

**SSTB® Anchor Bolts**



This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

The SSTB anchor bolt is designed for maximum performance as an anchor bolt for holdowns and Simpson Strong-Tie® Strong-Wall® shearwalls. Extensive testing has been done to determine the design load capacity of the SSTB when installed in many common applications.

The Simpson Strong-Tie® SSTB anchor bolts are now code listed by ICC-ES under the 2009 and 2012 IBC® and IRC® to meet the requirements of ICC-ES acceptance criteria AC 399. ICC-ES ESR-2611 is the industry's first code report issued for proprietary anchor bolts evaluated to the criteria of AC 399.

**Special Features:**

- Identification on the bolt head showing embedment angle and model
- Offset angle reduces side bursting, and provides more concrete cover
- Rolled thread for higher tensile capacity
- Stamped embedment line aids installation
- Available in HDG for additional corrosion resistance

**MATERIAL:** ASTM F-1554, Grade 36

**FINISH:** None. May be ordered HDG; contact Simpson Strong-Tie.

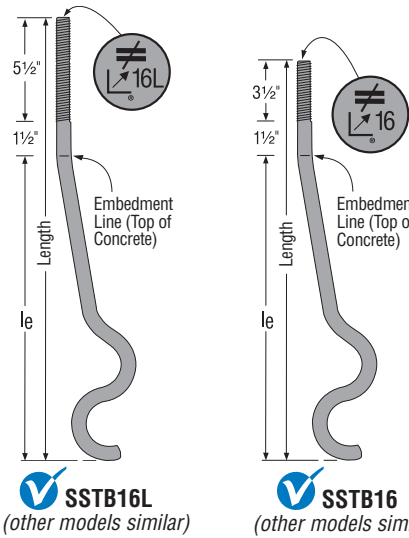
**INSTALLATION:**

- SSTB is suitable for monolithic and two-pour concrete applications.
- Nuts and washers for holdown attachment are not supplied with the SSTB; install standard nuts, couplers and/or washers as required.
- On HDG SSTB anchors, chase the threads to use standard nuts or couplers or use overlapped products in accordance with ASTM A563, for example Simpson Strong-Tie® NUT $\frac{5}{8}$ -OST, NUT $\frac{7}{8}$ -OST, CNW $\frac{5}{8}$ -OST, CNW $\frac{7}{8}$ -OST.
- Install SSTB before the concrete pour using AnchorMates®. Install the SSTB per the plan view detail.
- Minimum concrete compressive strength is 2500 psi.
- When rebar is required it does not need to be tied to the SSTB.
- Order SSTBL Models (example: SSTB16L) for longer thread length (16L = 5½", 20L = 6½", 24L = 6", 28L = 6½"). SSTB and SSTBL load values are the same. SSTB34 and SSTB36 feature 4½" and 6½" of thread respectively and are not available in "L" versions.

**CMU**

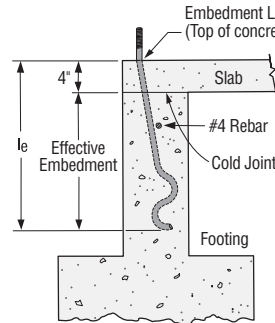
- One horizontal #4 rebar in the second course.
- One vertical #4 rebar in adjacent cell for ½" diameter SSTB.
- One vertical #4 rebar in an adjacent cell and additional vertical #4 rebar(s) at 24" o.c. max. for ¾" diameter SSTBs (2 total vertical rebars for end wall corner, 3 total vertical rebars for midwall).

**CODES:** See page 12 for Code Reference Key Chart.



Identification on the bolt head showing embedment angle and model.

See pages 36-37 for additional installation details.



Two Pour Installation (SSTB20, 24, 34 and 36)

**For two-pour (4" slab) installation loads:**

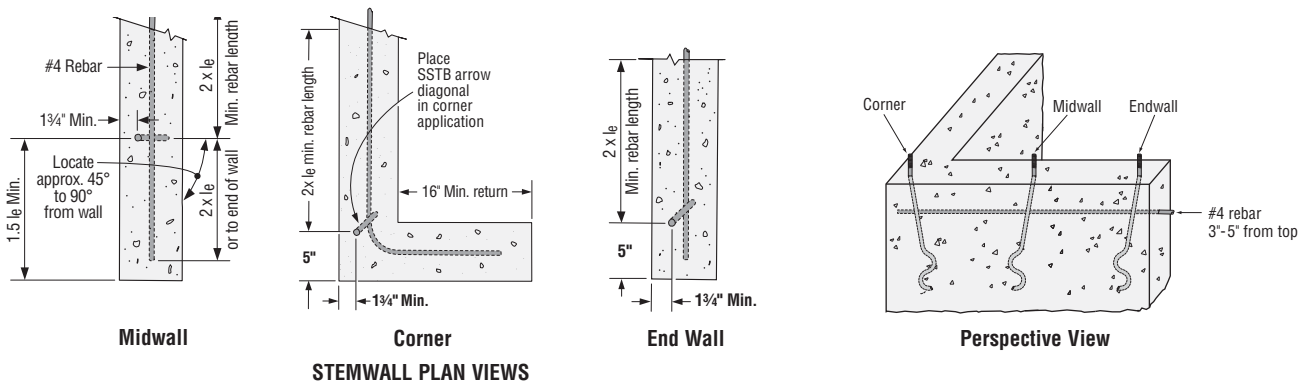
- When using the SSTB20, use the equivalent loads of the SSTB16.
- When using the SSTB24, use the equivalent loads of the SSTB20.
- When using the SSTB34 or 36, use the equivalent loads of the SSTB28.

These products are available with additional corrosion protection. Additional products on this page may also be available with this option, check with Simpson Strong-Tie for details.

**SSTB Bolts at Stemwall**

Model No.	Dimensions				Allowable Tension Loads						Code Ref.
	Stemwall Width (in.)	Dia. (in.)	Length (in.)	Min. Embed. (le)	Wind & SDC A&B			SDC C - F			
					Midwall	Corner	End Wall <sup>2</sup>	Midwall	Corner	End Wall <sup>2</sup>	
SSTB16	6	5/8	17 5/8 (16L = 19 5/8)	12 5/8	3610	3610	3610	2550	2550	2550	I23, F30, L20
SSTB20	6	5/8	21 5/8 (20L = 24 5/8)	16 5/8	4315	4040	4040	3145	2960	2960	
SSTB24	6	5/8	25 5/8 (24L = 28 5/8)	20 5/8	5025	4470	4470	3740	3325	3325	
SSTB28	8	7/8	29 7/8 (28L = 32 7/8)	24 7/8	9900	8710	7615	8315	7315	6395	
SSTB34	8	7/8	34 7/8	28 7/8	9900	8710	7615	8315	7315	6395	
SSTB36	8	7/8	36 7/8	28 7/8	9900	8710	7615	8315	7315	6395	

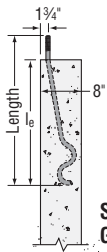
1. See page 36 for notes to the Designer.
2. SSTB28, SSTB34 and SSTB36 with 3 7/8" end distance allowable loads are 6605 lbs. (Wind and SDC A&B) and 5550 lbs (SDC C-F).



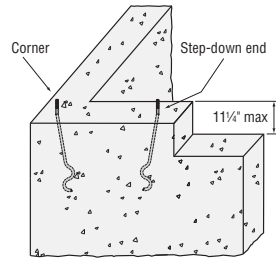
## SSTB® Anchor Bolts

## SSTB Bolts at Stemwall: Garage Front

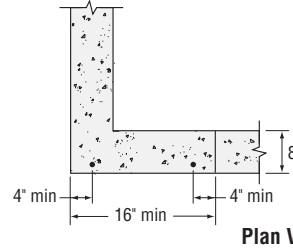
Model No.	Dimensions (in.)				Allowable Tension Loads				Code Ref.
	Stemwall Width	Dia.	Length	Min. Embed. ( $l_e$ )	Wind & SDC A&B		SDC C-F		
					Step-Down End	Corner	Step-Down End	Corner	
SSTB28	8	7/8	29 7/8	24 7/8	7015	7045	5895	5920	I23



Stemwall Garage Front



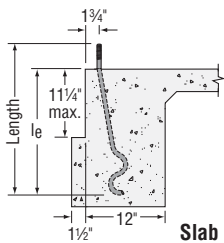
Perspective View



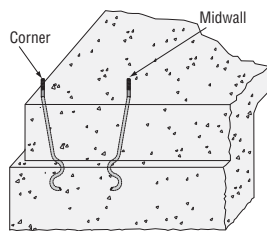
Plan View

## SSTB Bolts at Slab on Grade: Edge

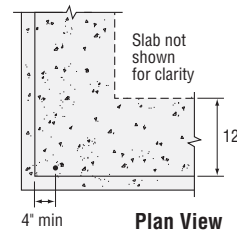
Model No.	Dimensions (in.)				Allowable Tension Loads				Code Ref.
	Footing Width	Dia.	Length	Min. Embed. ( $l_e$ )	Wind & SDC A&B		SDC C-F		
					Midwall	Corner	Midwall	Corner	
SSTB16	12	5/8	17 5/8	12 5/8	5355	5355	3780	3780	I23
SSTB20	12	5/8	25 5/8	16 5/8	6550	6550	4785	4785	
SSTB24	12	5/8	25 5/8	20 5/8	6675	6675	5790	5790	
SSTB28	12	7/8	29 7/8	24 7/8	13080	13080	11060	11645	
SSTB34	12	7/8	34 7/8	28 7/8	13080	13080	11060	11645	
SSTB36	12	7/8	36 7/8	28 7/8	13080	13080	11060	11645	



Slab Edge



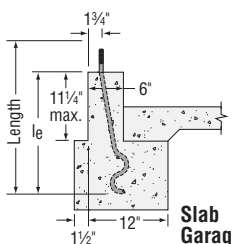
Perspective View



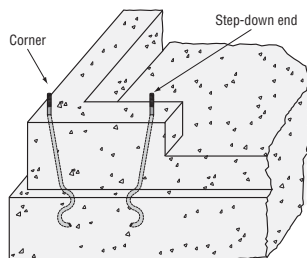
Plan View

## SSTB Bolts at Slab on Grade: Garage Curb

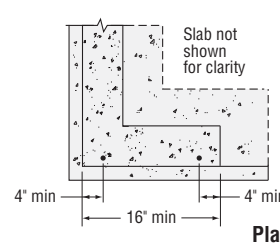
Model No.	Dimensions (in.)				Allowable Tension Loads				Code Ref.
	Curb Width	Dia.	Length	Min. Embed. ( $l_e$ )	Wind & SDC A&B		SDC C-F		
					Step-Down End	Corner	Step-Down End	Corner	
SSTB28	6	7/8	29 7/8	24 7/8	10085	12375	8475	10395	I23



Slab Garage Curb



Perspective View

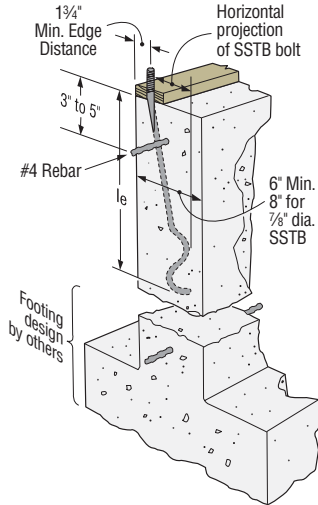


Plan View

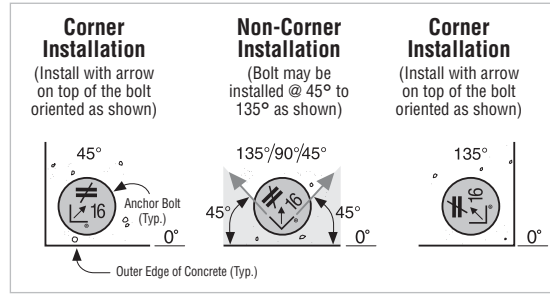
## Notes to the Designer:

- Rebar is required at top of stemwall foundations but is not required for Slab-on-Grade Edge and Garage Curb, or Stemwall Garage Front installations.
- Minimum end distances for SSTB bolts are as shown in graphics.
- Multiply the tabulated ASD wind or seismic loads by 1.6 or 1.4, respectively, to obtain LFRD capacities.
- Per Section 1613 of the IBC, detached one- and two-story dwellings in SDC C may use "Wind and SDC A&B" allowable loads.
- See ESR-2611 for additional information.
- Midwall loads apply when anchor is  $1.5 l_e$  or greater from the end. For bolts acting in tension simultaneously, the minimum bolt center-to-center spacing is  $3 l_e$ .

**SSTB® Anchor Bolts**



**Typical SSTB Installation in Concrete Foundation**  
Maintain minimum rebar cover, per ACI-318 concrete code requirements

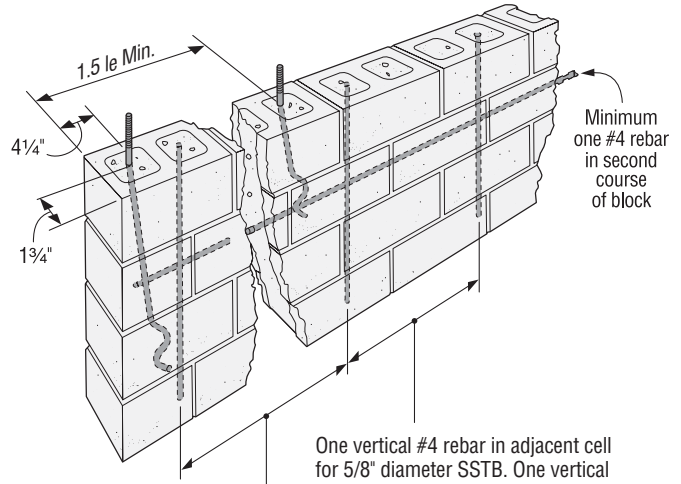


**Plan View of SSTB Placement in Concrete**

**SSTB Bolts in 8" CMU**

Model No.	Dia. (in.)	Length (in.)	Min. Embed. (le)	Allowable Tension Load		Code Ref.
				Midwall	Corner/End Wall	
SSTB16	5/8"	17 3/8" (16L = 19%)	12 3/8"	4780	1850	170
SSTB20	5/8"	21 3/8" (20L = 24%)	16 3/8"	4780	1850	
SSTB24	5/8"	25 3/8" (24L = 28%)	20 3/8"	4780	1850	
SSTB28	7/8"	29 3/8" (28L = 32%)	24 3/8"	6385	4815	
SSTB34	7/8"	34 3/8"	28 3/8"	6385	4815	
SSTB36	7/8"	36 3/8"	28 3/8"	6385	4815	

1. Loads are based on a minimum CMU compressive strength,  $f_m$ , of 1500 psi.
2. Minimum end distance required to achieve midwall table loads is 1.5  $l_e$ .
3. Minimum end distance for corner/end wall loads is 4 1/4".
4. Loads may not be increased for duration of load.



**Typical SSTB Installation in Grouted Concrete Block**

One vertical #4 rebar in adjacent cell for 5/8" diameter SSTB. One vertical #4 rebar and additional #4 rebar at 24" o.c. max. for 7/8" diameter SSTB. (2 total vertical rebars for endwall, 3 total vertical rebars for midwall)

**GH Girder Hangers**

A girder-to-foundation wall connection.

**MATERIAL:** 12 gauge

**FINISH:** Simpson Strong-Tie® gray paint, hot-dip galvanized, specify HDG.

See Corrosion Information, pages 13-15.

**INSTALLATION:** • Use all specified fasteners. See General Notes.

- Insert four 16d commons into girder.
- H = girder height – mudsill thickness. Measurement is top of steel to top of steel.
- 1 1/2" clearance hole accommodates rebar or anchor. This is not required.

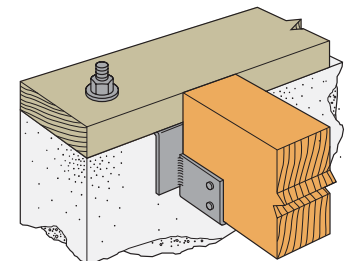
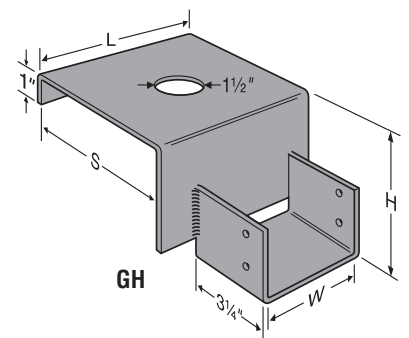
**OPTIONS:** • GH hangers may be skewed to a maximum of 45° with no load reduction; bevel cut required.

- Specify GHD for saddle-style hangers. GHD may not be skewed.

**CODES:** See page 12 for Code Reference Key Chart.

Model No.	Girder	Dimensions (in.)					Fasteners	Allowable Loads		Code Ref.
		W	L	H 2x Plate	H 3x Plate	S		Floor (100)	Roof (125)	
GH46-6	4x6	3 3/16"	6	4	3	6 1/16"	4-16d	2000	2000	I20, F19
GH46-8	4x6	3 3/16"	6	4	3	8 1/16"	4-16d	2000	2000	
GH48-6	4x8	3 3/16"	6	5 3/4"	4 3/4"	6 1/16"	4-16d	2000	2000	
GH48-8	4x8	3 3/16"	6	5 3/4"	4 3/4"	8 1/16"	4-16d	2000	2000	
GH410-6	4x10	3 3/16"	6	7 3/4"	6 3/4"	6 1/16"	4-16d	2000	2000	170
GH410-8	4x10	3 3/16"	6	7 3/4"	6 3/4"	8 1/16"	4-16d	2000	2000	
GH66-6	6x6	5 1/2"	8	4	3	6 1/16"	4-16d	4000	4000	
GH66-8	6x6	5 1/2"	8	4	3	8 1/16"	4-16d	4000	4000	
GH68-6	6x8	5 1/2"	8	5 3/4"	4 3/4"	6 1/16"	4-16d	4000	4000	
GH68-8	6x8	5 1/2"	8	5 3/4"	4 3/4"	8 1/16"	4-16d	4000	4000	
GH610-6	6x10	5 1/2"	8	7 3/4"	6 3/4"	6 1/16"	4-16d	4000	4000	
GH610-8	6x10	5 1/2"	8	7 3/4"	6 3/4"	8 1/16"	4-16d	4000	4000	

1. Loads may not be increased for short-term loading.
2. A mudsill on top of the GH is required to achieve the table loads.
3. Models listed are for a 2x plate, specify "H" dimension when ordering for use with a 3x plate.
4. Uplift loads do not apply for this hanger.
5. **NAILS:** 16d = 0.162" dia. x 3 3/8" long. See pages 22-23 for other nail sizes and information.



**Typical GH Installation**