

AAA TECHNOLOGY & SPECIALTIES CO., INC.

FIG. 305 THREADED SWAY STRUT ASSEMBLY (continued)

APPLICATION: Threaded Sway Strut Assemblies are used in power plants and process plants of all types to restrain movement of piping in one direction while allowing for movement lateral to the axis of the sway strut. A Threaded Sway Strut allows for adjustment of the length in the field at the time of installation. See the installation instructions below for assistance in determining the required sway strut fit-up length.

APPLICABLE CODES AND STANDARDS: Threaded Sway Struts are manufactured in accordance with the requirements of the U.S. Government and the power and process industries. These include the Federal Specification WW-H-171E, Manufacturers Standardization Society MSS-SP-58, ASME B31.1, B31.3 and B31.5 piping codes.

FEATURES:

- Handles both compressive and tensile loads
- Requires minimal maintenance
- Provides up to 3 ½" field adjustment (plus or minus) at time of installation
- Provides for + or - 5 ° combined angular rotation and misalignment
- Field adjustment accomplished by rotating the extension piece in one direction to shorten the assembly and in the other direction to lengthen the assembly. Once the desired length is achieved, the lock nut is to be locked to eliminate further length changes resulting from vibration, etc.

SELECTING THE CORRECT SIZE SWAY STRUT

1. Given the tension load, go to the dimensional table on the threaded sway strut assembly data sheet. Select the sway strut that has a tension load rating equal to or slightly larger than the design tension load.
2. Given the compression load, go to the maximum rated compression loads table on the threaded sway strut assembly data sheet. Select the sway strut that has a compression load rating equal to or slightly larger than the design compression load.
3. Determine the required C - C dimension. If the unit being specified is option 1, subtract the "A" dimension from the total length to determine the C - C length. If the unit being specified is option 2, subtract two times the "A" dimension from the total length to determine the C - C length. If the unit being specified is option 3, subtract the "A" dimension for the rear bracket and the "K" dimension for the clamp from the total length to determine the C - C length.
4. Given the desired C - C dimension, verify that the C - C dimension for the selected sway strut is equal to or greater than the minimum C - C and less than or equal to the length of the smallest maximum rated compression load shown in the charts.

CONSTRUCTION: A-36 Carbon Steel, Special materials available on request.

FINISHES AVAILABLE: Carbon Steel - Black, Painted or Hot Dip Galvanized. Stainless Steel - Plain (Special).

ORDERING: Specify figure number (Fig. 305), name (Threaded Sway Strut Assembly), sway strut size (0 thru 11), "C-C" dimension, design tension load, design compression load, option number (1, 2 or 3), pipe diameter, if applicable, material, if other than carbon steel, and finish.

EXAMPLE: Fig. 305 Threaded Sway Strut Assembly, Size 2, C-C = 5'-0", Tension Load = 9,000 lbs, Compression Load = 7,500 lbs, Option #3, 6" Pipe Dia., HDG.

INSTALLATION:

1. Weld rear bracket to the structure,
2. Install strut clamp around pipe for option 3 or weld rear bracket to other member for option 2,
3. Insert rod ends into the extension piece and turn the rod ends equally until the C - C dimension equals the distance between the pin connections in the rear bracket(s) and/or the strut clamp,
4. Attach one rod end to the rear bracket and the other to the strut clamp or rear bracket, as applicable,
5. Align the strut so that the components between the pinned connections form a straight line and are tight. To achieve the tightened condition, rotate the extension piece until the strut components are snug.
6. Tighten the lock nut.

DIMENSIONAL DATA - FIG. 305 THREADED SWAY STRUT ASSEMBLY												
SWAY STRUT SIZE	MAX. RATED TENSION LOAD (LBS)	ROD END			EXTENSION PIECE		REAR BRACKET				NOM. PIN/STUD DIA. (IN)	C - C MIN. [See # 1] (IN)
		ROD END DIA. (IN)	PADDLE RADIUS MAX. (IN)	F (IN)	PIPE DIA. (IN)	LENGTH W MIN. (IN)	TAKE OUT A (IN)	D (IN)	Q (IN)	GAP (S)		
0	738	1/2	3/4	3 3/4	1/2 STD	8 3/4	1 1/4	1 1/4	1 1/4	9/16	3/8	16 1/4
1/2	1434	3/4	1	4 1/8	3/4 STD	9 1/4	1 3/4	1 1/2	1 1/4	21/32	1/2	17 1/2
1	5950	1	1 3/8	4 3/4	1 1/4 XS	9 1/4	2 1/4	2	1 1/2	25/32	5/8	18 3/4
2	9750	1 1/4	1 1/2	5 7/16	1 1/2 XS	9 5/8	2 1/2	2 1/4	2	29/32	3/4	20 1/2
3	11900	1 1/2	1 1/2	6 1/8	2 XS	10 1/2	2 3/4	2 5/8	2 1/4	1 1/32	1	22 3/4
4	19350	1 3/4	2 1/4	8 3/16	2 1/2 XS	11 1/8	3 1/2	3 3/4	3	1 19/32	1 1/4	27 1/2
5	22800	2	2 1/4	8 1/2	2 1/2 XS	11 1/2	3 1/2	3 3/4	3	1 19/32	1 1/4	28 1/2
6	27600	2 1/4	2 1/2	9 1/8	3 XS	13	4 1/2	5	3 3/4	1 25/32	1 1/2	31 1/4
7	40850	2 1/2	3	10 3/4	3 1/2XS	13 1/2	5	7	7	2 7/32	1 3/4	35
8	46200	3	3	11	4 XS	14 1/2	5	7	7	2 7/32	1 3/4	36 1/2
9	64400	3 1/2	3 1/4	11 7/8	5 XS	15 3/4	5 3/4	8	8	2 13/32	2	39 1/2
10	95950	4 3/4	4 3/4	14 1/8	6 XS	18 1/2	7 1/2	10	10	3 7/16	2 3/4	46 3/4
11	145400	5 3/4	6 5/16	19 1/4	8 XS	20 1/2	9 1/2	13	13	4 5/16	3 3/4	59

#1 Shorter C-C dimension available with reduced adjustment.

