-	-	-
1¼	2 <sup>11</sup> / <sub>16</sub>	-	-	-	-	-	-	-	-	-	8 <sup>3</sup> / <sub>4</sub>	-	-	-	-	-	-	-	-	-	-	-
1½	4 <sup>1</sup> / <sub>8</sub>	-	-	-	-	-	-	-	-	-	8 <sup>5</sup> / <sub>8</sub>	-	-	-	-	-	-	-	-	-	-	-
2	5 <sup>1</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>	-	-	-	-	-	-	-	8 <sup>7</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	-	-	-	-	-	-
2½	5 <sup>3</sup> / <sub>8</sub>	-	-	-	-	-	-	-	-	-	8 <sup>7</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	-	-	-	-	-	-
3	5 <sup>15</sup> / <sub>16</sub>	7	7	8 <sup>1</sup> / <sub>8</sub>	-	-	-	-	-	-	9 <sup>1</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	-	-	-	-	-	-
3½	6 <sup>3</sup> / <sub>16</sub>	-	-	-	-	-	-	-	-	-	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	-	-	-	-	-	-
4	6½	7¼	7¼	8 <sup>3</sup> / <sub>8</sub>	-	-	-	-	-	-	9 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	-	-	-	-	-	-
5	7¾	7¾	7¾	9 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>	10	-	-	-	-	10¼	10¼	10¼	10¼	10¼	10¼	10¼	-	-	-	-	-
6	8 <sup>3</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	10	10	-	-	-	-	-	10¾	10¾	10¾	10¾	10¾	10¾	10¾	11 <sup>1</sup> / <sub>8</sub>	12	-	-	-
8	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	11¼	11¼	11¼	12 <sup>5</sup> / <sub>8</sub>	-	-	-	11¾	11¾	11¾	11¾	11¾	11¾	11¾	12 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	-
10	10½	10½	10½	12¾	12¾	12¾	14¼	14¼	16¼	-	12¾	12¾	12¾	12¾	12¾	12¾	12¾	13 <sup>5</sup> / <sub>8</sub>	14¾	14¾	14¾	-
12	-	11 <sup>7</sup> / <sub>8</sub>	11 <sup>7</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	17¼	-	13¾	13¾	13¾	13¾	13¾	13¾	13¾	14¾	15 <sup>7</sup> / <sub>8</sub>	16	16	-
14	-	12 <sup>5</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	14½	14½	14½	16	16¼	18	-	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	17¼	17¼	-
16	-	13 <sup>5</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>8</sub>	15¼	15¼	15¼	17 <sup>1</sup> / <sub>8</sub>	17½	19	-	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	16 <sup>7</sup> / <sub>8</sub>	18 <sup>3</sup> / <sub>8</sub>	18½	19	19
18	-	14 <sup>5</sup> / <sub>8</sub>	14 <sup>5</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	18¼	18½	20¼	-	16 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>8</sub>	16½	16½	18	19½	19 <sup>5</sup> / <sub>8</sub>	20¼	20¼
20	-	15¾	15¾	17¾	17¾	17¾	19¼	19¾	21½	-	17 <sup>3</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	17½	17½	19 <sup>3</sup> / <sub>8</sub>	20 <sup>3</sup> / <sub>8</sub>	20 <sup>7</sup> / <sub>8</sub>	21½	21½
24	-	18 <sup>1</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>8</sub>	19 <sup>7</sup> / <sub>8</sub>	21¾	21¾	24	-	19 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>8</sub>	20 <sup>3</sup> / <sub>8</sub>	20 <sup>3</sup> / <sub>8</sub>	21½	22½	23	24	24
30	-	21¼	21¼	23	23	23	25	25	28	-	22 <sup>3</sup> / <sub>8</sub>	22 <sup>3</sup> / <sub>8</sub>	22 <sup>3</sup> / <sub>8</sub>	22 <sup>3</sup> / <sub>8</sub>	22 <sup>3</sup> / <sub>8</sub>	23½	23½	24½	26 <sup>3</sup> / <sub>8</sub>	26	28	28
36	-	24	24	26½	26½	26½	28 <sup>1</sup> / <sub>8</sub>	28 <sup>1</sup> / <sub>8</sub>	31¼	-	25 <sup>3</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	26 <sup>5</sup> / <sub>8</sub>	26 <sup>5</sup> / <sub>8</sub>	27½	29 <sup>5</sup> / <sub>8</sub>	30	31¾	31¾

\*Please specify temperature when ordering. \*\*Intermediate sizes between 20 and 36 are available and will have the takeout and stock size of the next larger size.  
**Note:** Carbon steel clamps will accommodate 4" of insulation. Alloy clamps will accommodate 6½". High temperature clamps will be made from alloy steel. Stainless steel available upon request. For other special design requirements, please contact your ASC Engineering Solutions™ 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 Sway Strut Assembly, Fig. C-211 (Corrosion Resistant)**  
**Fig. 640 Field Welded Strut, Fig. C-640 (Corrosion Resistant)**



**Fig. 211, C-211, Fig. 640 & Fig. C-640 Dimensions (in) • Load (lbs)**

Size	Load ■	Rod End	Ext. Piece	Fig. 211 & Fig. 640				Fig. 211					Fig. 640							
				A	D	D1	N	R	S	T	C-C		Weld Z	C-C		F				
											Max	Min		Max	Min		Max	Min		
A	650	¾	1	1		1¼	¼	⅝	⅝	0.374 0.372	60	16½	53⅞	9⅝	37/16		60	12⅞	2⅞/16	
B	1,500	1	1½							0.749 0.747	108		99⅞	10⅞	3/16					
C	4,500	1	2		2					0.749 0.747		19		111⅞	10⅞	47/16			147/16	3⅞/16
1	8,000	1¼	2	2½					1⅜	0.999 0.997		21	110⅜		47/8				16½	4⅞
2	11,630	1½	2½							0.999 0.997		21⅜	110	11⅜	5	5/16			167/8	4¼
3	15,700	1¾	3							1.249 1.247		227/8	108½		5¾		96		18⅜	5
4	20,700	2	3	3	3	3⅜/16	¾	2	1⅞/16	1.249 1.247	120	25	108		6				20½	5¼
5	27,200	2¼	4	4	6⅞	4¼	1¼	2½	2	1.499 1.497		26½	106½	13	6¾	3/8			22	6
6	33,500	2½	4	5	7⅞	5⅞	1¾	3	2⅜	1.749 1.747		28¼	104¾		7⅞				23¾	6⅞
7	68,200	3	6	5¾	9⅞	6¼	2	3½	3	1.999 1.997		32½	102½	15	8¾	5/8			28	8
8	120,000	4	6	7¼	14	8¾	2¼	4¾	3½	2.499 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.