

SIMPSON

Strong-Tie

TM

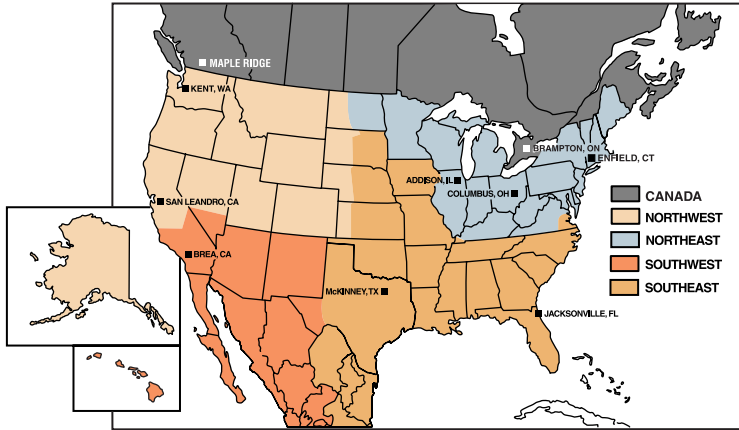
 THERE IS NO EQUAL

ANCHOR TIEDOWN SYSTEM MULTI-STORY HOLDOWN APPLICATIONS



COMPANY PROFILE

The Simpson Company was founded in Oakland, California in 1914 and has been manufacturing wood-to-wood and wood-to-concrete connectors since 1956. Since then, Simpson Strong-Tie Company, Inc., has grown to be the world's largest manufacturer of construction connectors.



The Simpson Strong-Tie Co., Inc. "NO EQUAL" program includes:

- Quality products value-engineered for the lowest installed cost at the highest rated performance levels.
- Most thoroughly tested and evaluated products in the industry.
- Strategically-located manufacturing and/or warehouse facilities.
- National Code Agency listings.
- Largest number of patented connectors in the industry.
- International sales team.
- In-house R and D, and tool and die professionals.
- In-house product testing and quality control engineers.
- Member of AITC, ASTM, ASCE, CSI, NBMDA, NLBMDA, SETMA, STAFDA, NFBA, WTCA and local organizations.

ANCHOR TIEDOWN

The ATS Anchor Tiedown System provides an improved method of anchoring shearwalls in wood frame construction to resist uplift forces caused by earthquakes and high winds.

The patented ATS Tiedown System effectively integrates vertical load resisting hardware easily and economically into standard wood frame construction.

The optional take up device, when used on high wind or seismic holdowns for wood frame buildings, will compensate for wood shrinkage and settlement due to the dead load.

INSTALLATION: The ATS system is designed to be installed floor by floor as the structure is built. This will provide stability, a functioning holdown and indicate designated shearwall areas.

TERMS AND CONDITIONS OF SALE

PRODUCT USE

Products in this catalog are designed and manufactured for the specific purposes shown, and should not be used with other connectors not approved by a qualified designer. Modifications to products or changes in installation procedures should only be made by a qualified designer. The performance of such modified products or altered installation procedures is the sole responsibility of the designer.

INDEMNITY

Customers modifying products or installation procedures, or designing non-catalog products for fabrication by Simpson Strong-Tie Co., Inc. shall, regardless of specific instructions to the user, indemnify, defend, and hold harmless Simpson Strong-Tie Co., Inc. for any and all claimed loss or damage occasioned in whole or in part by non-catalog or modified products.

NON-CATALOG AND MODIFIED PRODUCTS

Consult Simpson Strong-Tie Co., Inc. for applications regarding modified products, or for connectors for use in hostile environments, with excessive wood shrinkage, or with abnormal loading or erection requirements.

Non-catalog products must be designed by the customer and will be fabricated by Simpson Strong-Tie in accordance with customer specifications.

Simpson Strong-Tie cannot and does not make any representations regarding the suitability of use or load-carrying capacities of non-catalog products. Simpson Strong-Tie provides no warranty, express or implied, on non-catalog products.

Any party modifying Simpson Strong-Tie products must provide the installer with specific instructions on the modified product's specifications, installation, and use.

LIMITED WARRANTY

Simpson Strong-Tie Co., Inc. warrants catalog products to be free from defects in material or manufacturing. Simpson Strong-Tie Co., Inc. products are further warranted for adequacy of design when used in accordance with design limits in this catalog, and properly specified and installed. This warranty does not apply to uses not in compliance with specific applications and installation procedures set forth in this catalog, or to non-catalog or modified products, or to deterioration due to environmental conditions.

Simpson Strong-Tie connectors are designed to enable structures to resist the movement, stress, and loading that results from impact events such as earthquakes and high velocity winds. Properly-installed Simpson Strong-Tie connectors will perform in accordance with the specifications set forth in the applicable Simpson catalog. Additional performance limitations for specific products may be listed on the applicable catalog pages.

Due to the particular characteristics of the impact event, the specific design and location of the structure, the building materials used, the quality of construction, and the condition of the soils involved, damage

may nonetheless result to a structure and its contents even if the loads resulting from the impact event do not exceed Simpson catalog specifications and Simpson Strong-Tie connectors are properly installed in accordance with applicable building codes.

All warranty obligations of Simpson Strong-Tie Co., Inc. shall be limited, at the discretion of Simpson Strong-Tie Co., Inc., to repair or replacement of the defective part. These remedies shall constitute Simpson Strong-Tie Co., Inc.'s sole obligation and sole remedy of purchaser under this warranty. In no event will Simpson Strong-Tie Co., Inc. be responsible for incidental, consequential, or special loss or damage, however caused.

This warranty is expressly in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose, all such other warranties being hereby expressly excluded. This warranty may change periodically - consult our website www.strongtie.com for current information.

Cover photos,
clockwise from
top left:

Avignon Apartments, San Jose, CA (Engineer: LS Mason & Associates, Contractor: Etter and Sons Construction Inc.)
Bioala University Student Housing, La Miranda, CA (Engineer: Brandow & Johnston Associates, Contractor: Brian Becker Construction);
The Orsini, Los Angeles, CA (Engineer: Ed Babayan Associates, Contractor: DNM Construction);
LaJolla Crossroads, San Diego, CA (Engineer: Ed Babayan & Associates, Contractor: Torres General)

TABLE OF CONTENTS

General Notes	4	Takeup Device (TUD1½-1)	46
Compression Member Selection Tables	5-9	ATS Strong Rods	46
ATS Design Example	10-11	ATS Plate Washers	47
Doug Fir-Larch/Southern Pine Tiedown Systems		ATS 3 Series Plates	47
One Story Systems	12-13	ATS Cages and PL Plates	47
Two Story Systems	14-15	Coupler Nuts	48
Three Story Systems	16-19	Alternate Top Story Installation	49
Four Story Systems	20-23	Installation Details	50
Five Story Systems	24-27	Anchor Bolt Locations	51
Hem Fir/Spruce Pine Fir Tiedown Systems		Shearwall Boundary Nailing	51
One Story Systems	28-29	Technical Publications and Software	52
Two Story Systems	30-34		
Three Story Systems	35-37		
Four Story Systems	38-41		
Five Story Systems	42-45		

GLOSSARY OF COMPONENTS

1. **TDS##-{PH1, PH2, PH3}** – Model No. for Tiedown System
 1st # = Number of floors.
 2nd # = Strength level.
 PH#: Plate height for each floor.
2. **TDS#HS-{PH1, PH2, PH3}** – Model No. for High Strength Tiedown System
 # = Number of floors.
 PH# = Plate height for each floor.
3. **ATS-2BH** – Tension/Compression Cage
 Connects lower story rod to upper story rod.
 Maximum rod diameter 1".
 Maximum tension capacity 19,400 lbs.
4. **ATS-2CH** – Tension/Compression Cage
 Connects lower story rod to upper story rod.
 Maximum rod diameter 1".
 Maximum tension capacity 25,210 lbs.
5. **ATS-2DH** – High Strength Tension/Compression Cage
 Connects lower story rod to upper story rod.
 Maximum rod diameter 1½".
 Maximum tension capacity 41,200 lbs.
6. **ATS-2EH** – High Strength Tension/Compression Cage
 Connects lower story rod to upper story rod.
 Maximum rod diameter 1½".
 Maximum tension capacity 60,400 lbs.
7. **ATS-PW#** – Plate Washer
 Used for rods on top of the 3-series plate components.
 # is associated with rod diameter.
Example: PW6 = Plate washer for ¾" rod.
8. **ATS-DW#** – Deep Washer
 Used for rods inside the ATS-2BH, ATS-2CH, ATS-2DH or ATS-2EH components.
 # is associated with the rod diameter.
Example: DW6 = Deep Washer for ¾" rod.
9. **ATS-3** – Top of System Bearing Plate
10. **ATS-C##** – Coupling Nuts (**ATS-HSC#** for high strength)
 1st # = One end's rod size in eighths of an inch.
 2nd # = Other end's rod size in eighths of an inch.
Example: C54 = ⅝" to ½" reducing coupler nut
 C44 is a standard ½" to ½" coupler nut.
11. **ATS-N#** – Grade 2H Nuts
 # is rod size in eighths of an inch.
Example: N4 = ½" nut.
12. **ATS-SR#** – Strong Rod (**ATS-SR#H** for high strength)
 # is the rod size in eighths of an inch.
13. **TUD1½-1** – Takeup Device
 Accommodates from ½" to 1½" all thread rod with 1" of travel.
14. **ATS-PL#** – Plate Washers
 Plate washers used under 2-series cages to increase maximum incremental bearing capacity. Maximum rod diameter 1¼".

GENERAL NOTES AND CONDITIONS OF USE

1. Anchor Tiedown System (ATS) Capacities are based on Allowable Stress Design (ASD).
2. The Simpson Tie-Down System (TDS) capacities in this catalog are based on either ASTM A36 rods with a minimum tensile strength of 58,000 psi, or ASTM A108-C1045 rods with a minimum tensile strength of 120,000 psi. Some TDS runs may use a combination of A36 and A108-C1045 rods. Other rod material grades available for custom TDS runs. Contact Simpson Strong-Tie for custom TDS designs. (See pg 46 for all-thread rod identification markings).
3. Contractor or installer of ATS is to cut rods to length as required.
4. Anchor bolts are not provided with the Simpson Anchor Tiedown System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
5. Contractor or Installer to verify that at straight-through coupling nuts, each rod is threaded in halfway or that transition coupling nuts are fully seated onto larger rods and then the smaller rod fully seated into coupling nut.
6. Project Engineer to review and specify when optional Take-Up Device (TUD1½-1) is to be installed.
7. Shearwall sheathing not to have vertical joints at any of the specified compression members either side of the ATS-Rod with the exception of the shearwall perimeter.
8. Provide shearwall boundary nailing, per the Project Engineer, equally distributed to each stud or post on either side of the ATS rod with spacing equal to:
 - a. For Tiedown Systems with (2) compression members or less on each side of the rod, use the specified boundary nailing, per the Project Engineer, times the total number of compression members, but not greater than 12" on center.
 - b. For Tiedown Systems with more than (2) compression members on each side of the rod, all members shall be field nailed at 12" on center.
9. See page 51 for boundary nailing details.
10. Refer to table below for applicability of load duration factor and ½ steel stress increase.

Applicability of Load Duration factor and ½ Steel Stress Increase Table

Code	Load Combination	Cd (Wood) allowed	½ Stress Increase (Steel) allowed
ASCE 7-98, ASCE 7-2002	Basic	Yes	No
2000 International Building Code	Basic	Yes	No
	Alternate	Yes	Yes
2003 International Building Code	Basic	Yes	No
	Alternate	Yes	No
1997 Uniform Building Code	Basic	Yes	No
	Alternate	Yes	Yes
NFPA5000	Basic (ASCE 7-98)	Yes	No
Florida Building Code	Basic	Yes	No (except for Shutter systems)

GENERAL LUMBER NOTES

- a. Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System (ATS).
- b. With the Simpson Anchor Tie-Down System (ATS), it is not necessary to design the lumber in tension. See the Compression Member Selection Tables on pages 5-9 for some compression member allowable capacities and additional design assumptions.
- c. The compression capacity of the lumber listed in the tables are based on the 2001 National Design Specification (NDS) for the plate heights, wall plate and post species specified.
- d. Wall plates and stud species are assumed to be the same as specified in the Compression Member Selection Tables (UNO). The specifier must review the compression members for variation of species, or unsupported heights other than those listed in the tables.
- e. Allowable perpendicular to grain stress for D.Fir-L lumber based on 625 psi, Southern Pine lumber based on 565 psi, Spruce-Pine-Fir lumber based on 425 psi, and Hem-Fir lumber based on 405 psi. Parallam lumber based on 750 psi.
- f. 2x based on stud grade, 3x # 2 grade, 4x and 6x lumber based on # 1 grade.
- g. Bearing area factor C_b not included in lumber values.
- h. Perpendicular to grain capacities listed in the Compression Member Selection Tables may be multiplied by C_b for bearings not nearer than 3" to the end of the member.

T (in)	1.50	2.50	3.50	5.50	≥ 6.00
C _b	1.25	1.15	1.11	1.07	1.0

COMPRESSION MEMBER SELECTION

Column Perpendicular and Parallel to Grain Capacities for D.Fir-L (Solid Lumber Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c \perp}$	Parallel to Grain, P_c Lbs.									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	6562	5560	5740	4528	4629	3731	3792	3116	3155	2635	2661
	1-3x4	10937	11272	11468	9009	9121	7340	7409	6084	6128	5119	5149
	1-4x4	15312	16845	17121	13445	13603	10946	11042	9067	9130	7626	7669
	2-3x4	21875	22544	22937	18018	18242	14680	14818	12168	12257	10238	10298
	1-4x6	24062	26349	26808	21059	21321	17158	17318	14222	14325	11966	12036
	1-4x8	31718	34554	35197	27659	28025	22556	22779	18707	18852	15746	15844
	1-4x10	40468	43832	44706	35144	35641	28690	28993	23811	24007	20052	20184
	2-4x6	48125	52699	53616	42119	42643	34317	34637	28444	28651	23932	24073
	1-4x12	49218	53309	54372	42743	43347	34893	35262	28959	29197	24388	24548
2-4x8	63437	69109	70394	55318	56050	45112	45559	37414	37704	31493	31689	
6-inch Wall	1-2x6	10312	15074	16766	13544	14696	11972	12725	10489	10979	9166	9491
	1-3x6	17187	35040	37547	29951	31442	25460	26365	21690	22261	18591	18967
	1-4x6	24062	53099	56665	45143	47241	38232	39501	32492	33293	27804	28331
	1-6x6	37812	62377	69511	56195	61095	49791	53013	43703	45808	38245	39642
	1-6x8	51562	85059	94788	76630	83312	67897	72291	59595	62465	52152	54057
	1-6x10	65312	107742	120065	97065	105529	86003	91568	75488	79123	66059	68473
	1-6x12	79062	130424	145342	117499	127746	104108	110846	91380	95780	79967	82888

Column Perpendicular and Parallel to Grain Capacities for D.Fir-L (Multiple 2x Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c \perp}$	Parallel to Grain, P_c Lbs.									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	6562	5560	6672	4528	5434	3731	4477	3116	3739	2635	3162
	2-2x4	13125	11121	13345	9056	10867	7463	8956	6232	7478	5270	6324
	3-2x4	19687	20289	24347	16216	19459	13212	15854	10951	13141	9214	11057
	4-2x4	26250	22242	26690	18113	21736	14927	17912	12464	14957	10540	12648
	5-2x4	32812	27803	33364	22641	27169	18658	22390	15580	18696	13175	15810
	6-2x4	39375	33364	40037	27169	32603	22390	26868	18696	22435	15811	18973
	7-2x4	45937	38925	46710	31697	38036	26122	31346	21812	26174	18446	22135
	8-2x4	52500	44485	53382	36226	43471	29854	35825	24928	29914	21081	25297
	9-2x4	59062	50046	60055	40754	48905	33585	40302	28045	33654	23716	28459
6-inch Wall	1-2x6	10312	15074	18089	13544	16253	11972	14366	10489	12587	9166	10999
	2-2x6	20625	30148	36178	27089	32507	23945	28734	20978	25174	18333	22000
	3-2x6	30937	45222	54266	40634	48761	35918	43102	31468	37762	27500	33000
	4-2x6	41250	58432	70118	52842	63410	46984	56381	41354	49625	36264	43517
	5-2x6	51562	73041	87649	66053	79264	58730	70476	51693	62032	45330	54396
	6-2x6	61875	87649	105179	79264	95117	70476	84571	62032	74438	54396	65275
	7-2x6	72187	102257	122708	92475	110970	82222	98666	72371	86845	63462	76154

- Wall plates and stud/post species assumed to be the same as specified in the compression member selection tables.
- Allowable perpendicular to grain stress for D.Fir-L lumber based on 625 psi.
- Effective length of lumber l_e used equal to plate height less (3) 2x wall plates.
- Capacities shown assume $K_E = 1.0$.
- Bearing area factor C_b not included in lumber values.

- $P_{c \perp}$ capacities listed in the *Compression Member Selection Tables* may be multiplied by C_b for bearings not nearer than 3" to the end of the member.

T (in)	1.50	2.50	3.50	5.50	≥ 6.00
C_b	1.25	1.15	1.11	1.07	1.0

- See General Notes for additional information.

Columns are limited by Parallel to Grain loads.

COMPRESSION MEMBER SELECTION

Column Perpendicular and Parallel to Grain Capacities for Spruce-Pine-Fir (Solid Lumber Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c Lbs.									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	4462	4761	4916	3878	3966	3197	3249	2669	2703	2258	2280
	1-3x4	7437	9834	10012	7866	7968	6412	6474	5317	5357	4474	4502
	1-4x4	10412	13767	14017	11013	11155	8977	9064	7444	7500	6264	6302
	2-3x4	14875	19668	20024	15733	15936	12825	12949	10634	10714	8949	9004
	1-4x6	16362	21524	21939	17244	17480	14070	14214	11673	11766	9828	9891
	1-4x8	21568	28211	28793	22639	22969	18491	18692	15351	15481	12931	13018
	1-4x10	27518	35763	36554	28754	29202	23513	23785	19535	19711	16464	16582
	2-4x6	32725	43049	43879	34488	34960	28140	28428	23346	23532	19656	19782
	1-4x12	33468	43496	44458	34971	35516	28597	28928	23759	23973	20024	20168
2-4x8	43137	56423	57586	45278	45938	36982	37384	30703	30962	25862	26037	
6-inch Wall	1-2x6	7012	12880	14333	11581	12572	10243	10891	8978	9400	7848	8129
	1-3x6	11687	30306	32556	25990	27338	22144	22964	18894	19413	16211	16552
	1-4x6	16362	42428	45578	36386	38273	31002	32150	26452	27178	22696	23173
	1-6x6	25712	45818	51760	42062	46425	37949	40971	33812	35850	29927	31302
	1-6x8	35062	62480	70582	57358	63306	51748	55869	46108	48887	40810	42684
	1-6x10	44412	79141	89404	72653	80188	65548	70768	58403	61923	51693	54067
	1-6x12	53762	95803	108226	87949	97070	79348	85666	70699	74960	62575	65449

Column Perpendicular and Parallel to Grain Capacities for Spruce-Pine-Fir (Multiple 2x Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c Lbs.									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	4462	4761	4916	3878	3966	3197	3249	2669	2703	2258	2280
	2-2x4	8925	9523	9833	7757	7932	6394	6499	5339	5407	4516	4560
	3-2x4	13387	14284	14749	11636	11898	9591	9749	8009	8110	6774	6841
	4-2x4	17850	19046	19666	15514	15864	12788	12998	10679	10814	9032	9121
	5-2x4	22312	23808	24583	19393	19830	15985	16248	13349	13517	11290	11402
	6-2x4	26775	28569	29499	23272	23796	19182	19498	16019	16221	13548	13682
	7-2x4	31237	33331	34416	27151	27762	22379	22747	18689	18924	15806	15963
	8-2x4	35700	38093	39333	31029	31728	25576	25997	21359	21628	18064	18243
	9-2x4	40162	42854	44249	34908	35694	28773	29247	24029	24331	20322	20524
6-inch Wall	1-2x6	7012	12880	14333	11581	12572	10243	10891	8978	9400	7848	8129
	2-2x6	14025	25761	28666	23162	25144	20486	21783	17956	18801	15697	16258
	3-2x6	21037	38642	42999	34743	37717	30729	32675	26934	28202	23546	24387
	4-2x6	28050	49923	55814	45176	49284	40192	42923	35393	37188	31047	32242
	5-2x6	35062	62404	69768	56471	61605	50240	53653	44241	46485	38809	40302
	6-2x6	42075	74885	83721	67765	73926	60288	64384	53090	55782	46571	48363
	7-2x6	49087	87366	97675	79059	86247	70336	75115	61938	65079	54333	56424

1. Wall plates and stud/post species assumed to be the same as specified in the compression member selection tables.
2. Allowable perpendicular to grain stress for Spruce-Pine-Fir lumber based on 425 psi.
3. Effective length of lumber l_e used equal to plate height less (3) 2x wall plates.
4. Capacities shown assume $K_E = 1.0$.
5. Bearing area factor C_b not included in lumber values.

6. $P_{c\perp}$ capacities listed in the *Compression Member Selection Tables* may be multiplied by C_b for bearings not nearer than 3" to the end of the member.

T (in)	1.50	2.50	3.50	5.50	≥ 6.00
C_b	1.25	1.15	1.11	1.07	1.0



Columns are limited by Parallel to Grain loads.

7. See General Notes for additional information.

COMPRESSION MEMBER SELECTION

Column Perpendicular and Parallel to Grain Capacities for Hem-Fir (Solid Lumber Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c (lbs.)									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	4252	4849	4985	3928	4005	3226	3273	2689	2718	2270	2290
	1-3x4	7087	9308	9436	7405	7479	6016	6061	4977	5006	4182	4202
	1-4x4	9922	14893	15130	11880	12016	9668	9751	8007	8061	6733	6770
	2-3x4	14175	18617	18873	14811	14958	12032	12123	9954	10013	8364	8404
	1-4x6	15592	23298	23693	18609	18835	15156	15294	12559	12649	10565	10626
	1-4x8	20553	30557	31110	24443	24758	19926	20118	16521	16646	13904	13988
	1-4x10	26223	38768	39519	31062	31490	25347	25608	21030	21199	17707	17821
	2-4x6	31185	46596	47386	37219	37670	30313	30589	25119	25298	21131	21253
	1-4x12	31893	47150	48064	37779	38298	30827	31145	25577	25782	21535	21674
6-inch Wall	1-2x6	6682	13675	15070	12133	13045	10609	11189	9218	9591	8008	8254
	1-3x6	11137	30380	32078	25472	26449	21376	21963	18059	18430	15392	15637
	1-4x6	15592	47222	50304	40054	41860	33869	34960	28755	29443	24589	25042
	1-6x6	24502	52142	57851	46693	50537	41150	43643	35968	37584	31380	32450
	1-6x8	33412	71103	78888	63672	68914	56114	59513	49048	51252	42792	44250
	1-6x10	42322	90064	99925	80652	87291	71078	75384	62127	64919	54203	56051
	1-6x12	51232	109025	120961	97631	105668	86041	91254	75207	78586	65614	67851

Column Perpendicular and Parallel to Grain Capacities for Hem-Fir (Multiple 2x Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c (lbs.)									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	4252	4849	4985	3928	4005	3226	3273	2689	2718	2270	2290
	2-2x4	8505	9699	9971	7856	8010	6453	6546	5378	5437	4541	4581
	3-2x4	12757	14549	14957	11785	12015	9680	9820	8067	8156	6812	6872
	4-2x4	17010	19399	19943	15713	16020	12907	13093	10756	10874	9083	9162
	5-2x4	21262	24249	24929	19642	20025	16134	16366	13445	13593	11353	11453
	6-2x4	25515	29099	29915	23570	24031	19361	19640	16134	16312	13624	13744
	7-2x4	29767	33949	34901	27499	28036	22588	22913	18823	19030	15895	16034
	8-2x4	34020	38799	39887	31427	32041	25815	26186	21512	21749	18166	18325
	9-2x4	38272	43649	44873	35356	36046	29042	29460	24201	24468	20437	20616
6-inch Wall	1-2x6	6682	13675	15070	12133	13045	10609	11189	9218	9591	8008	8254
	2-2x6	13365	27351	30140	24267	26091	21218	22379	18436	19182	16016	16509
	3-2x6	20047	41027	45210	36401	39137	31827	33569	27654	28773	24025	24763
	4-2x6	26730	53136	58840	47459	51267	41729	44186	36411	37999	31727	32777
	5-2x6	33412	66420	73550	59323	64084	52162	55233	45514	47499	39659	40972
	6-2x6	40095	79705	88261	71188	76901	62594	66279	54617	56999	47591	49166
	7-2x6	46777	92989	102971	83053	89718	73027	77326	63720	66499	55523	57361

1. Wall plates and stud/post species assumed to be the same as specified in the compression member selection tables.

2. Allowable perpendicular to grain stress for Hem-Fir lumber based on 405 psi.

3. Effective length of lumber l_e used equal to plate height less (3) 2x wall plates.

4. Capacities shown assume $K_e = 1.0$.

5. Bearing area factor C_b not included in lumber values.

6. $P_{c\perp}$ capacities listed in the *Compression Member Selection Tables* may be multiplied by C_b for bearings not nearer than 3" to the end of the member.

T (in)	1.50	2.50	3.50	5.50	≥ 6.00
C_b	1.25	1.15	1.11	1.07	1.0

Columns are limited by Parallel to Grain loads.

7. See General Notes for additional information.

COMPRESSION MEMBER SELECTION

Column Perpendicular and Parallel to Grain Capacities for Southern Pine (Solid Lumber Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c (lbs.)									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	5932	5699	5849	4606	4691	3778	3830	3146	3179	2655	2677
	1-3x4	9887	11485	11637	9131	9218	7415	7469	6132	6167	5152	5175
	1-4x4	13842	17157	17368	13624	13746	11055	11130	9138	9188	7674	7708
	2-3x4	19775	22971	23275	18262	18437	14830	14938	12265	12335	10304	10351
	1-4x6	21752	26868	27219	21356	21558	17340	17464	14339	14421	12045	12101
	1-4x8	28673	35281	35771	28073	28355	22809	22983	18871	18984	15857	15934
	1-4x10	36583	44820	45486	35706	36088	29033	29268	24032	24185	20202	20306
	2-4x6	43505	53737	54438	42712	43116	34680	34929	28679	28842	24091	24202
	1-4x12	44493	54511	55321	43427	43891	35311	35596	29229	29415	24570	24696
2-4x8	57347	70562	71543	56146	56710	45618	45966	37742	37968	31715	31869	
6-inch Wall	1-2x6	9322	16357	17945	14427	15447	12553	13196	10868	11279	9418	9689
	1-3x6	15537	37775	39790	31574	32729	26444	27138	22312	22750	19000	19290
	1-4x6	21752	57142	59952	47516	49117	39667	40627	33398	34005	28400	28803
	1-6x6	34182	53665	60513	49140	54120	44220	47643	39312	41608	34735	36279
	1-6x8	46612	73179	82517	67009	73800	60300	64968	53608	56739	47366	49472
	1-6x10	59042	92694	104522	84878	93481	76380	82293	67903	71869	59997	62664
	1-6x12	71472	112208	126527	102747	113161	92460	99617	82199	87000	72628	75857

Column Perpendicular and Parallel to Grain Capacities for Southern Pine (Multiple 2x Sizes)

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c (lbs.)									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-2x4	5932	5699	5849	4606	4691	3778	3830	3146	3179	2655	2677
	2-2x4	11865	11399	11699	9213	9382	7557	7660	6292	6358	5310	5354
	3-2x4	17797	17099	17548	13819	14073	11336	11490	9438	9537	7965	8031
	4-2x4	23730	22799	23398	18426	18764	15115	15320	12584	12716	10621	10709
	5-2x4	29662	28499	29247	23033	23455	18894	19150	15731	15895	13276	13386
	6-2x4	35595	34199	35097	27639	28146	22673	22980	18877	19074	15931	16063
	7-2x4	41527	39899	40947	32246	32838	26452	26810	22023	22253	18587	18741
	8-2x4	47460	45598	46796	36853	37529	30231	30640	25169	25432	21242	21418
	9-2x4	53392	51298	52646	41459	42220	34010	34471	28315	28611	23897	24095
6-inch Wall	1-2x6	9322	16357	17945	14427	15447	12553	13196	10868	11279	9418	9689
	2-2x6	18645	32715	35891	28854	30895	25106	26392	21736	22559	18836	19378
	3-2x6	27967	49073	53837	43281	46343	37659	39588	32605	33838	28255	29068
	4-2x6	37290	63630	70153	56495	60770	49425	52151	42963	44715	37336	38492
	5-2x6	46612	79537	87691	70618	75963	61781	65189	53704	55894	46670	48115
	6-2x6	55935	95445	105229	84742	91155	74138	78226	64445	67073	56004	57739
	7-2x6	65257	111352	122768	98866	106348	86494	91264	75186	78252	65338	67362

1. Wall plates and stud/post species assumed to be the same as specified in the compression member selection tables.
2. Allowable perpendicular to grain stress for Southern Pine lumber based on 565 psi.
3. Effective length of lumber l_e used equal to plate height less (3) 2x wall plates.
4. Capacities shown assume $K_E = 1.0$.
5. Bearing area factor C_b not included in lumber values.

6. $P_{c\perp}$ capacities listed in the *Compression Member Selection Tables* may be multiplied by C_b for bearings not nearer than 3" to the end of the member.

T (in)	1.50	2.50	3.50	5.50	≥ 6.00
C_b	1.25	1.15	1.11	1.07	1.0

Columns are limited by Parallel to Grain loads.

7. See General Notes for additional information.

COMPRESSION MEMBER SELECTION


Column Perpendicular and Parallel to Grain Capacities for Parallam

Framing	Lumber Size (each side of ATS Rod)	Perp. To Grain, $P_{c\perp}$	Parallel to Grain, P_c (lbs.)									
			Plate Height (ft)									
			8		9		10		11		12	
			(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)	(133)	(160)
4-inch Wall	1-3-1/2x3-1/2	15312	25778	26030	20398	20535	16507	16589	13617	13669	11417	11452
	1-3-1/2x5-1/4	22968	38667	39045	30597	30803	24761	24883	20426	20504	17126	17178
	1-3-1/2x7	30625	51556	52060	40797	41071	33015	33178	27235	27338	22835	22904
6-inch Wall	1-5-1/4x3-1/2	22968	77555	81063	64079	65810	53057	53994	44354	44906	37502	37850
	1-5-1/4x5-1/4	34453	116332	121595	96118	98715	79586	80992	66531	67359	56253	56775
	1-5-1/4x7	45937	155110	162126	128158	131620	106115	107989	88708	89813	75004	75700

1. Wall plates assumed to be D.Fir-L in the above listed table.
2. Allowable perpendicular to grain stress for Parallam Lumber based on 750 psi.
3. Effective length of lumber l_e used equal to plate height less (3) 2x wall plates.
4. Capacities shown assume $K_F = 1.0$.
5. Bearing area factor C_D not included in lumber values.

6. $P_{c\perp}$ capacities listed in the *Compression Member Selection Tables* may be multiplied by C_D for bearings not nearer than 3" to the end of the member.

T (in)	1.50	2.50	3.50	5.50	≥ 6.00
C_b	1.25	1.15	1.11	1.07	1.0

 Columns are limited by Parallel to Grain loads.

7. See General Notes for additional information.

The Anchor Tiedown System is designed to provide concentric over-turning holdown capacity for residential and light commercial structures. This holdown application is easy to specify, install and inspect.

SPECIFY:

The specifier will need to determine the holdown loads required at each floor. Use the charts provided to pick the appropriate Tiedown System (TDS) run based on the number of floors and the holdown capacity. The TDS will provide only the tension part of the shearwall; the specifier will need to determine the compression stud and the shear nailing schedule, in accordance with the applicable building code.

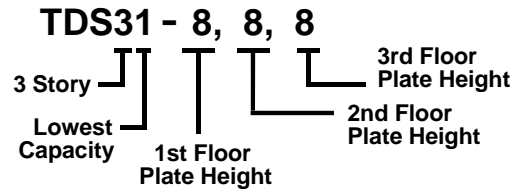
For simplicity during installation the specifier may want to designate similar runs.

Advantages of the Anchor Tiedown System

- Tension Calculations of posts not required.
- High Capacity.
- Fast Installation.
- No Horizontal Drilling.
- Takeup 1" of wood shrinkage per floor when optional Take-up device is specified.

CODES: ICC-ES ER 5090, City of Los Angeles RR 25236. (Check current code reports and the Simpson website for latest information.)

Naming Scheme:



Rod Length = Ceiling height plus floor system plus 8" Calculation (Takeup Device clearance) rounded up in 1 foot increments.

Rod Length Example:

1 - 2x Plates	=	1.50
2 x 12 Floor System	=	11.25
3/4" Floor	=	0.75
		<hr/>
		13.50"

8' Plate Height + 13 1/2" + 8" Takeup clearance = 9'-9 1/2" = Rod Length 10'

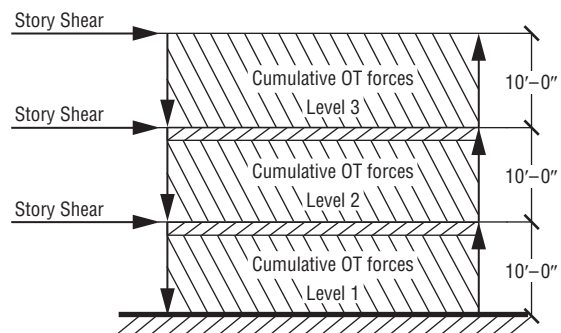
Actual rod length will be 2' longer than the plate height for all floors except the top floor, in this example.

ATS DESIGN EXAMPLE

Given Overturning Forces

Level	ASD Cumulative OT Forces (lbs)	Incremental OT Forces (lbs)	ASD Cumulative OT Compression Forces (lbs)
3	13,000	13,000	15,000
2	20,000	7,000	23,000
1	30,000	10,000	35,000

1. The structural design overturning forces listed above are arbitrary and intended only for this design example. Simpson Strong-Tie is not responsible for structural design of the building or derivation of the structural forces.
2. The incremental OT Forces are the difference between the cumulative OT Forces.



ATS DESIGN EXAMPLE CONTINUED

TRY TDS37 WITH DOUG FIR-LARCH STUDS & WALL PLATES (ASSUME 133 ALLOWABLE LOADS)

1. Check Incremental and Cumulative ASD OT Forces (in the last column) against capacities.

MODEL NO.			TDS37		INCREMENTAL	
Lumber Species			D-Fir-L	SP	CUMULATIVE	
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	18360	16600	13,000	OK
	Allowable Rod Tensile Capacity	Lbs (100)	12270		13,000	OK
		Lbs (133)	16300			
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7,000	OK
	Allowable Rod Tensile Capacity	Lbs (100)	17670		20,000	OK
		Lbs (133)	23500			
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	9335	7720	10,000	NO GOOD - Add ATS-PL1 under ATS-2 Cage)
	Allowable Rod Tensile Capacity	Lbs (100)	24050		30,000	OK
		Lbs (133)	32070			

- See page 18 for TDS37 allowable capacities.
- See page 47 for ATS PL1 plate bearing capacity.

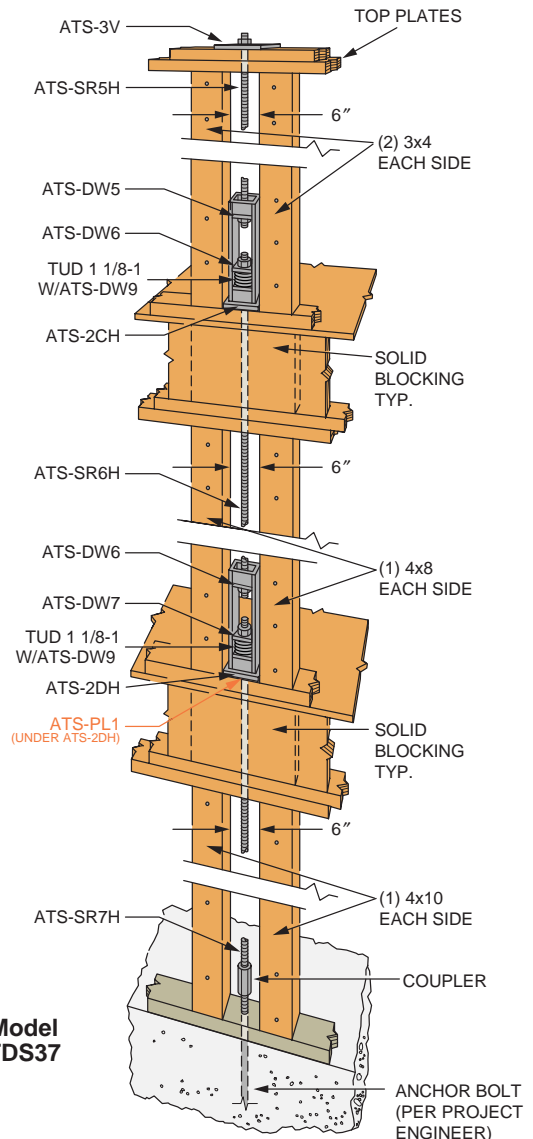
2. Check Compression Members

Level	Cumulative OT Compression Forces (lbs)		9' D.Fir-L 4x Stud Compression Capacity (lbs)	Compression Members Each Side of ATS Rod
3	15,000	<	18,000	(2) 3x4
2	23,000	<	27,660	(1) 4x8
1	35,000	<	35,140	(1) 4x10

- See page 5 for 9-foot D.Fir-L compression capacity.
- 9'-0" unsupported stud height, based on 10'-0" floor to floor, assumed for design example.
- Example only reviews compression case for the lumber species, plate height, and arbitrary loads assumed. Designer must review compression post and size for any additional loads, load combinations, variation in species, variation in lumber grade, or unsupported heights as specified in the code.

THEREFORE, USE TDS37 WITH ADDITIONAL ATS-PL1 PLATE AT THE 2ND FLOOR AND THE COMPRESSION MEMBERS SHOWN.

Design software available December 2003. Call for assistance with custom design runs.



Model TDS37



ONE STORY SYSTEMS

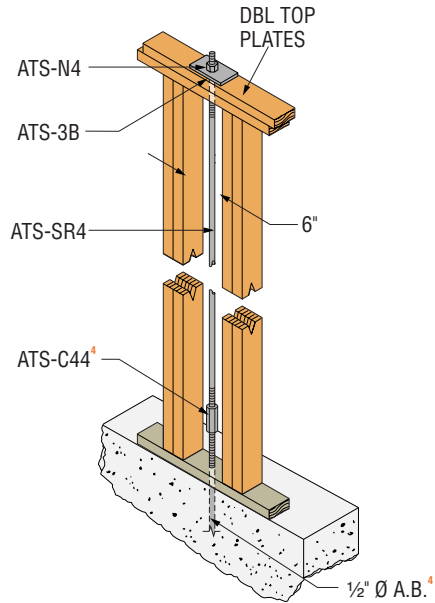
ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090
City of LA RR 25236

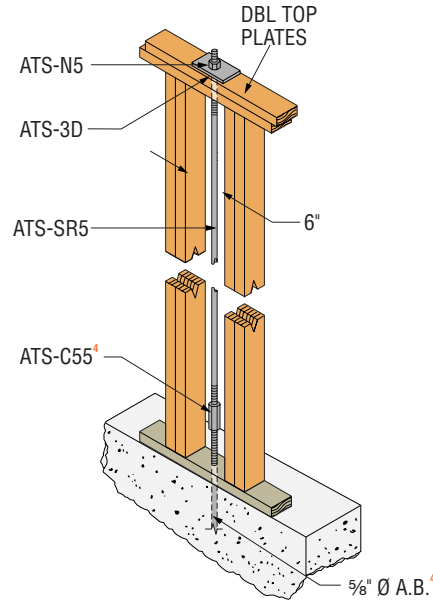
MODEL NO.			TDS11		TDS12		TDS13		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	9925	9735	12505	11305	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

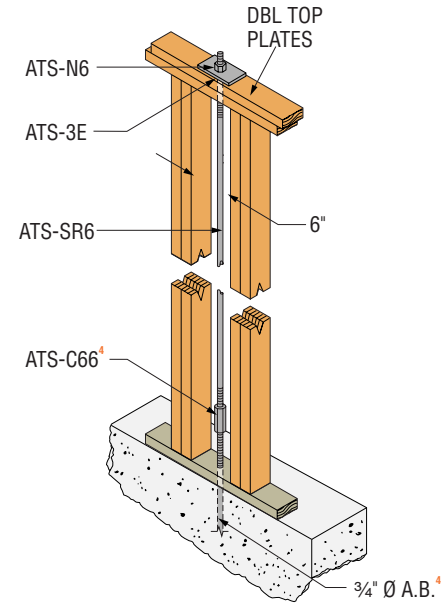
The values highlighted in orange represent capacity which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS11



TDS12

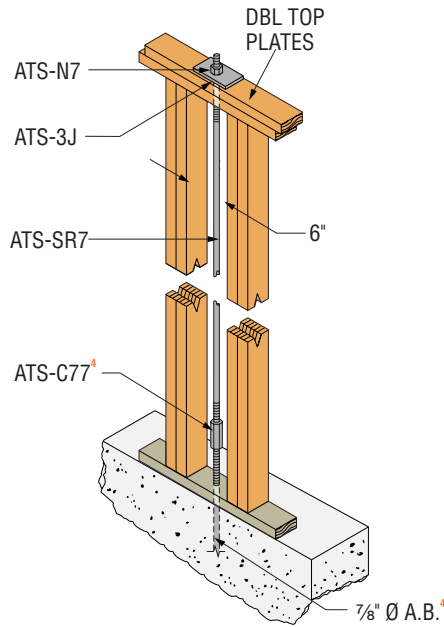


TDS13

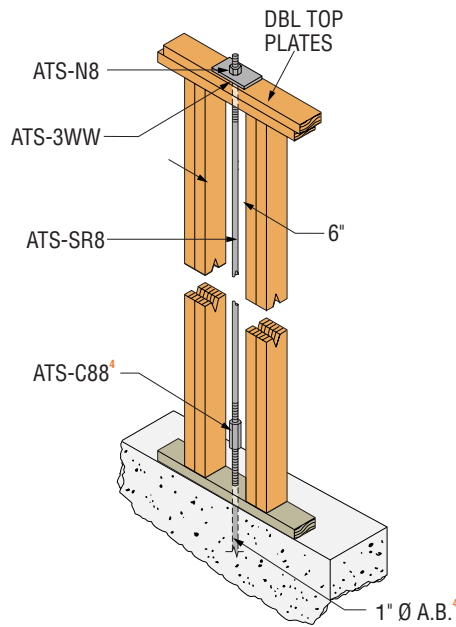
MODEL NO.			TDS14		TDS15		TDS16		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	17070	15430	21320	19275	27745	25080	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		19210		
		Lbs (133)	15500		20240		25620		

- Contact SST for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on pages 5-9 for some compression member allowable capacities and design assumptions.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

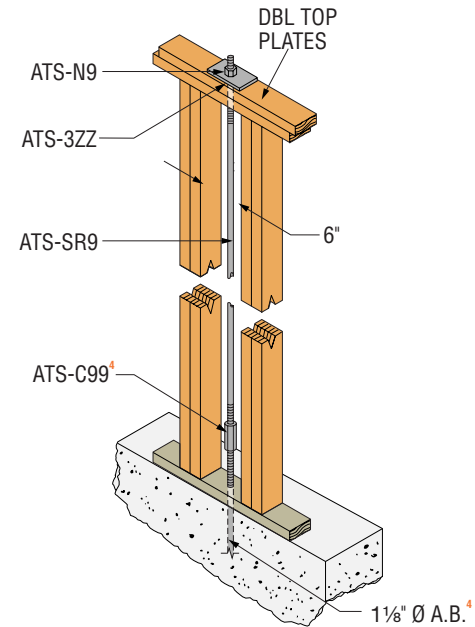
The values highlighted in orange represent capacity which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS14



TDS15



TDS16



TWO STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090; City of LA RR 25236

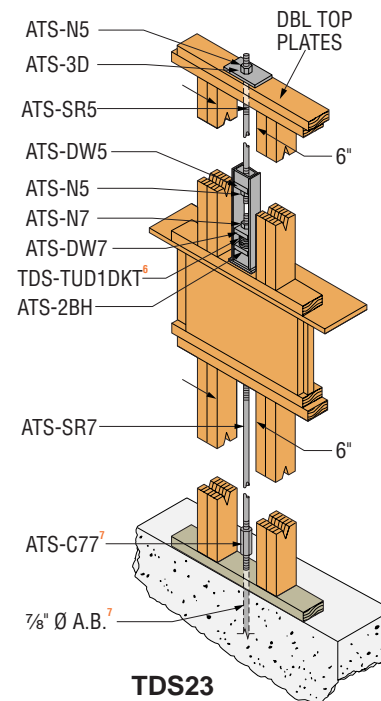
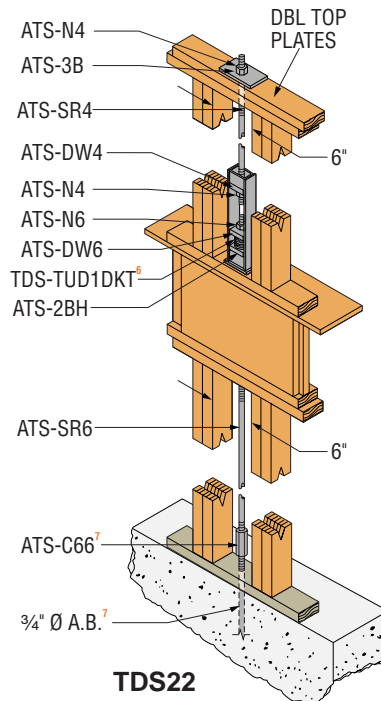
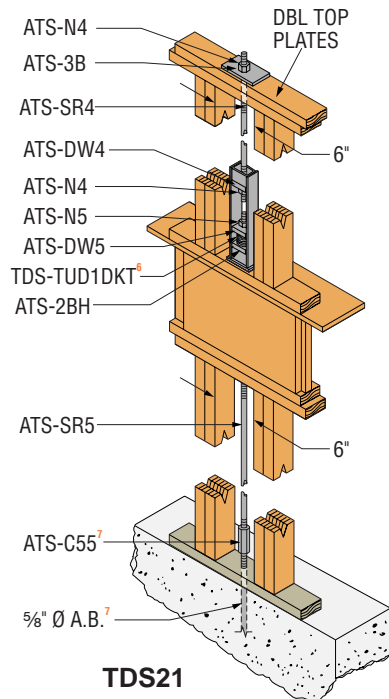
MODEL NO.		TDS21		TDS22		TDS23		INCREMENTAL
Lumber Species		D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	6155	5565	9925	9735
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		5930	
		Lbs (133)	5060		5060		7900	
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125 ⁹	6440 ⁹
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620	
		Lbs (133)	7900		11380		15500	

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS System at the level directly above as per the table values.

- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.
- Optional Simpson Take-up Device to be specified by project engineer.** See pg 46 for information on the Take-up Device.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match

- the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

- To achieve "Allowable Rod Tensile Capacity" for rod directly below, additional ATS-PL1 bearing plate required below ATS-2 series cage. See pg 47 for ATS-PL1 capacity.



The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (See page 4)

CODES • ICC ER 5090; City of LA RR 25236

MODEL NO.			TDS24		TDS25		TDS2HS		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	17070	15430	21320	19275	25925	23435	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		17670		
		Lbs (133)	15500		20240		23560		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	9335	8440	8540	7720 ⁹	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		
		Lbs (133)	20240		25620		32070		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Load" of the ATS System at the level directly above as per the table values.

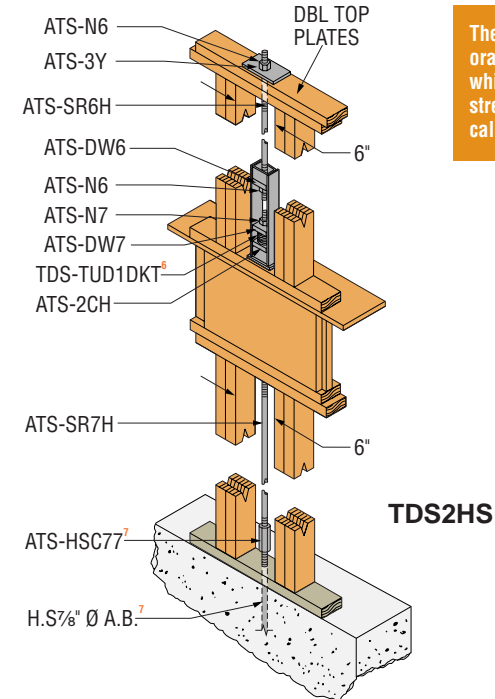
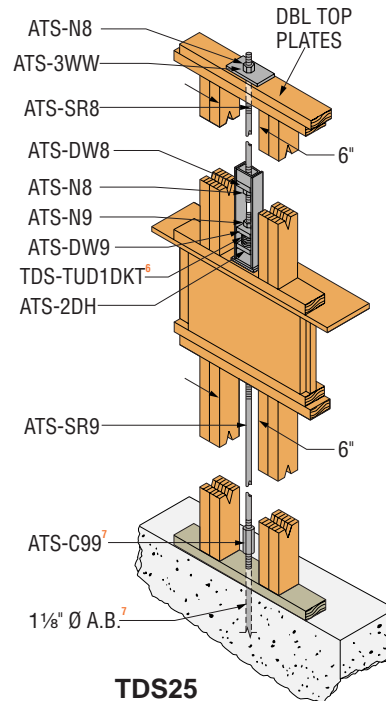
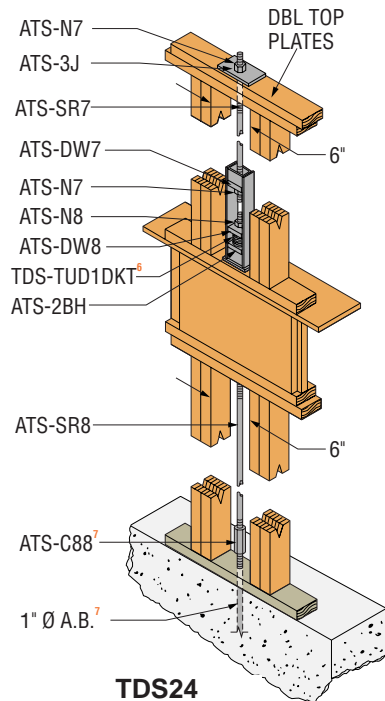
5. The "Maximum Incremental Story Bearing Load" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for information on the Take-up Device
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match

the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.

- See pg 10-11 for a design example and guide for the specifier.

9. To achieve "Allowable Rod Tensile Capacity" for rod directly below, additional ATS-PL1 bearing plate required below ATS-2 series cage. See pg 47 for ATS-PL1 capacity.



The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (See page 4)

THREE STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

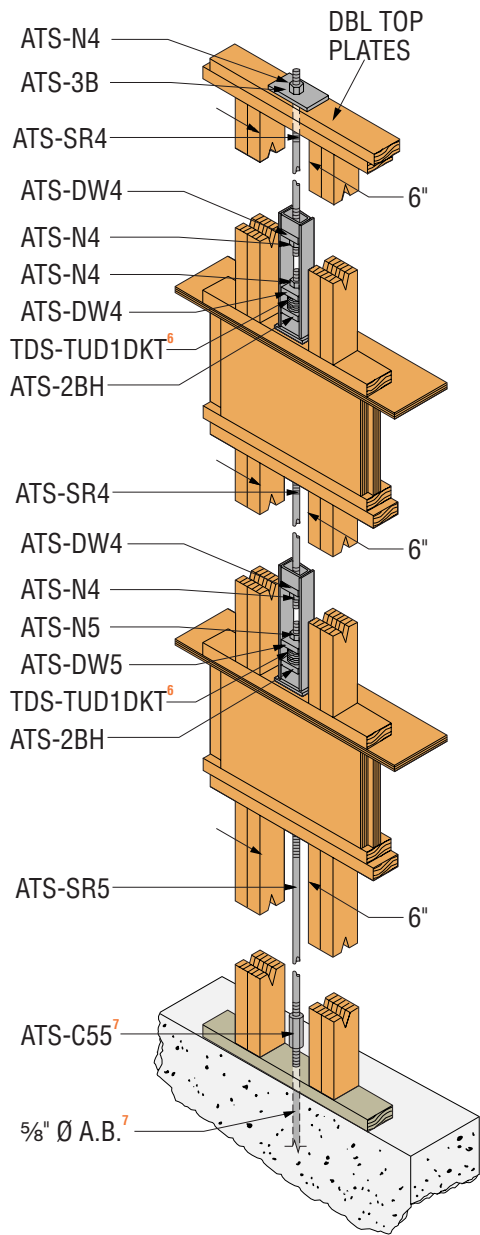
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS31		TDS32		TDS33		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	6155	5565	6155	5565	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

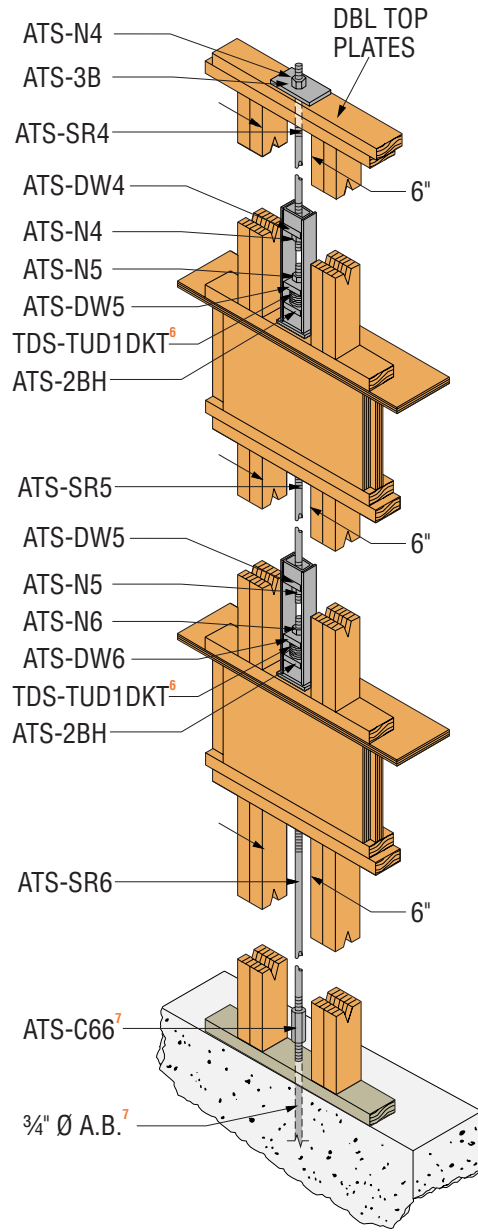
- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for additional information on the Take-up Device
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

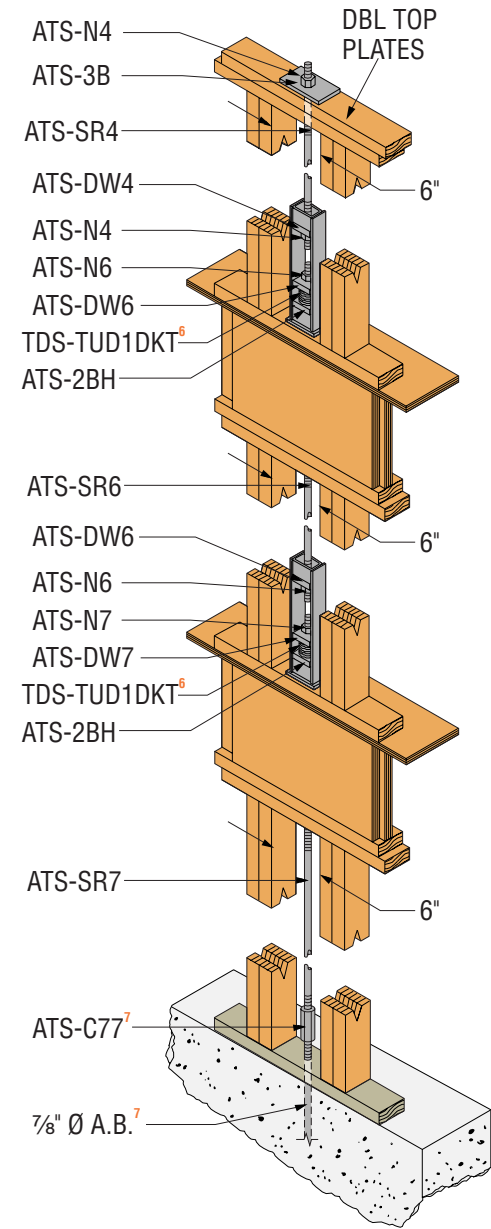
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS31



TDS32



TDS33

THREE STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

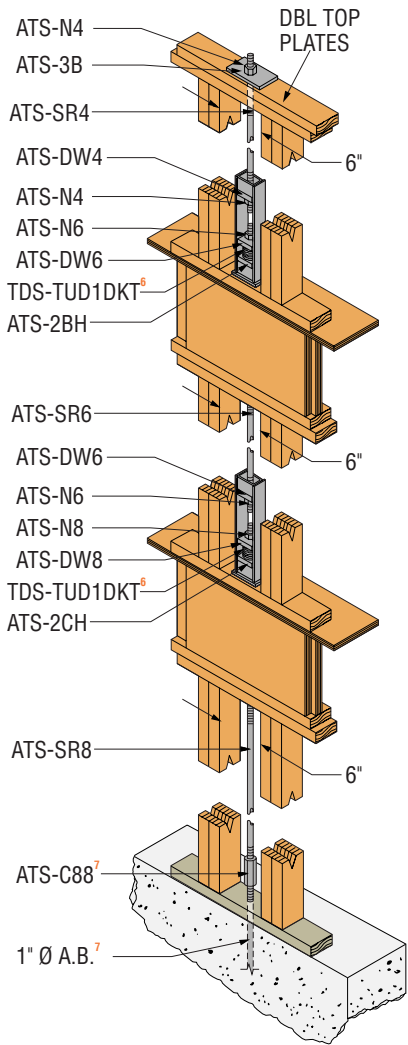
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS34		TDS35		TDS37		TDS3HS		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	12505	11305	18360	16600	23740	21460	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		8540		12270		17670		
		Lbs (133)	5060		11380		16360		23560		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125 ⁹	6440 ⁹	7125 ⁹	6440 ⁹	9335	9335	
	Allowable Rod Tensile Capacity	Lbs (100)	8540		15180		17670		24050		
		Lbs (133)	11380		20240		23500		32070		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	8540 ⁹	7720 ⁹	9335	8440	9335	7720 ⁹	9335 ⁹	7720 ⁹	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		31410		
		Lbs (133)	20240		25620		32070		41880		

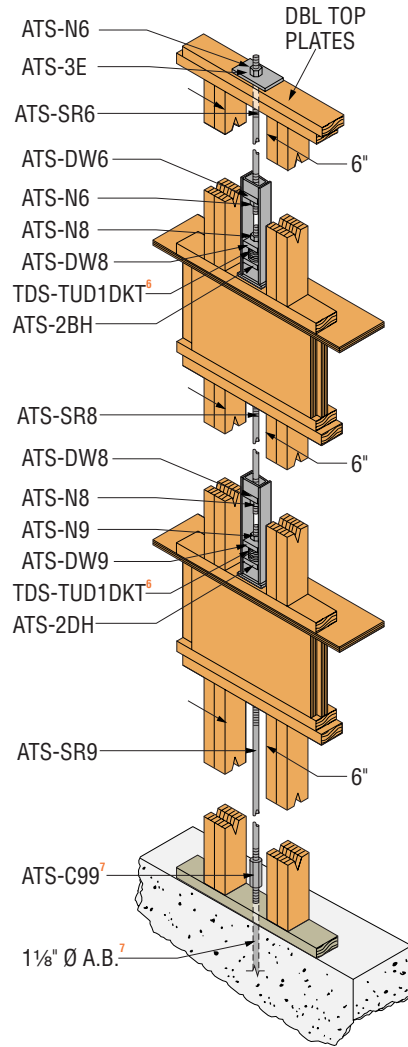
- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for additional information on the Take-up Device
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.
- To achieve "Allowable Rod Tensile Capacity" for rod directly below, additional ATS-PL1 bearing plate required below ATS-2 series cage. See pg 47 for ATS-PL1 capacity.

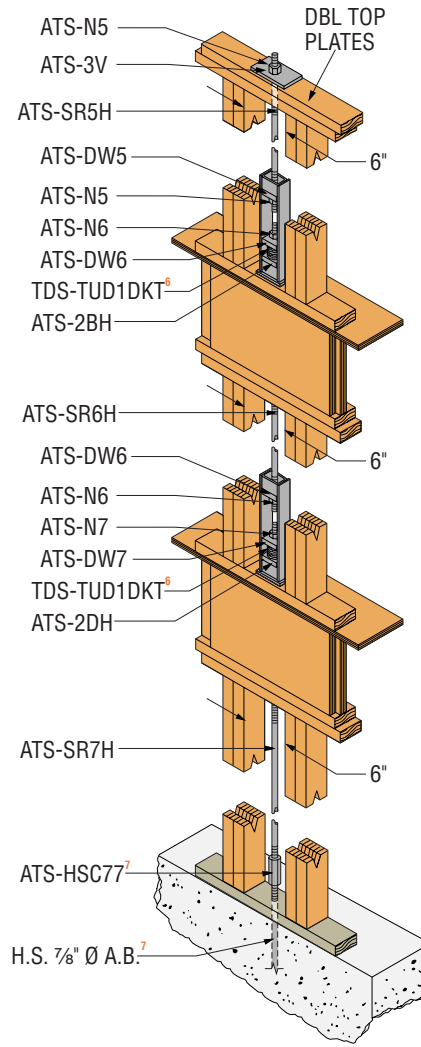
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



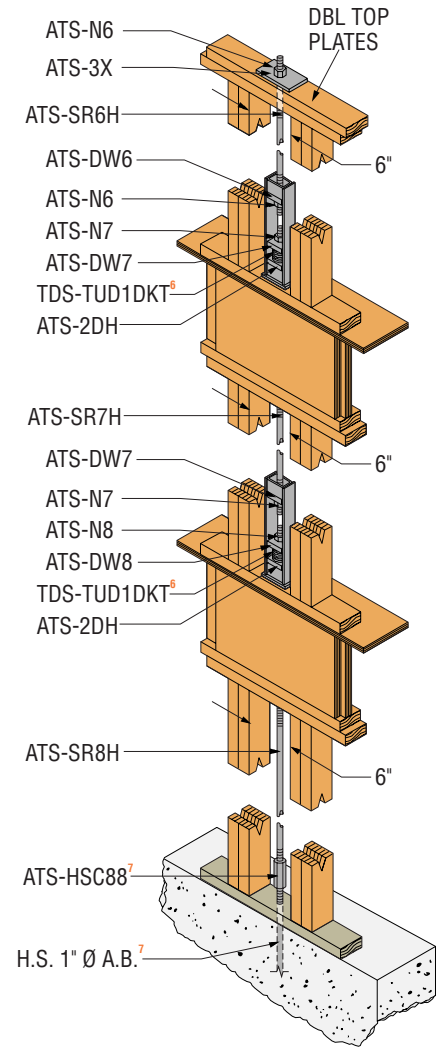
TDS34



TDS35



TDS37



TDS3HS

FOUR STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

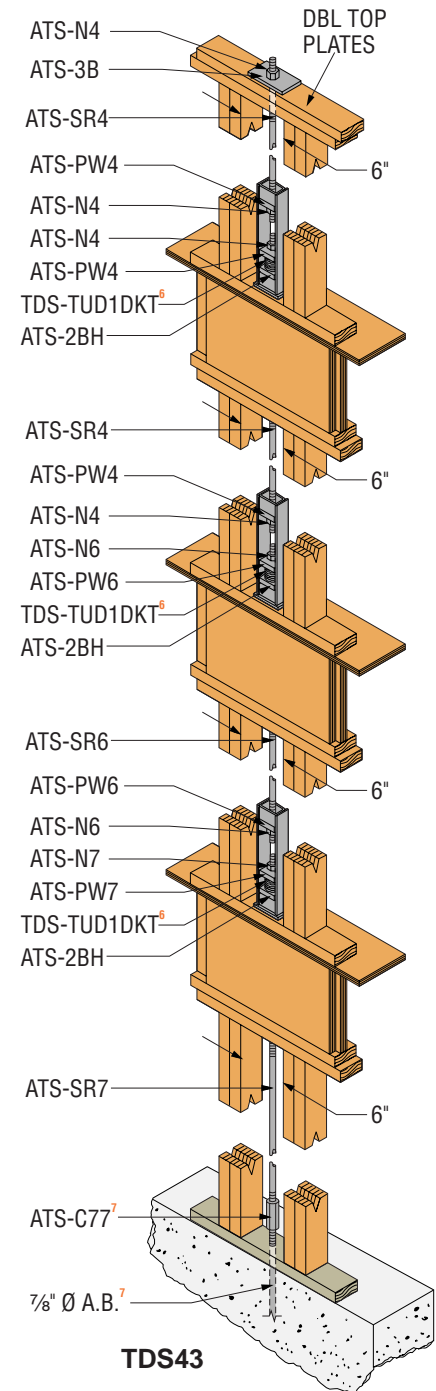
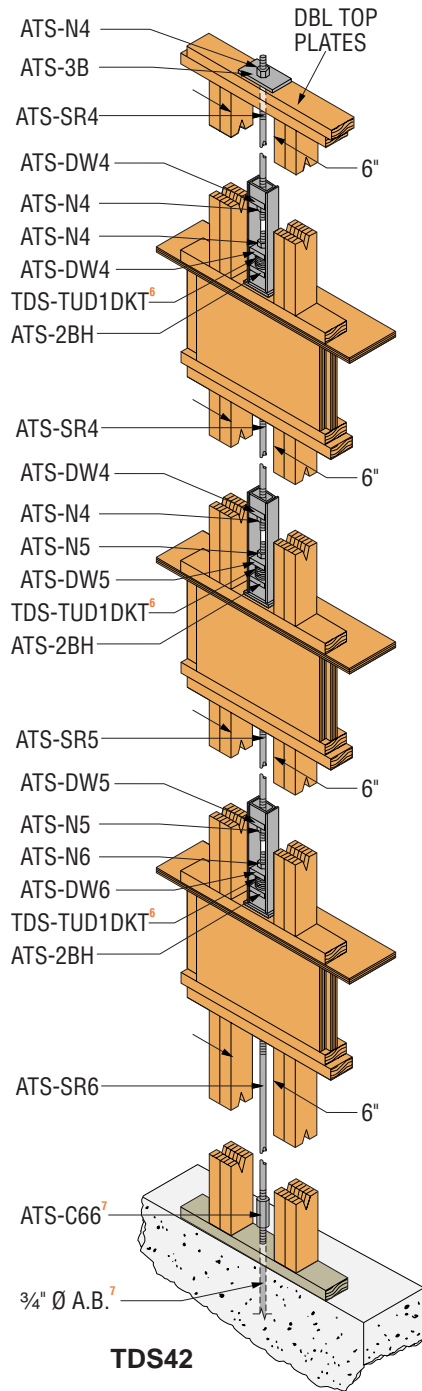
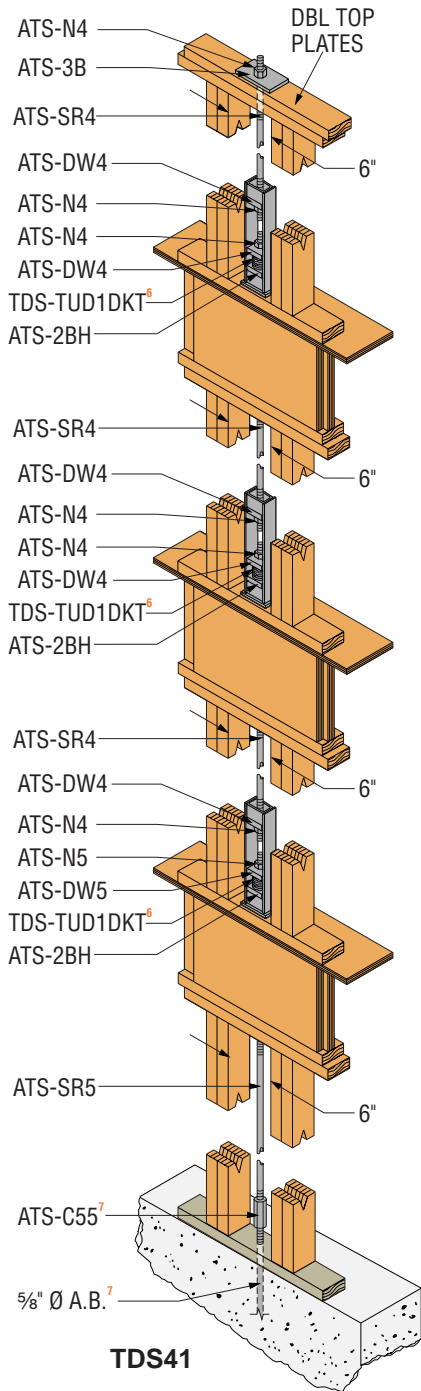
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS41		TDS42		TDS43		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	6155	5565	6155	5565	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for additional information on the Take-up Device
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)





FOUR STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

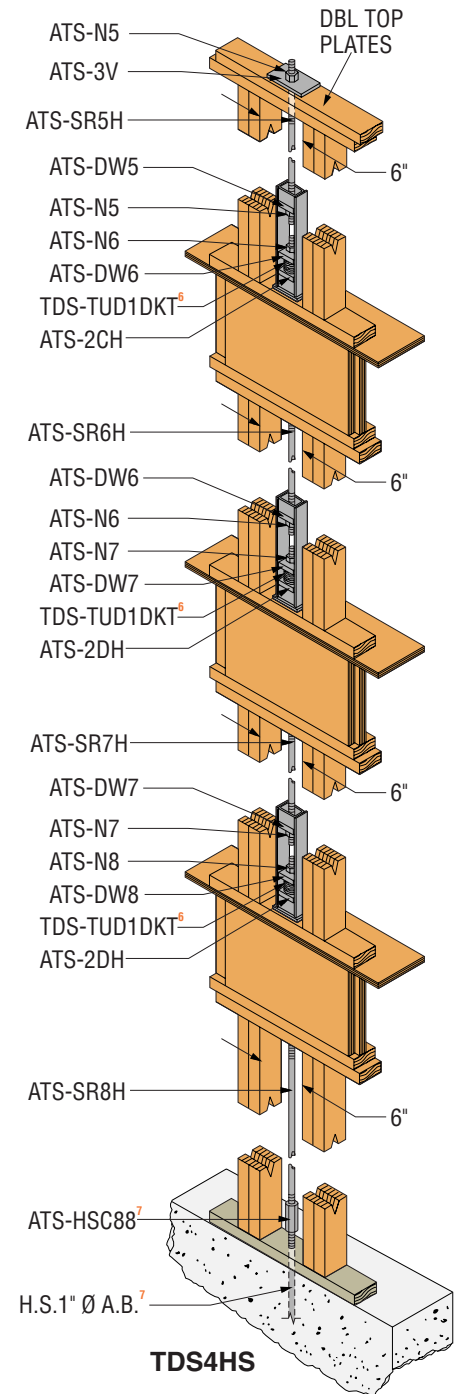
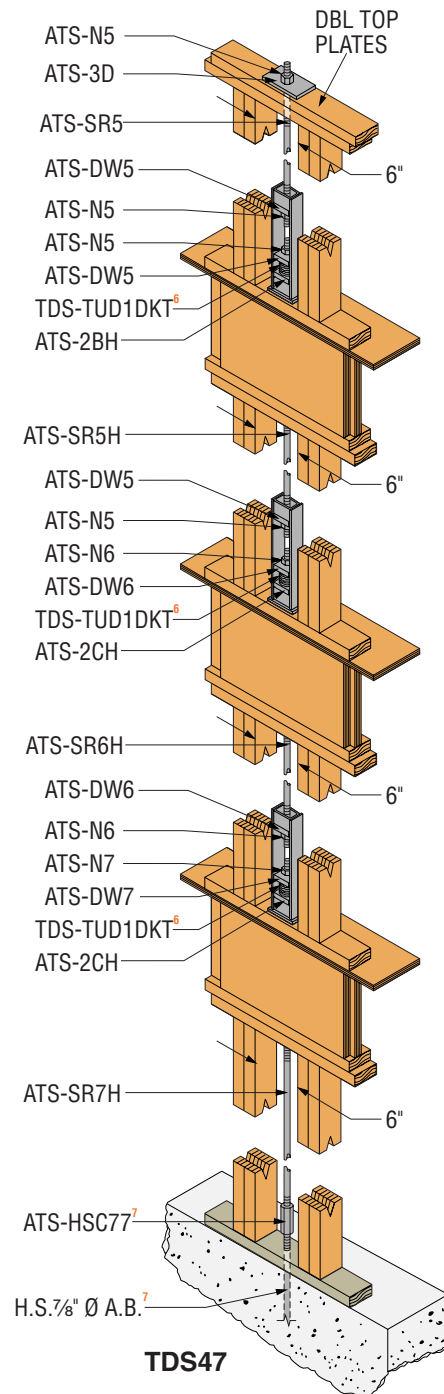
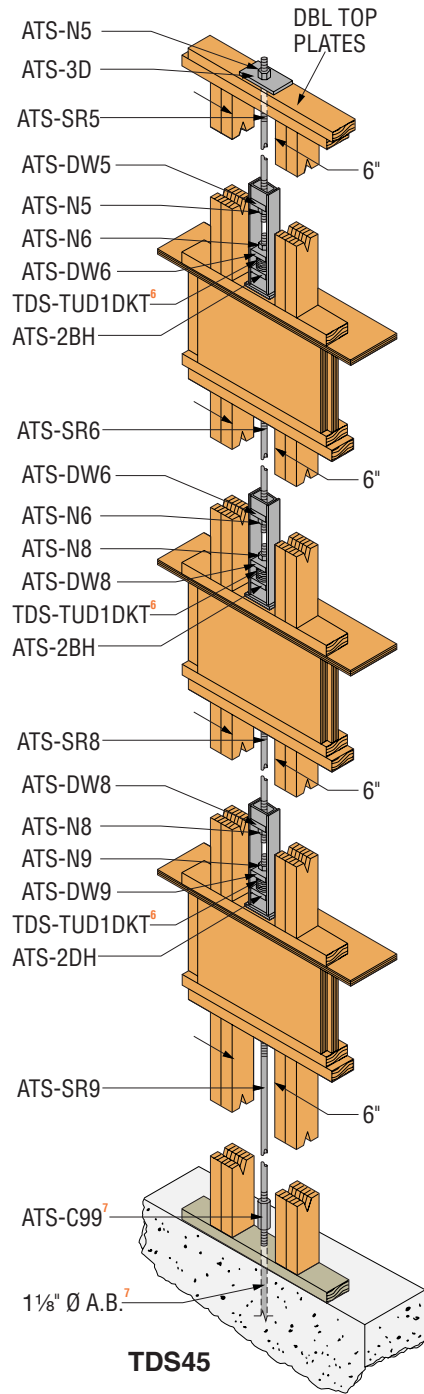
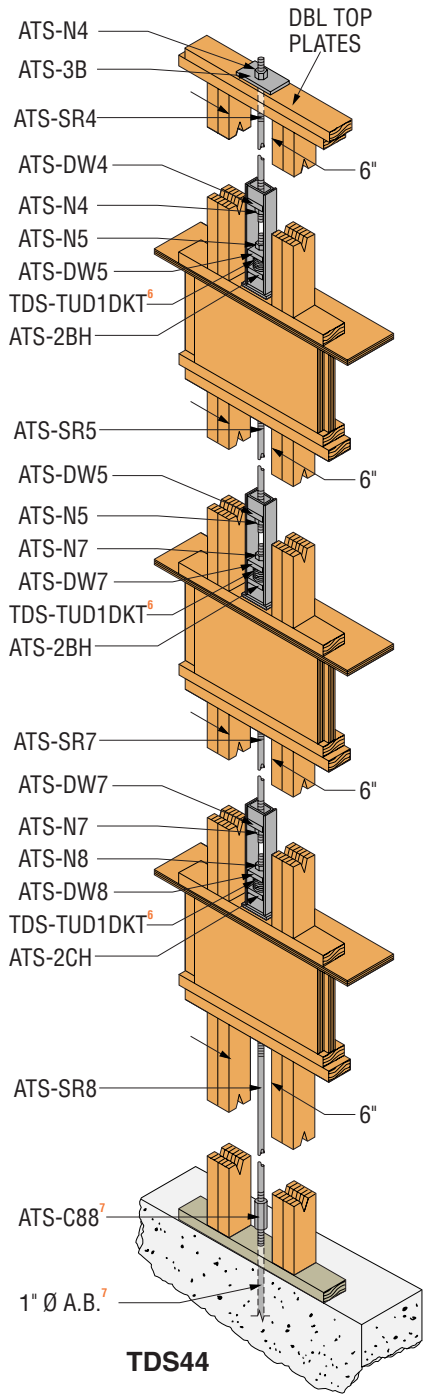
CODES • ICC ER 5090
City of LA RR 25236

MODEL NO.			TDS44		TDS45		TDS47		TDS4HS		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	9925	9735	9925	9735	18360	16600	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		5930		12270		
		Lbs (133)	5060		7900		7900		16360		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	8540	7720	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		12270		17670		
		Lbs (133)	7900		11380		16360		23560		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440 ⁹	7125 ⁹	6440 ⁹	8540	7720	9335	8440 ⁹	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		17670		24050		
		Lbs (133)	15500		20240		23560		32070		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	8540	7720	9335	8440	8540	7720 ⁹	9335 ⁹	8440 ⁹	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		31410		
		Lbs (133)	20240		25620		32070		41880		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
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- See pg 10-11 for a design example and guide for the specifier.
- To achieve "Allowable Rod Tensile Capacity" for rod directly below, additional ATS-PL1 bearing plate required below ATS-2 series cage. See pg 47 for ATS-PL1 capacity.

The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations.
(Refer to page 4)



FIVE STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS51		TDS52		TDS53		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
5th floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	6155	5565	6155	5565	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		5930		
		Lbs (133)	5060		5060		7900		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
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- See pg 10-11 for a design example and guide for the specifier.

The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)

FIVE STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

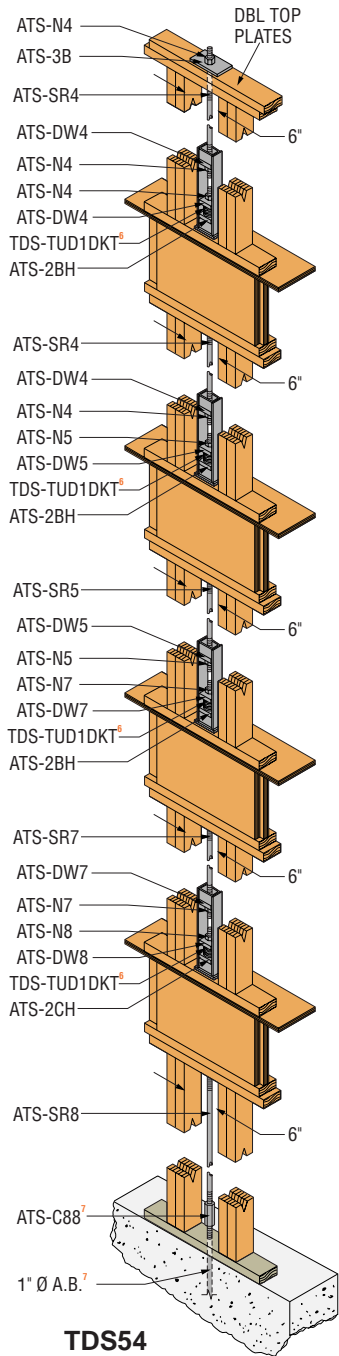
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS54		TDS55		TDS57		TDS5HS		INCREMENTAL
Lumber Species			D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	D-Fir-L	SP	CUMULATIVE
5th floor	Maximum Incremental Story Bearing Capacity	Lbs	6155	5565	6155	5565	9925	9735	12760	12715	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		5930		7850		
		Lbs (133)	5060		5060		7900		10400		
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125 ⁹	6440 ⁹	7125	6440	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		12270		12270		
		Lbs (133)	5060		7900		16360		16360		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125	6440	7125	6440	7125	6440	8540	7720	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		12200		17600		
		Lbs (133)	7900		11380		16360		23560		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	7125 ⁹	6440 ⁹	7125 ⁹	6440 ⁹	8540	7720	9335	8440 ⁹	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		17670		24050		
		Lbs (133)	15500		20240		23560		32070		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	8540	7720	9335	8440	8540	7720 ⁹	9335 ⁹	8440 ⁹	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		31410		
		Lbs (133)	20240		25620		32070		41880		

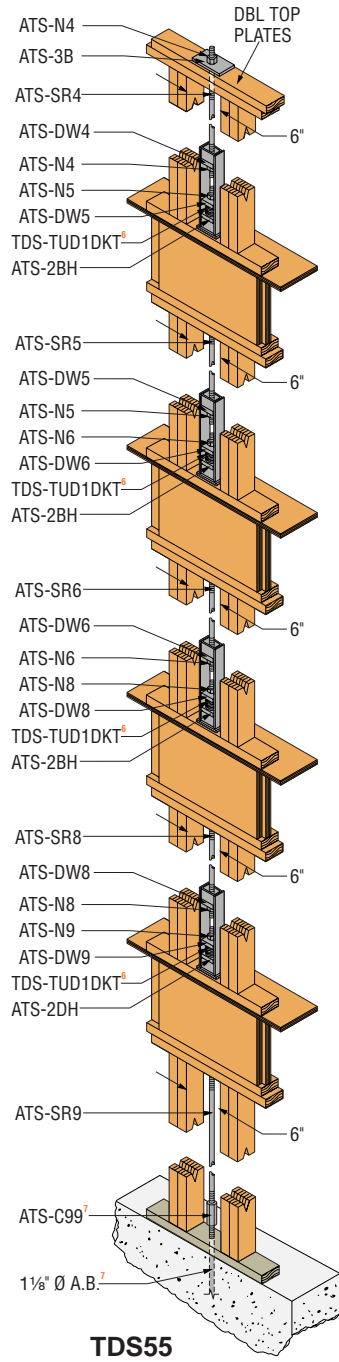
- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for additional information on the Take-up Device
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.
- To achieve "Allowable Rod Tensile Capacity" for rod directly below, additional ATS-PL1 bearing plate required below ATS-2 series cage. See pg 47 for ATS-PL1 capacity.

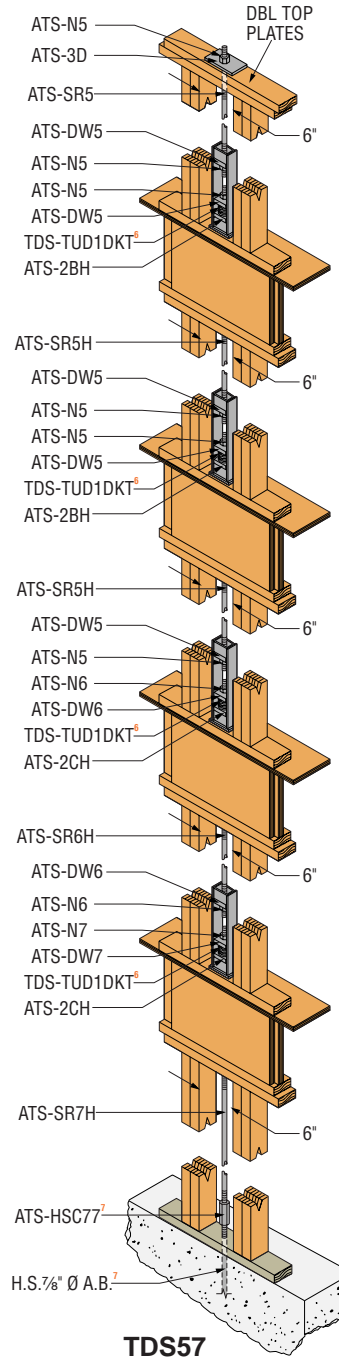
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



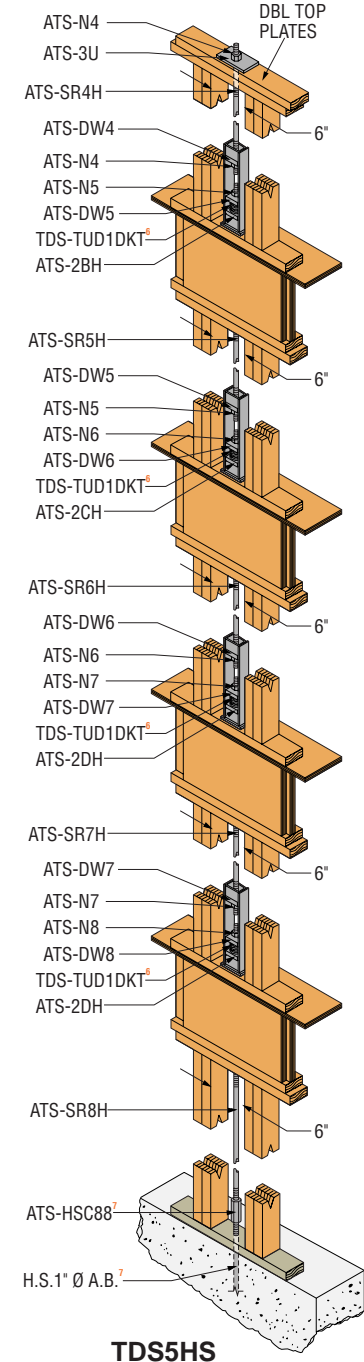
TDS54



TDS55



TDS57



TDS5HS



ONE STORY SYSTEMS

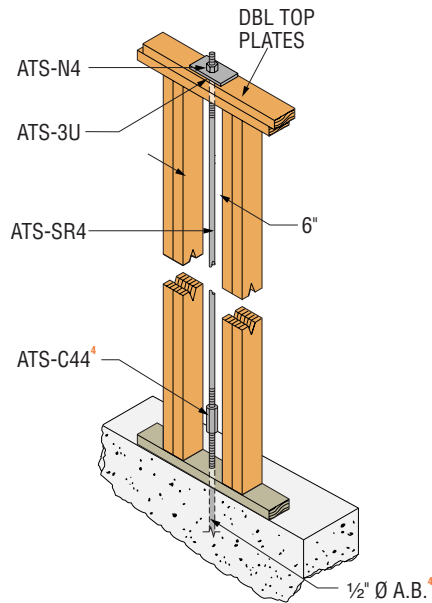
ANCHOR TIEDOWN SYSTEM

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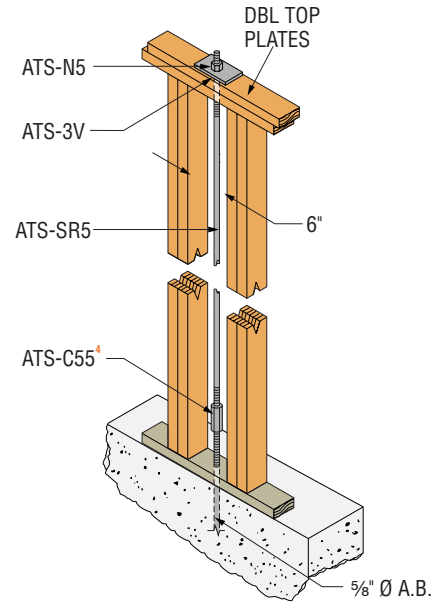
MODEL NO.			TDS11B		TDS12B		TDS13B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	11900	12485	13965	14655	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

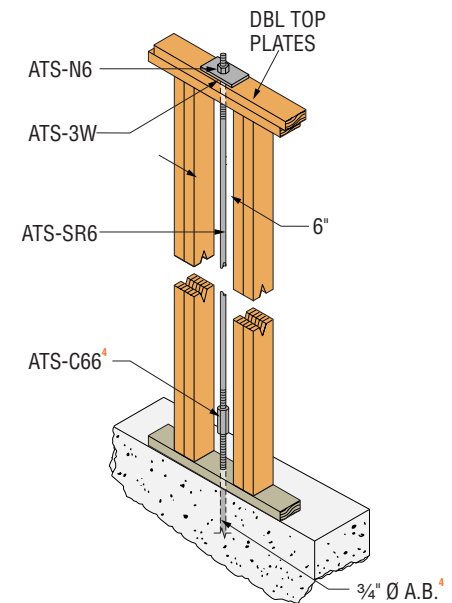
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS11B



TDS12B



TDS13B



ONE STORY SYSTEMS

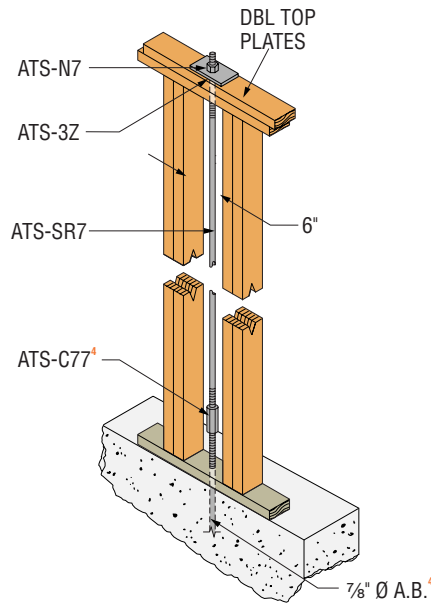
ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090
City of LA, 25236

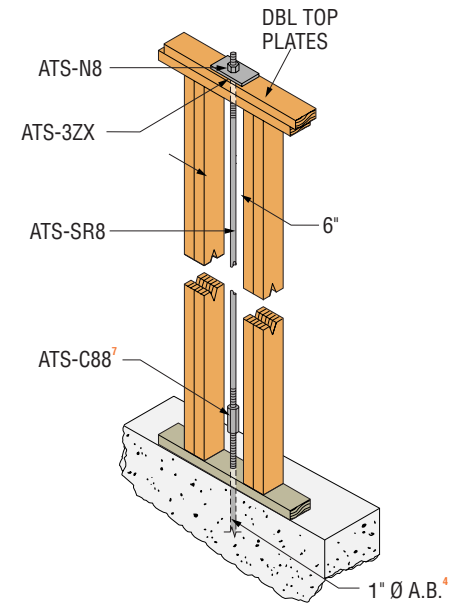
MODEL NO.			TDS14B		TDS15B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
1st floor	Maximum Incremental Story Bearing Load	Lbs	18150	19045	20905	21935	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		
		Lbs (133)	15500		20240		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS14B



TDS15B

J/S/H
H/F/S/P

TWO STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS21B		TDS22B		TDS23B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	9115	9565	11900	12485	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		5930		
		Lbs (133)	5060		5060		7900		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	6740	7075	6740	7075	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for additional information on the Take-up Device.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)

TWO STORY SYSTEMS

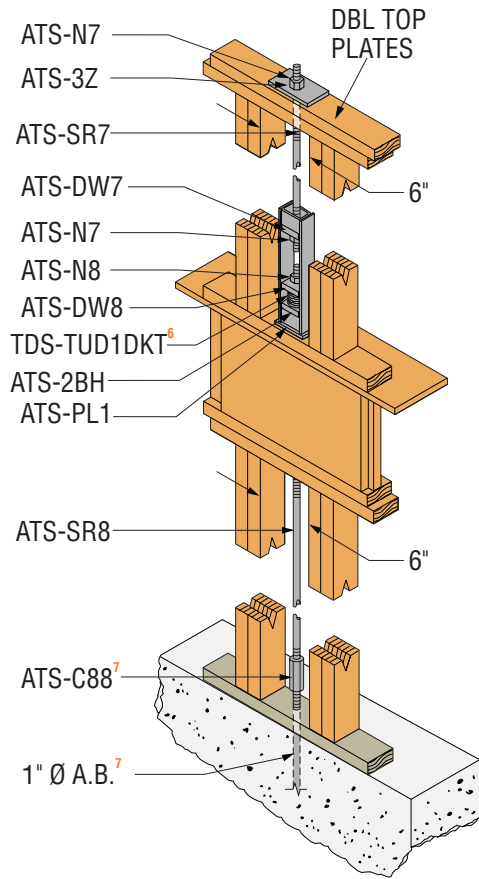
ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090
 City of LA RR 25236

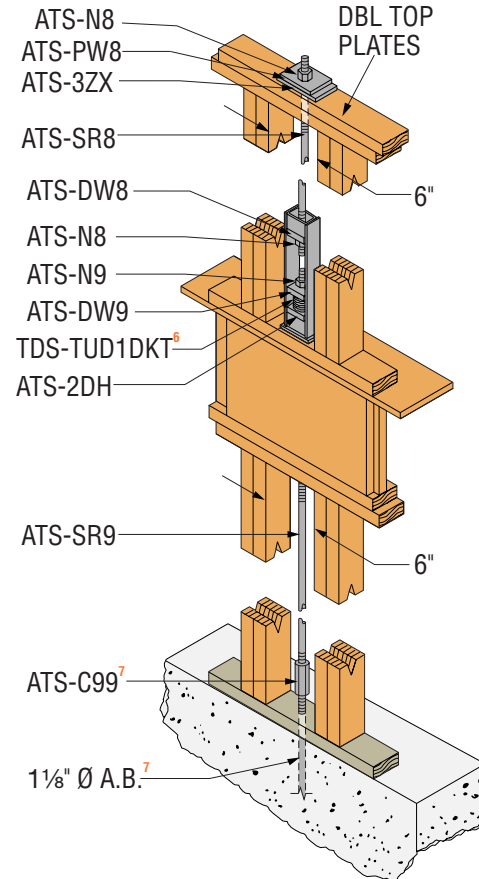
MODEL NO.			TDS24B		TDS25B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	18150	19045	17980	18870	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		
		Lbs (133)	15500		20240		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	6740	7075	6050	6350	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		
		Lbs (133)	20240		25620		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.
- Optional Simpson Take-up Device to be specified by project engineer. See pg 46 for additional information on the Take-up Device.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS24B



TDS25B

THREE STORY SYSTEMS

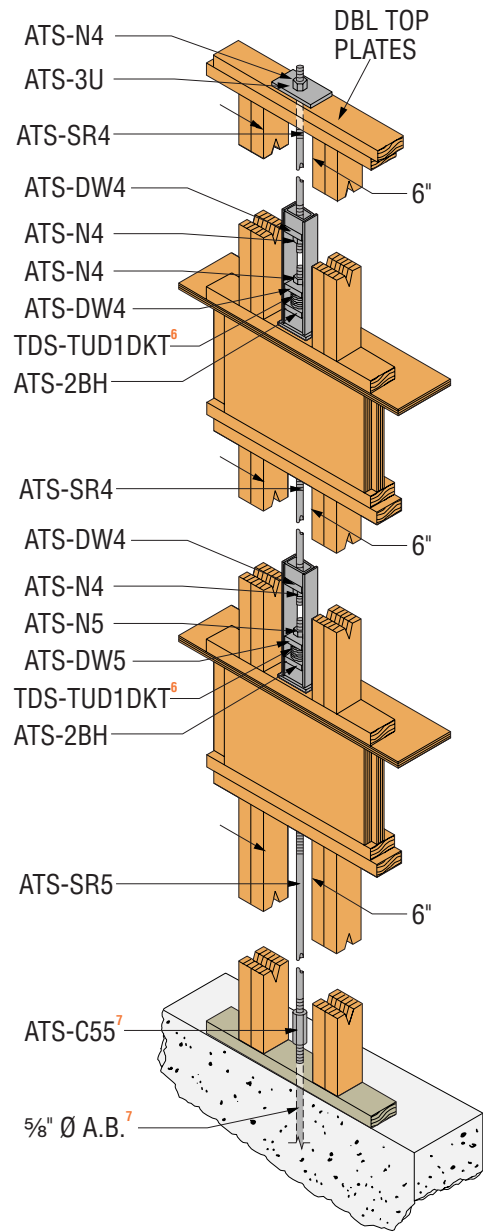
ANCHOR TIEDOWN SYSTEM

CODES • ICC ER 5090
 City of LA RR 25236

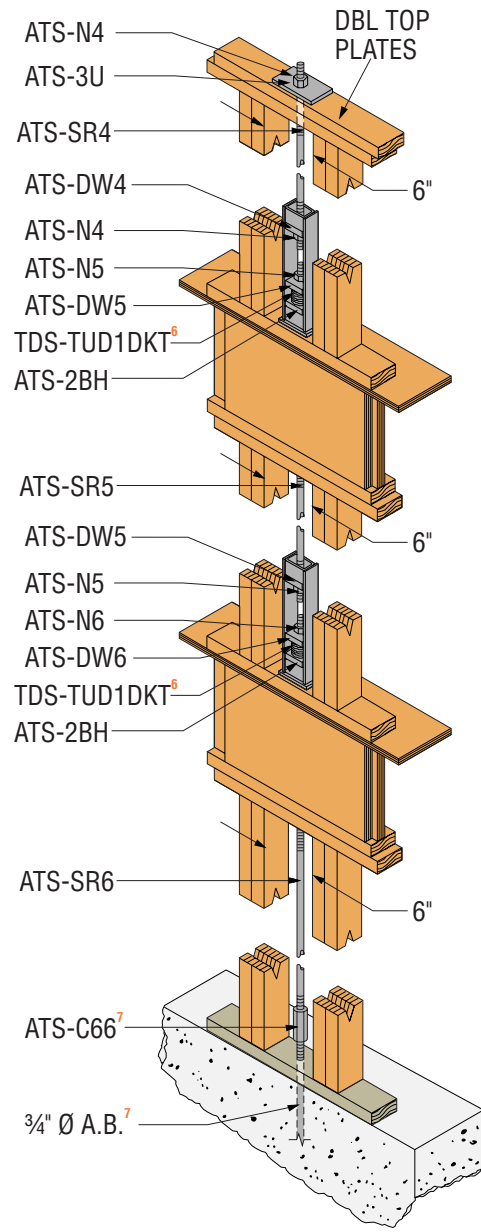
MODEL NO.			TDS31B		TDS32B		TDS33B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	9115	9565	9115	9565	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
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- See pg 10-11 for a design example and guide for the specifier.

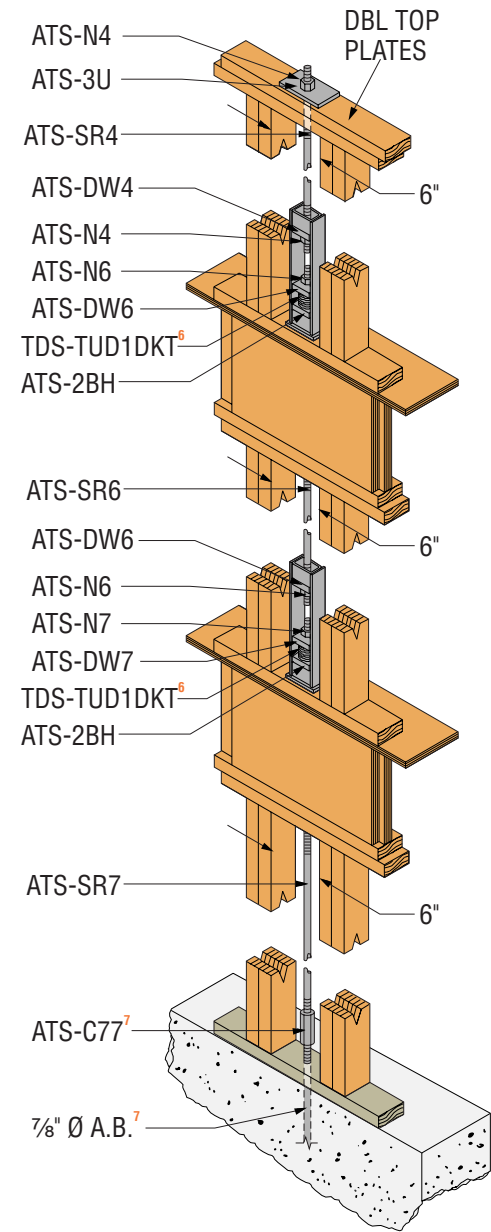
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations.
 (Refer to page 4)



TDS31B



TDS32B



TDS33B

THREE STORY SYSTEMS

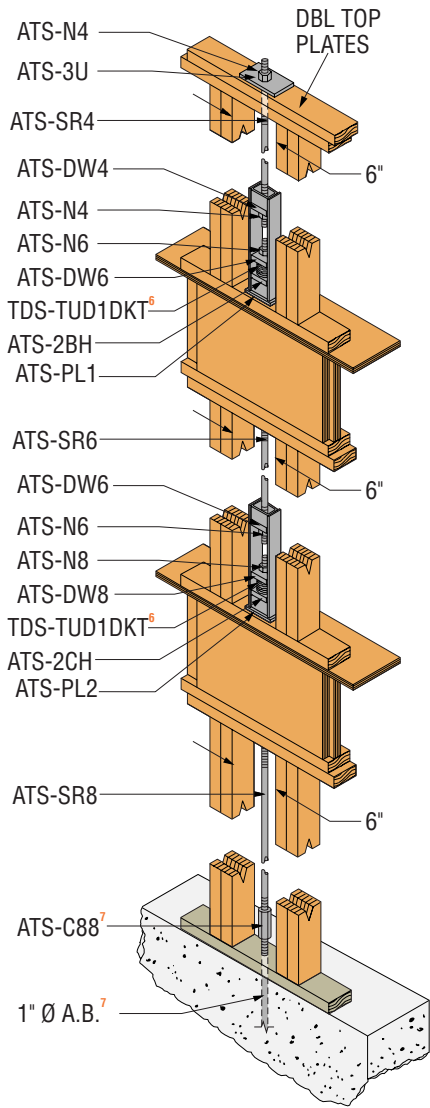
ANCHOR TIEDOWN SYSTEM

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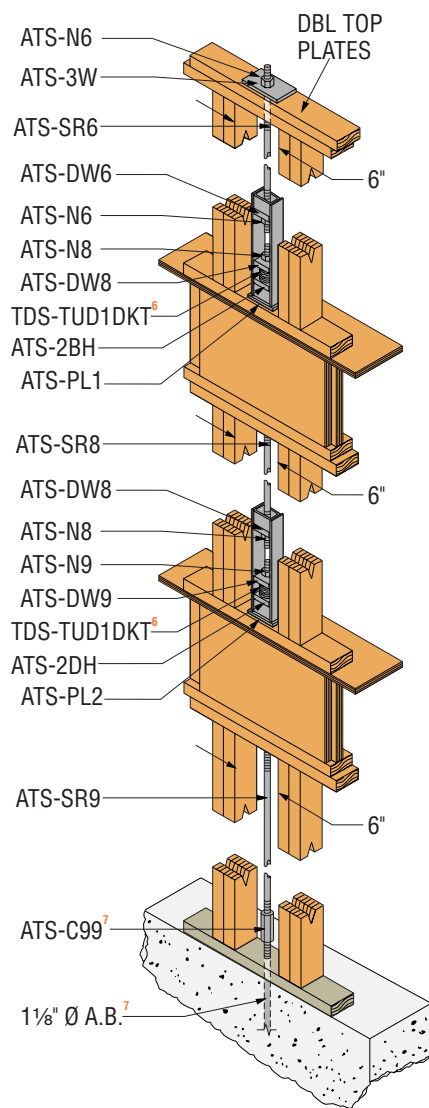
MODEL NO.			TDS34B		TDS35B		TDS37B		TDS3HSB		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	13965	14655	16800	17630	20905	21935	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		8540		12270		17670		
		Lbs (133)	5060		11380		16360		23560		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	6740	7075	6740	7075	6740	7075	10390	10900	
	Allowable Rod Tensile Capacity	Lbs (100)	8540		15180		17670		24050		
		Lbs (133)	11380		20240		23560		32070		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	10390	10900	10390	10900	10390	10900	10390	10900	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		31410		
		Lbs (133)	20240		25620		32070		41880		

- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.
- Optional Simpson Take-up Device to be specified by project engineer.** See pg 46 for additional information on the Take-up Device.
- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

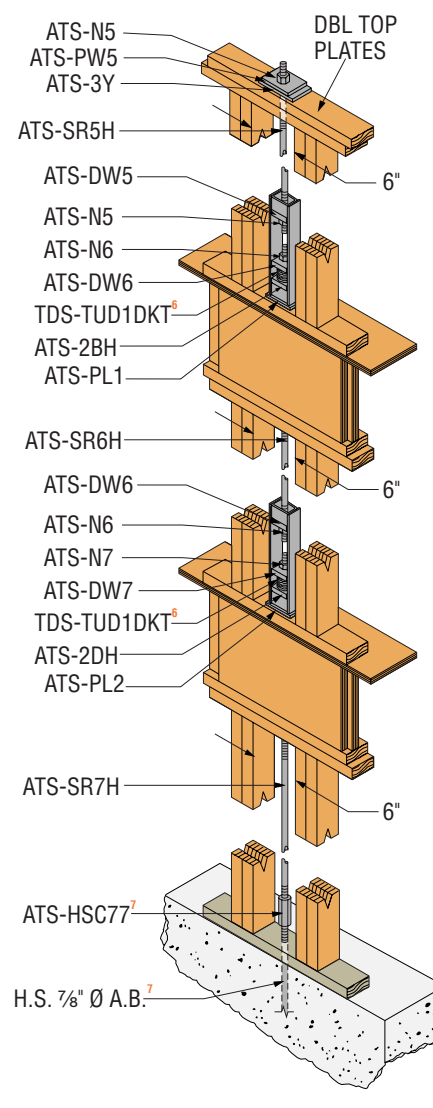
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations.
 (Refer to page 4)



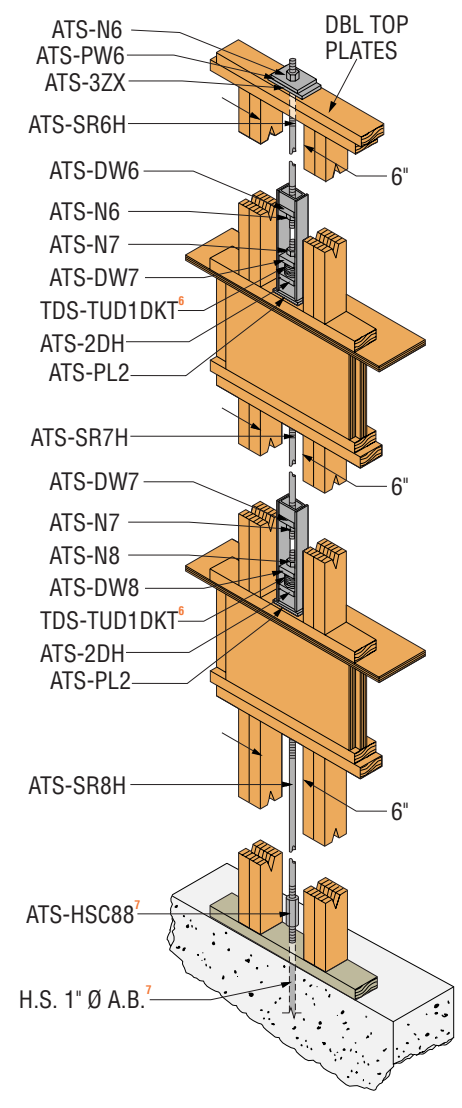
TDS34B



TDS35B



TDS37B



TDS3HSB

FOUR STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

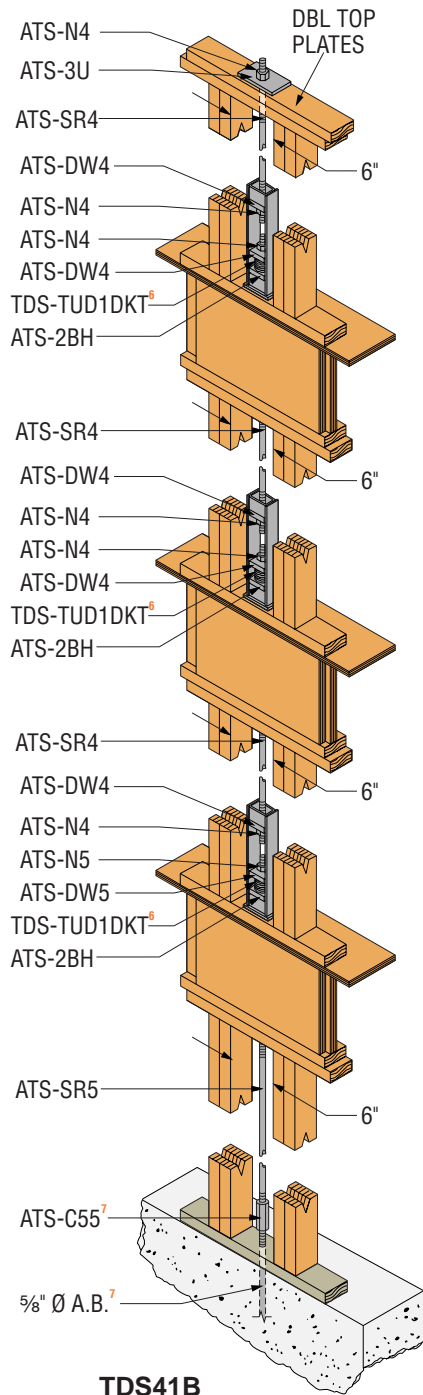
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS41B		TDS42B		TDS43B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	9115	9565	9115	9565	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

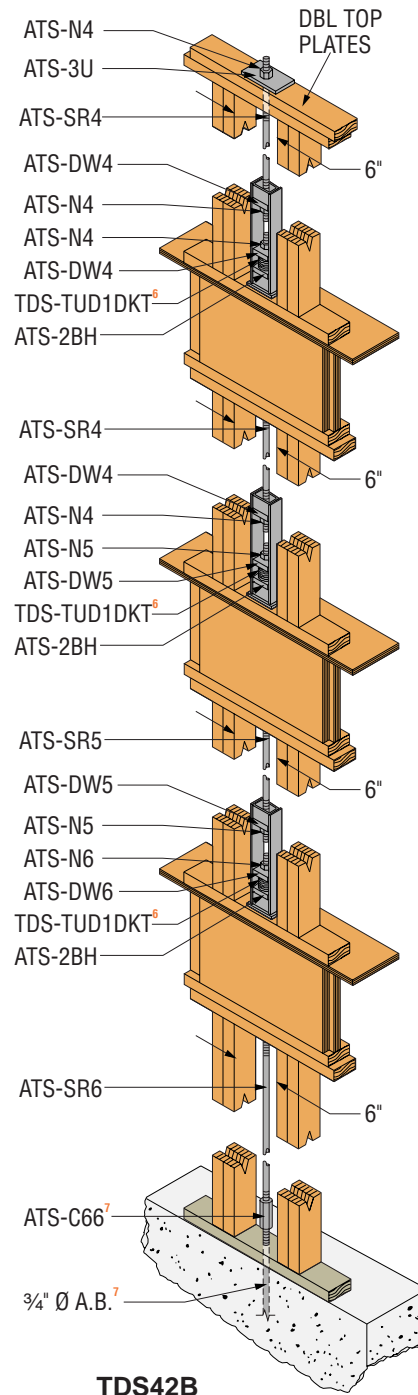
- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
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- The "Maximum Incremental Story Bearing Capacity" may be increased by adding ATS-PL1, PL2, or PL3 plates as required under the ATS cage directly above that story. See pg 47 for the ATS-PL plate dimensions and capacities.

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- See pg 10-11 for a design example and guide for the specifier.

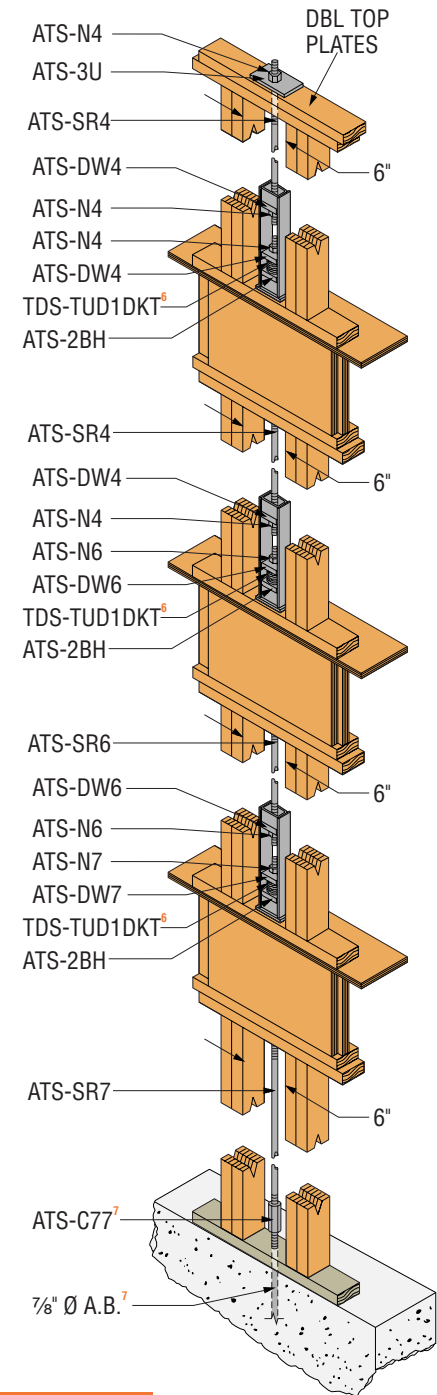
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to page 4)



TDS41B



TDS42B



TDS43B

J/S/JH

FOUR STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

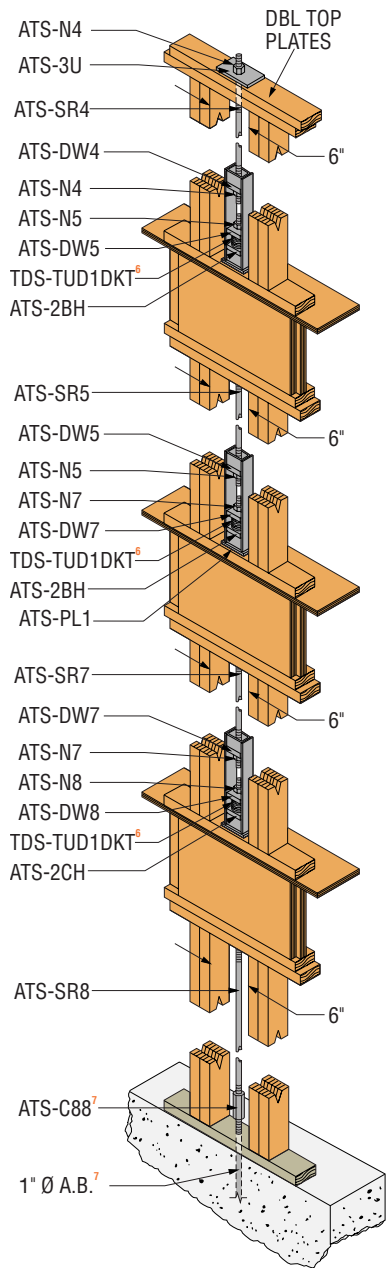
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS44B		TDS45B		TDS47B		TDS4HSB		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	11900	12485	11900	12485	16800	17630	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		5930		12270		
		Lbs (133)	5060		7900		7900		16360		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	6740	7075	5530	5810	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		12270		17670		
		Lbs (133)	7900		11380		16360		23560		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	6740	7075	6740	7075	5530	5810	10390	10900	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		17670		24050		
		Lbs (133)	15500		20240		23560		32070		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	5530	5810	6050	6350	10390	10900	10390	10900	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		31410		
		Lbs (133)	20240		25620		32070		41880		

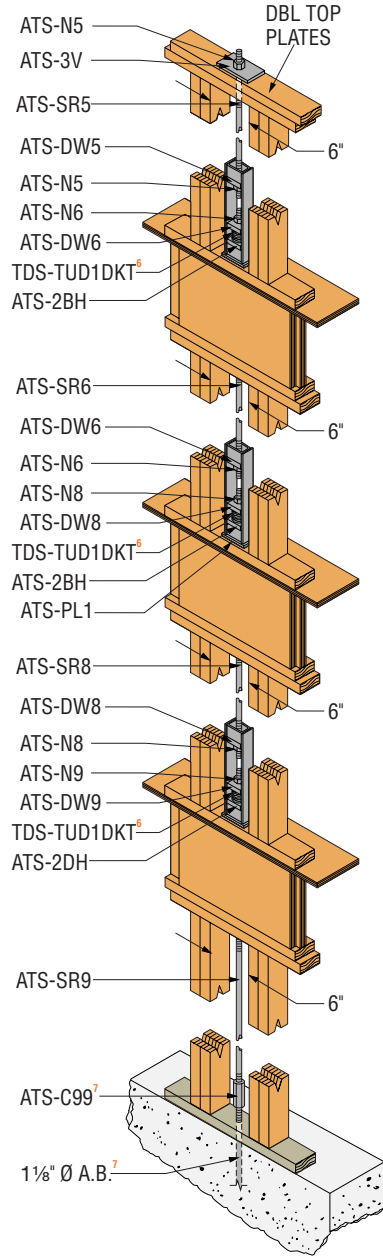
- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
- The specifier shall verify that the design incremental story over turning force does not exceed the "Maximum Incremental Story Bearing Capacity" of the ATS-System at the level directly above as per the table values.
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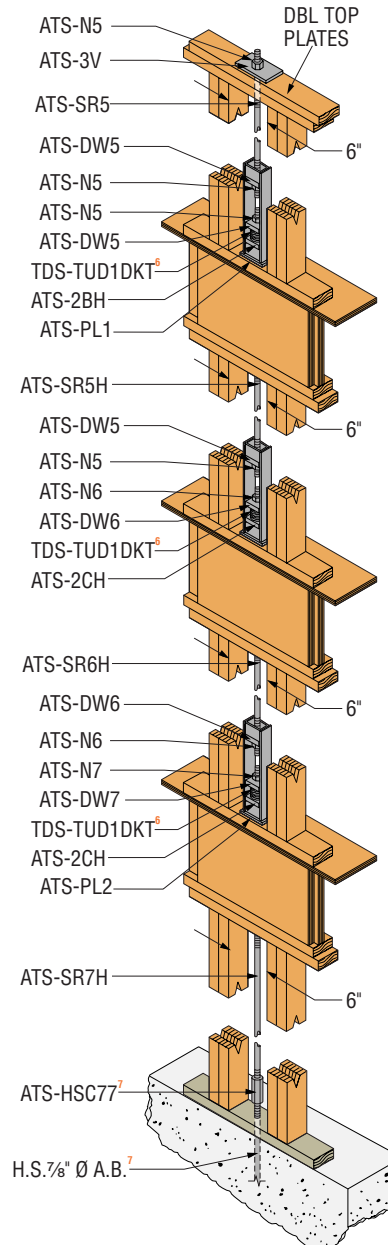
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations.
 (Refer to page 4)



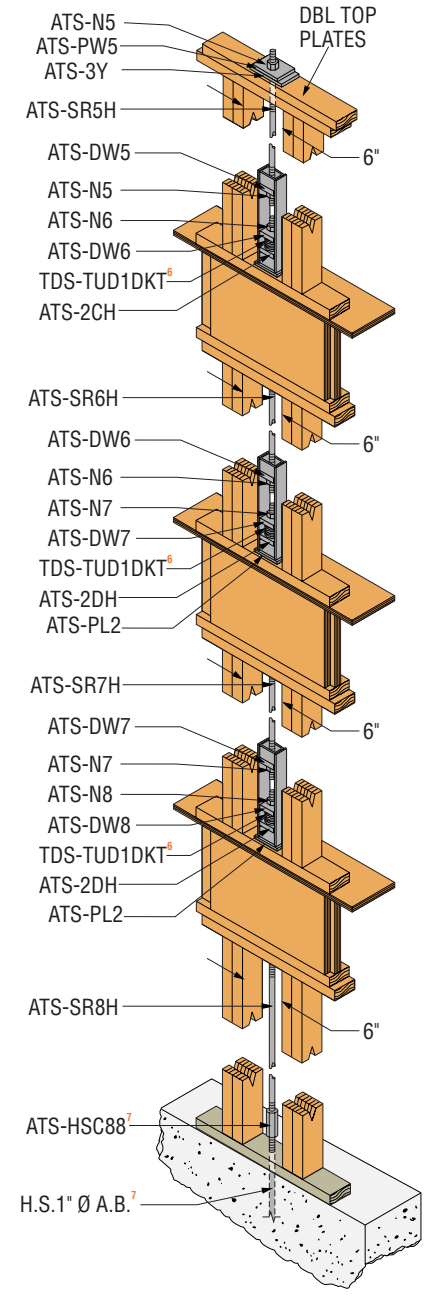
TDS44B



TDS45B



TDS47B



TDS4HSB

FIVE STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

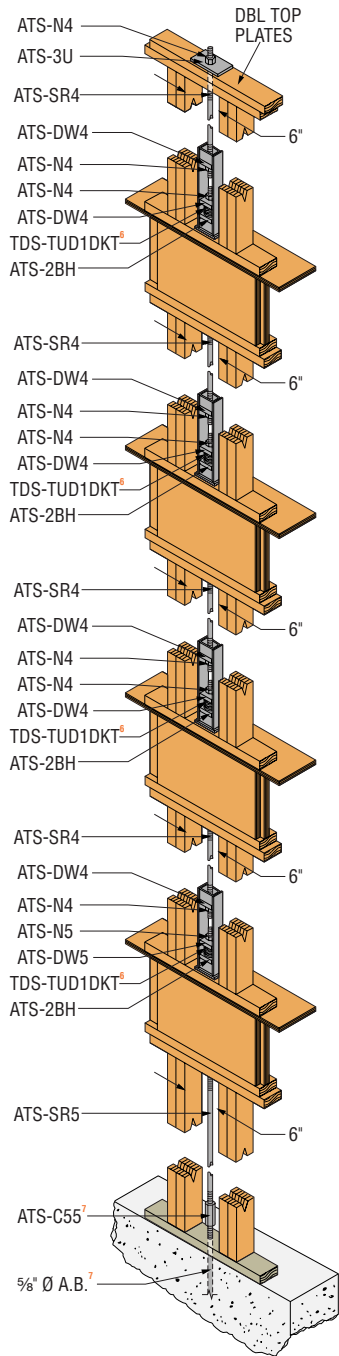
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS51B		TDS52B		TDS53B		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
5th floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	9115	9565	9115	9565	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		3790		
		Lbs (133)	5060		5060		5060		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		5930		
		Lbs (133)	5060		5060		7900		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		8540		
		Lbs (133)	5060		7900		11380		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		11620		
		Lbs (133)	7900		11380		15500		

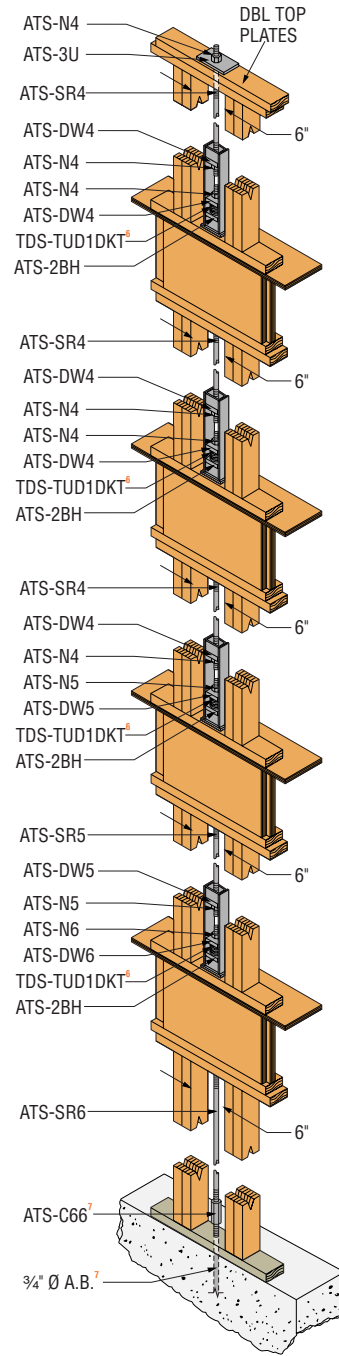
- Contact Simpson for other TDS combinations.
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- Anchor bolts are not provided with the Simpson Anchor Tie-Down System. Anchor bolt diameter and material grade shown, match the 1st floor ATS rod. Anchor bolt diameter, material grade, and embedment depth to be designed and specified by the project engineer. Notify Simpson Strong-Tie for coordination of 1st floor coupling nut if alternate anchor bolt diameter is specified.
- See pg 10-11 for a design example and guide for the specifier.

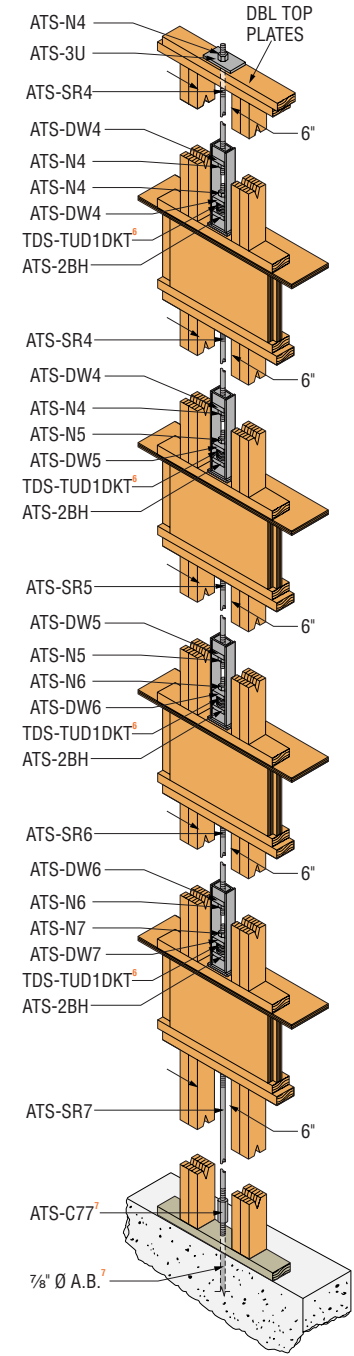
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations.
 (Refer to page 4)



TDS51B



TDS52B



TDS53B

J/S/JH

FIVE STORY SYSTEMS

ANCHOR TIEDOWN SYSTEM

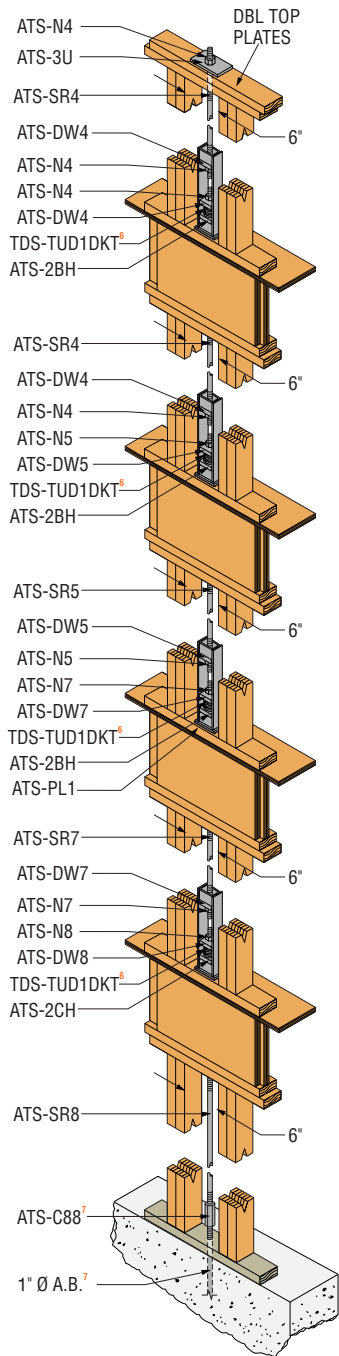
CODES • ICC ER 5090
 City of LA RR 25236

MODEL NO.			TDS54B		TDS55B		TDS57B		TDS5HSB		INCREMENTAL
Lumber Species			Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	Hem-Fir	S-P-F	CUMULATIVE
5th floor	Maximum Incremental Story Bearing Capacity	Lbs	9115	9565	9115	9565	11900	12485	11900	12485	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		3790		5930		7850		
		Lbs (133)	5060		5060		7900		10400		
4th floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	6740	7075	4620	4840	
	Allowable Rod Tensile Capacity	Lbs (100)	3790		5930		12270		1227		
		Lbs (133)	5060		7900		16360		16360		
3rd floor	Maximum Incremental Story Bearing Capacity	Lbs	4620	4840	4620	4840	4620	4840	6740	7075	
	Allowable Rod Tensile Capacity	Lbs (100)	5930		8540		12270		17670		
		Lbs (133)	7900		11380		16360		23560		
2nd floor	Maximum Incremental Story Bearing Capacity	Lbs	6740	7075	10390	10900	6740	7075	10390	10900	
	Allowable Rod Tensile Capacity	Lbs (100)	11620		15180		17670		24050		
		Lbs (133)	15500		20240		23500		32070		
1st floor	Maximum Incremental Story Bearing Capacity	Lbs	5530	5810	6050	6350	10390	10900	10390	10900	
	Allowable Rod Tensile Capacity	Lbs (100)	15180		19210		24050		31410		
		Lbs (133)	20240		25620		32070		41880		

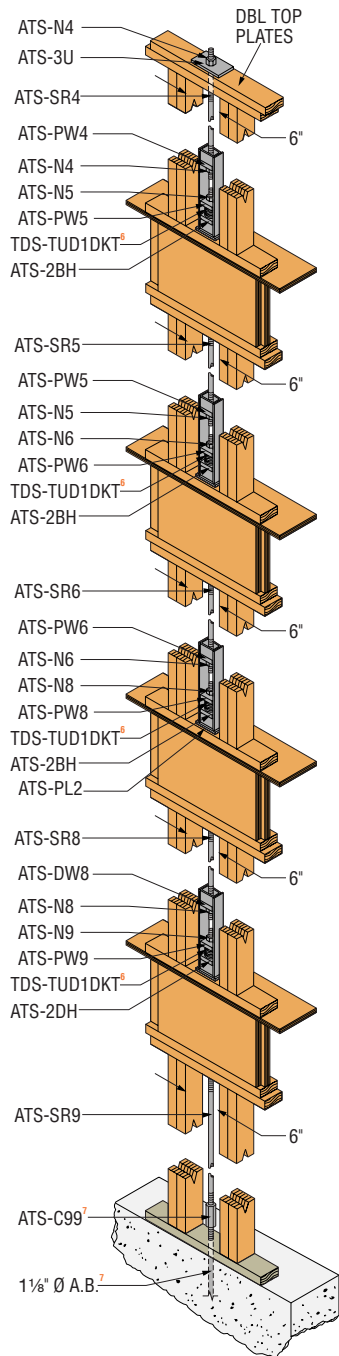
- Contact Simpson for other TDS combinations.
- Snug down the rod nut. Tighten additionally 1/2 turn.
- Studs, posts and blocking details are specified by the Project Engineer and are not shipped with the Anchor Tiedown System. See tables on page 5-9 for some compression member allowable capacities and design assumptions.
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- See pg 10-11 for a design example and guide for the specifier.

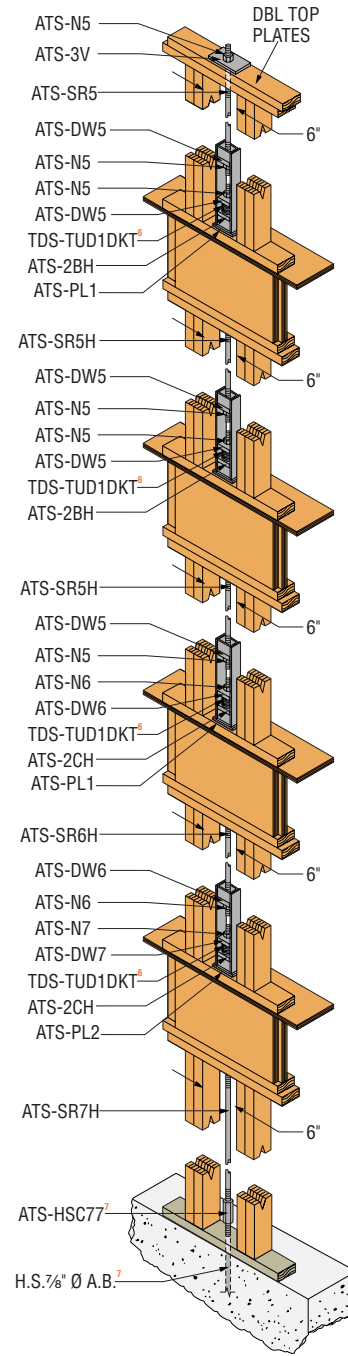
The values highlighted in orange represent capacities which do not include a 1/3 stress increase on the steel calculations.
 (Refer to page 4)



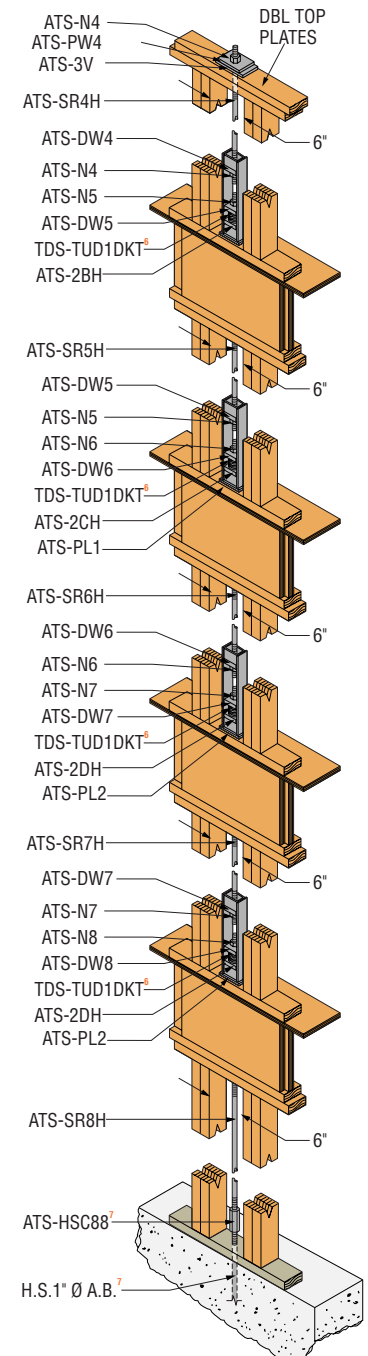
TDS54B



TDS55B



TDS57B



TDS5HSB

TUD1 1/8-1 TAKE UP DEVICE

The TUD1 1/8-1, when used on holdowns for wood frame buildings, will compensate for wood shrinkage and settlement due to dead load.

- Over 100,000 pounds of ultimate capacity based on test results.
- 1" of movement to accommodate wood shrinkage and compression due to dead load.
- Works for rod diameters up to 1 1/8".

TUD1 1/8 - 1 INSTALLATION

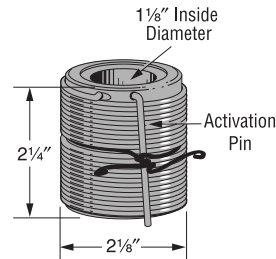
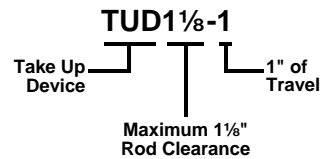
- Install DW9 plate washer, provided with the TUD 1 1/8-1 kit, over All Thread Rod onto seat of the specified ATS-2 series cage.
- Undo vertical plastic retaining strip and/or wires from TUD1 1/8-1.
- **DO NOT REMOVE ACTIVATION PIN UNTIL NUT IS INSTALLED.**
- Place TUD1 1/8-1 with either end up over All Thread Rod and onto plate washer with the activation pin facing out.
- Install specified plate washer and then nut on top.
- Finger-tighten nut plus an additional 1/8 to 1/2 turn with a wrench.
- Remove tie wire and activate pin.

It is recommended that all Take-Up Devices at the lowest level be activated prior to continuing onto the next level.

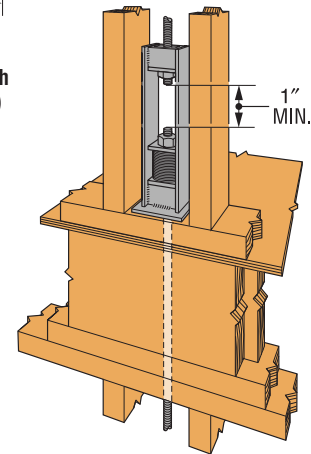
TUD1 1/8-1 KIT

Model No.	Plate Washer	Cages
TDS-TUD1DKT	ATS-DW9	ATS-2BH, ATS-2CH, ATS-2DH, ATS-2EH

Naming Scheme:



TUD1 1/8-1
(Packaged with plate washer)



Clearance is necessary between rods to allow for TUD travel.

SIMPSON STRONG-ROD



Strong Rod No.	Diameter (in)	Allowable Tensile Capacity (lbs)	
		(100) ⁽⁵⁾	(133)
ATS-SR4	1/2	3,790	5,060
ATS-SR5	5/8	5,930	7,900
ATS-SR6	3/4	8,540	11,380
ATS-SR7	7/8	11,620	15,500
ATS-SR8	1	15,180	20,240
ATS-SR9	1 1/8	19,210	25,620
ATS-SR4H	1/2	7,850	10,400
ATS-SR5H	5/8	12,270	16,360
ATS-SR6H	3/4	17,670	23,560
ATS-SR7H	7/8	24,050	32,070
ATS-SR8H	1	31,410	41,880
ATS-SR9H	1 1/8	39,760	53,010

1. Simpson Strong Rod is based on ASTM A36 with Fu = 58000psi.
2. High Strength Simpson Strong Rod is based on ASTM A108-C1045 with Fu = 120000psi.
3. ATS-SR# (ATS-SR#H for high strength rods) where # is the rod diameter in eights of an inch.
4. Other threaded rod sizes and grades available, contact factory.
5. The values represent capacities which do not include a 1/3 stress increase on the steel calculations. (Refer to note 10, page 4)

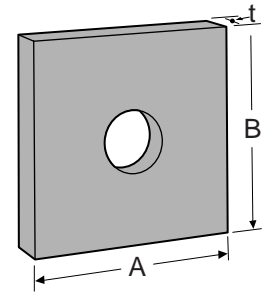
ATS – PLATE WASHERS

Model	A (in)	B (in)	Hole Dia. (in)	t (in)
ATS-PW4	2 ³ / ₈	2	9/16	5/8
ATS-PW5	2 ³ / ₈	2	1 ¹ / ₁₆	5/8
ATS-PW6	2 ³ / ₈	2	1 ³ / ₁₆	5/8
ATS-PW7	2 ³ / ₈	2	1 ⁵ / ₁₆	5/8
ATS-PW8	2 ³ / ₈	2	1 ¹ / ₁₆	5/8
ATS-PW9	2 ³ / ₈	2	1 ³ / ₁₆	5/8

1. Used above 3 series plates at rod terminations when necessary.

Model	A (in)	B (in)	Hole Dia. (in)	t (in)
ATS-DW4	2 ⁷ / ₈	3	9/16	5/8
ATS-DW5	2 ⁷ / ₈	3	1 ¹ / ₁₆	3/4
ATS-DW6	2 ⁷ / ₈	3	1 ³ / ₁₆	3/4
ATS-DW7	2 ⁷ / ₈	3	1 ⁵ / ₁₆	3/4
ATS-DW8	2 ⁷ / ₈	3	1 ¹ / ₁₆	3/4
ATS-DW9	2 ⁷ / ₈	3	1 ³ / ₁₆	3/4

1. Used with ATS-2BH, ATS-2CH, ATS-2DH, or AB-2EH cages at rod termination.

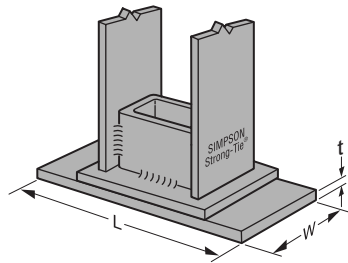


ATS Plate Washer

ATS – 3 SERIES PLATE WASHERS

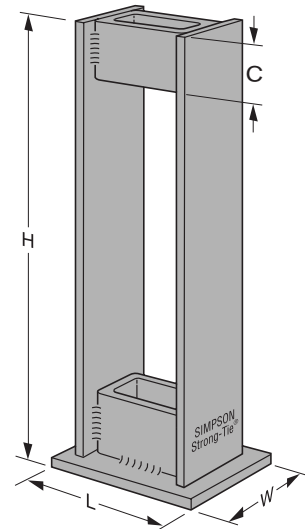
Model	A (in)	B (in)	Hole Dia. (in)	t (in)
ATS-3B	3	3	9/16	3/8
ATS-3C	4	3	1 ¹ / ₁₆	3/8
ATS-3D	5 ¹ / ₂	3	1 ¹ / ₁₆	1/2
ATS-3E	5 ¹ / ₂	3 ¹ / ₂	1 ³ / ₁₆	5/8
ATS-3G	6	3 ¹ / ₂	1 ⁵ / ₁₆	5/8
ATS-3J	8	3 ¹ / ₂	1 ⁵ / ₁₆	7/8
ATS-3K	9	3 ¹ / ₂	1 ¹ / ₁₆	7/8
ATS-3U	6 ¹ / ₂	3 ¹ / ₂	9/16	5/8
ATS-3V	8 ¹ / ₂	3 ¹ / ₂	1 ¹ / ₁₆	7/8
ATS-3W	10	3 ¹ / ₂	1 ³ / ₁₆	1
ATS-3WW	10	3 ¹ / ₂	1 ¹ / ₁₆	1 ¹ / ₈
ATS-3X	11	3 ¹ / ₂	1 ³ / ₁₆	1 ³ / ₈
ATS-3Y	12	3 ¹ / ₂	1 ³ / ₁₆	1 ¹ / ₄
ATS-3Z	13	3 ¹ / ₂	1 ⁵ / ₁₆	1 ¹ / ₂
ATS-3ZZ	13	3 ¹ / ₂	1 ³ / ₁₆	1 ¹ / ₂
ATS-3ZX	15	3 ¹ / ₂	1 ⁵ / ₁₆	1 ¹ / ₂

1. Other plates available, contact factory.



Optional ATS-PL1, ATS-PL2, ATS-PL3

(For increasing maximum incremental story bearing capacity of ATS Cage.)



ATS-2BH, ATS-2CH, ATS-2DH, and ATS-2EH

ATS – CAGES AND PL PLATES

Model	L	W	t	H	C	Bearing Capacity				Tension Capacity (lbs)	
						D.Fir-L Plates (lbs)	SP Plates (lbs)	Hem-Fir Plates (lbs)	S-P-F Plates (lbs)	(100)	(133)
ATS-2BH	3 3/4	3	1/4	13	2	7,125	6,440	4,620	4,840	19,400	19,400
ATS-2CH	4 1/2	3	1/4	13 1/4	2 5/8	8,540	7,720	5,530	5,810	25,210	25,210
ATS-2DH	5	3	3/8	15	3	9,335	8,440	6,050	6,350	41,200	41,200
ATS-2EH	5	3	3/8	16	3 1/2	9,335	8,440	6,050	6,350	60,400	60,400
ATS-PL1	6	3	1/2	-	-	10,400	9,405	6,740	7,075	-	-
ATS-PL2	9	3	1	-	-	16,020	14,490	10,390	10,900	-	-
ATS-PL3	12	3	1 3/8	-	-	21,650	19,580	14,032	14,725	-	-

- 1" maximum rod diameter for ATS-2BH and ATS-2CH cages.
- 1 1/8" maximum rod diameter for ATS-2DH and ATS-2EH cages.
- ATS-PL1, ATS-PL2, and ATS-PL3 plate washers have a 1 1/16" diameter hole.

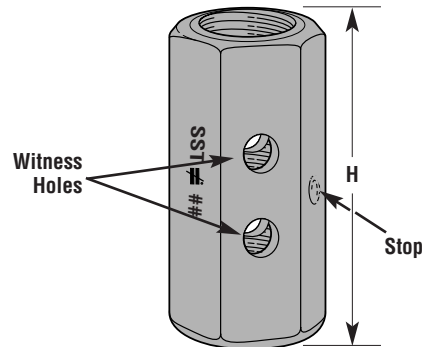
COUPLER NUTS

All-thread rod is correctly installed when visible through the “witness” holes. The CNW dimple provides a positive stop to allow even bolt threading top and bottom. ATS couplers are partially threaded at each end to create a positive stop for the threaded rod.

CNWs and standard or high-strength ATS couplers are tested and load-rated coupling nuts. They can be used for extending anchor bolts, for example, through floor framing. CNWs and ATS-C coupling nuts meet and exceed the allowable tensile capacity of the corresponding ASTM A36 threaded rod. ATS-HSC coupling nuts meet and exceed the allowable tension capacity of the corresponding ASTM A108-C1045 threaded rod.

INSTALLATION:

- Tighten the two rods until each all-thread rod can be fully seen in the witness hole.

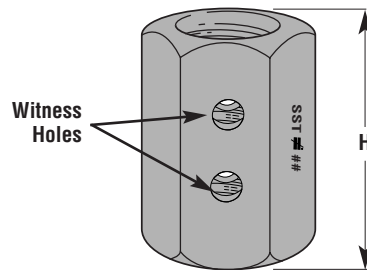


CNW
allows fast visual check for correct all thread rod installation.

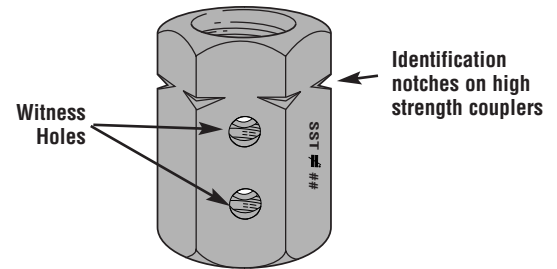
CNW Couplers

Model No.	Rod Dia. (in)	H Min. (in)
CNW $\frac{1}{2}$	0.50	1 $\frac{1}{2}$
CNW $\frac{5}{8}$	0.625	1 $\frac{7}{8}$
CNW $\frac{3}{4}$	0.75	2
CNW $\frac{7}{8}$	0.875	2 $\frac{3}{16}$

1. CNW tested average ultimate capacity exceeds the minimum tensile strength, as determined from the minimum tensile stress (f_u), of A36 rod.



Standard Coupler
ATS-C

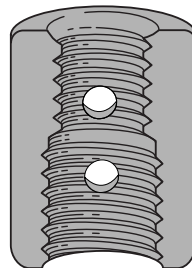


High Strength Coupler
ATS-HSC

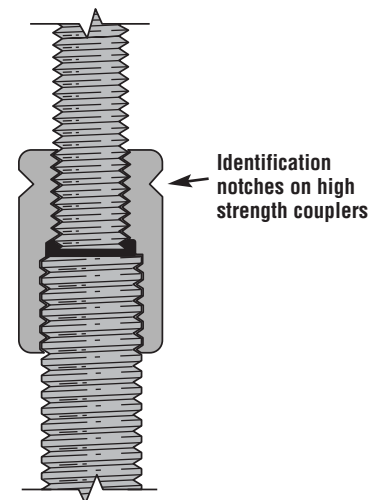
Standard Couplers and High Strength Couplers

Model No.	Rod Dia. (in)	H min. (in)
ATS-C54	0.625 to 0.50	1 $\frac{1}{4}$
ATS-C64	0.75 to 0.50	1 $\frac{1}{2}$
ATS-C65	0.75 to 0.625	1 $\frac{1}{2}$
ATS-C75	0.875 to 0.625	1 $\frac{3}{4}$
ATS-C76	0.875 to 0.75	1 $\frac{3}{4}$
ATS-C86	1.00 to 0.75	2
ATS-C87	1.00 to 0.875	2
ATS-C88	1.00	2 $\frac{3}{4}$
ATS-C97	1.125 to 0.875	3
ATS-C98	1.125 to 1.00	3
ATS-C99	1.125	3
ATS-HSC54	0.625 to 0.50	1 $\frac{1}{4}$
ATS-HSC77	0.875	2 $\frac{1}{2}$
ATS-HSC88	1.00	2 $\frac{3}{4}$

1. Other coupler nuts available, contact factory.
2. ATS-C and ATS-HSC tested average ultimate capacity exceeds the minimum tensile strength, as determined from the minimum tensile stress (f_u), of A36 rod, A108-C1045 for high strength rod.



Standard Transition Coupler



High Strength Transition Coupler

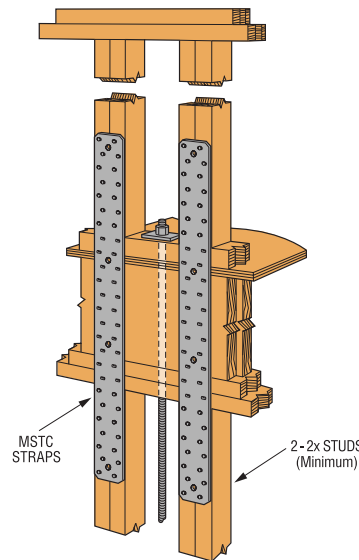
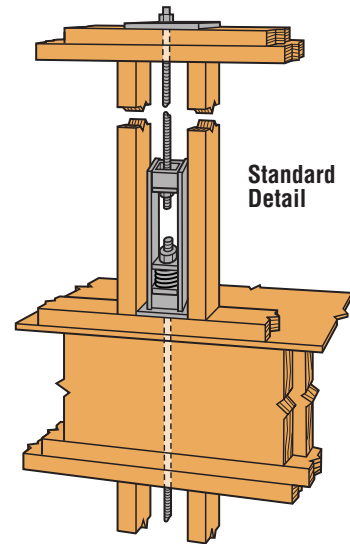
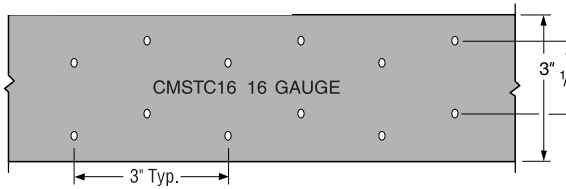
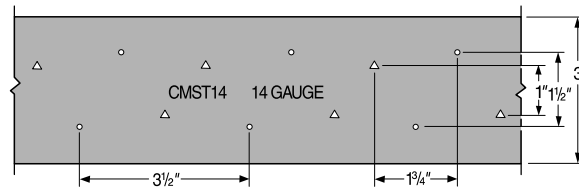
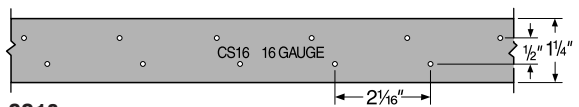
ALTERNATE TOP STORY INSTALLATION

Reduce the number of floors in the TDS run by using straps at the top story.

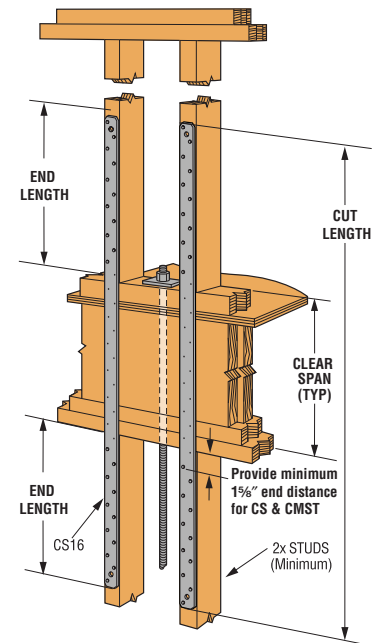
CODES: ICC-ES ER 5672, ICC-ES ER 4935
LA RR 25293 (CMST12 & CMST14)

Model No.	Ga	W	Cut Length or Actual Length	End Length	Total Number of Fasteners per Strap	Stud	Allowable Tension Load (lbs)			
							DF-L/SP		Hem-Fir	
							(100)	(133/160)	(100)	(133/160)
2-CS16	16	1 1/4"	Clear Span + 31"	14"	28-8d	2x	2,470	3,300	2,325	3,100
			Clear Span + 35"	11"	22-10d		2,470	3,300	2,195	2,930
2-MSTC40	16	3"	Length 40 1/4"	—	28-16d sinkers	2-2x	3,215	4,290	2,825	3,770
				—	36-16d sinkers		2-2x	3,680	4,910	3,635
2-MSTC52	16	3"	Length 52 1/4"	—	44-16d sinkers	2-2x	5,060	6,750	4,445	5,930
2-CMSTC-16	16	3"	Clear Span + 52"	25"	64-16d sinkers	2-2x	7,040	9,380	6,180	8,240
2-CMST-12	12	3"	Clear Span + 93"	45"	100-16d	2-2x	14,460	19,280	13,000	17,300
			Clear Span + 213"	105"	118-10d		14,460	19,280	13,000	17,300
2-CMST-14	14	3"	Clear Span + 71"	34"	74-16d	2-2x	10,190	13,590	9,100	12,130
			Clear Span + 159"	78"	88-10d		10,190	13,590	9,100	12,130

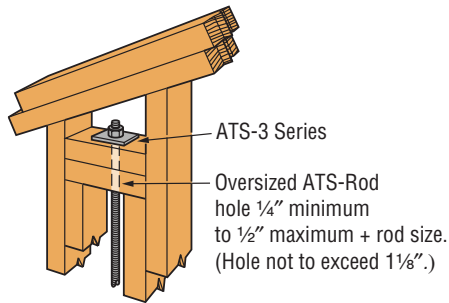
1. Loads are for 2 straps. Multiply load by 0.50 for single strap applications.
2. Use half of the nails at each member being connected to achieve the listed loads.



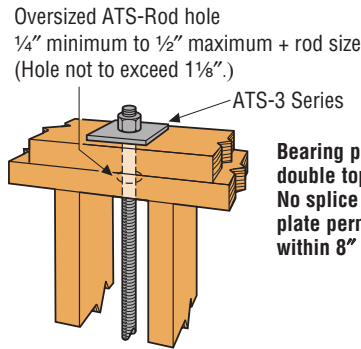
Alternate strap details



INSTALLATION DETAILS

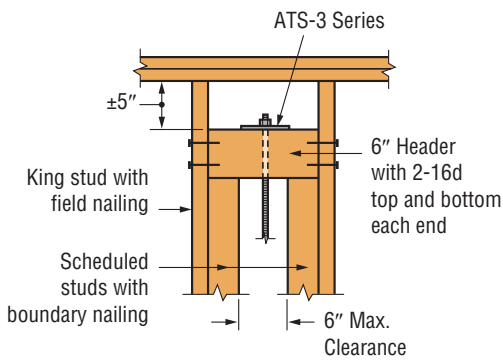


Bearing Plate Detail at a Rake Wall

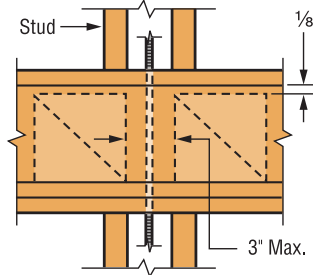


Top Plate Detail

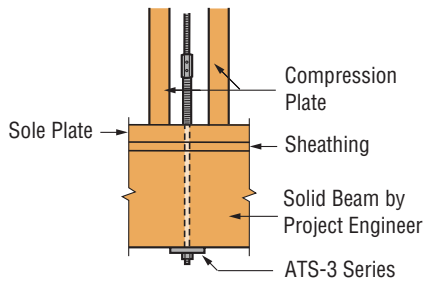
Bearing plate at double top plate. No splice in the top plate permitted within 8" of the rod.



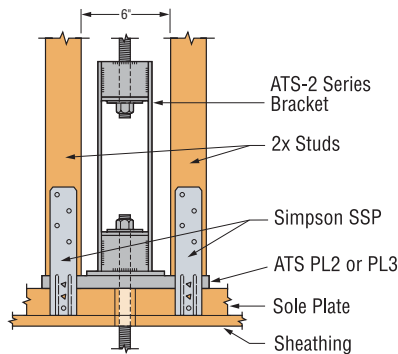
Alternate Top Plate Detail



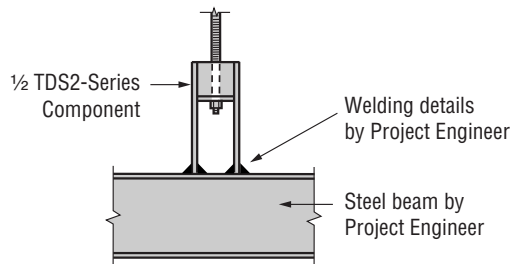
Alternate Blocking Detail



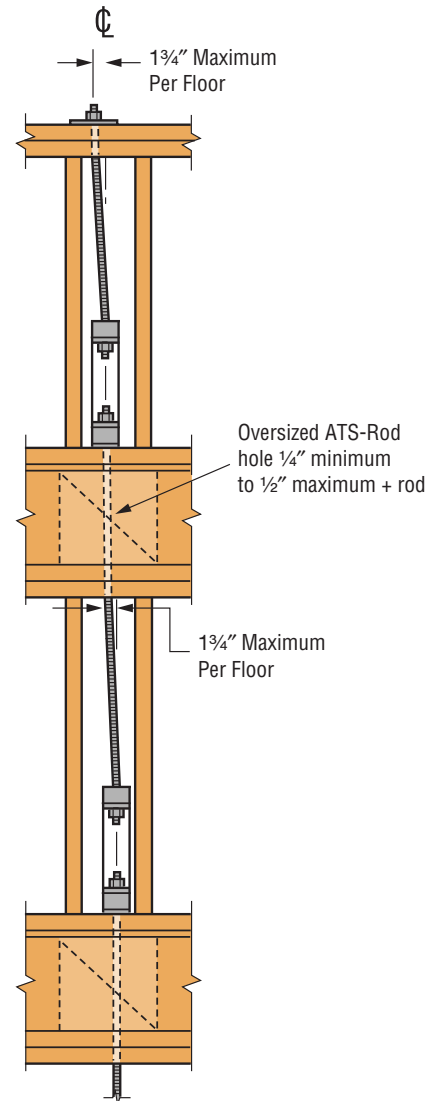
Wood Beam Detail



Studs over ATS-PL Plates (SSP is not included with the ATS system and must be purchased separately.)



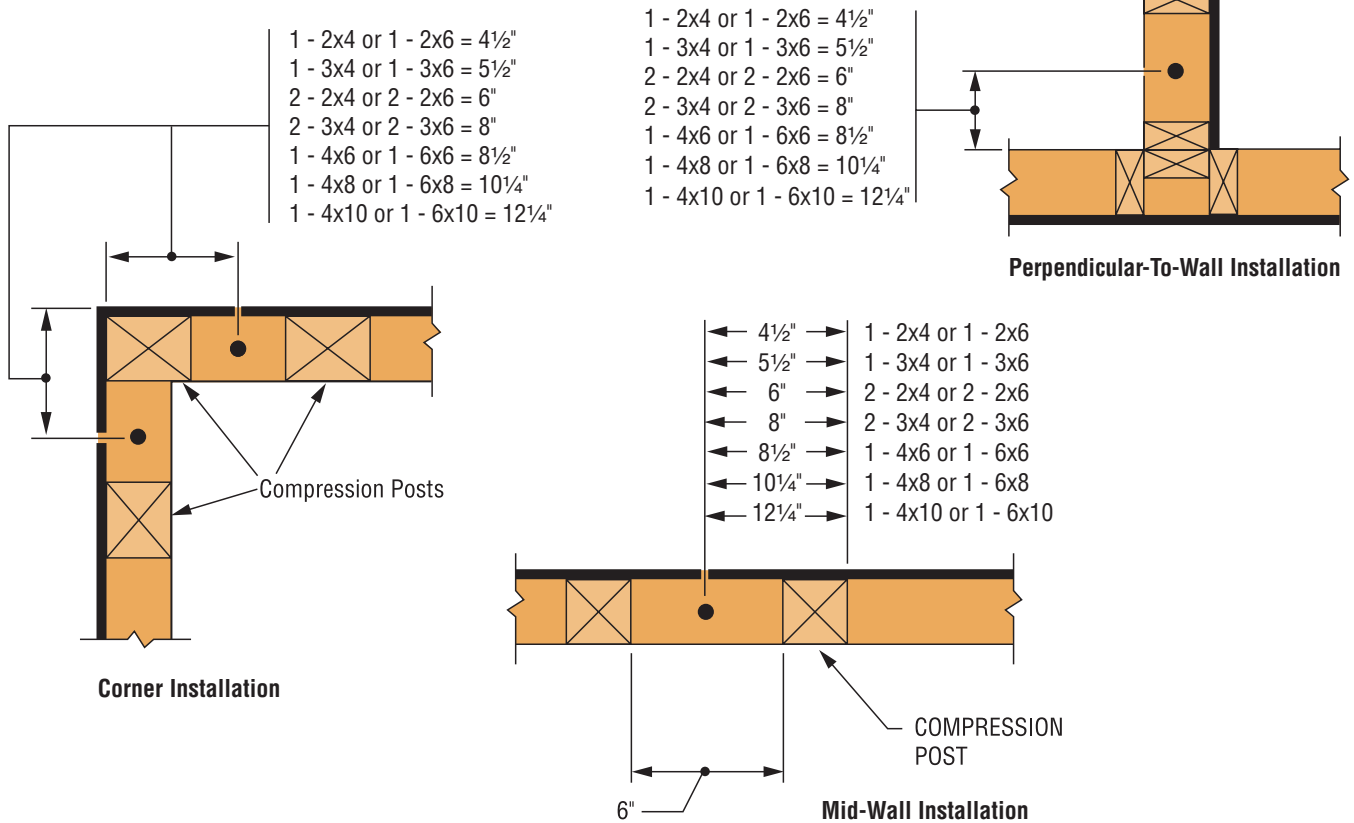
Steel Beam Detail



Allowable Rod Offset. 1 3/4" maximum per floor

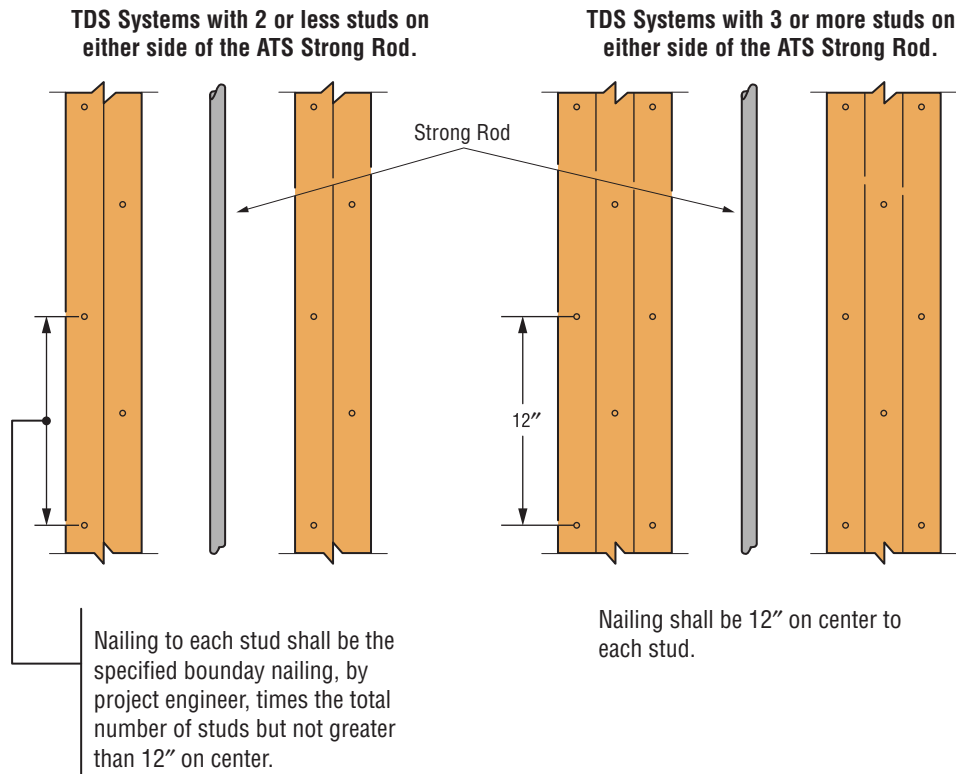
ANCHOR BOLT LOCATIONS

Anchor bolts shall be specified by the project engineer.



SHEARWALL BOUNDARY NAILING

Boundary nailing shall be specified by the project engineer.





Home Office
4120 Dublin Boulevard, Suite 400
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Tel: 925/560-9000 • FAX: 925/833-1496

Northwest USA
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Stockton, CA 95206
Tel: 209/234-7775 • FAX: 209/234-3868

Southwest USA
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Tel: 714/871-8373 • FAX: 714/871-9167

Northeast USA
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Tel: 614/876-8060 • FAX: 614/876-0636

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Tel: 905/458-5538 • FAX: 905/458-7274

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Tel: 604/465-0296 • FAX: 604/465-0297

Simpson Anchor Systems
136 Official Rd., Addison IL 60101
Tel: 630/543-2797 • FAX: 630/543-7014

Kent Specials Factory
22035 W. Valley Hwy., Kent, WA 98032
Toll Free: 877/564-2041

Distribution Centers
Enfield, CT; Jacksonville, FL
Langley, B.C.

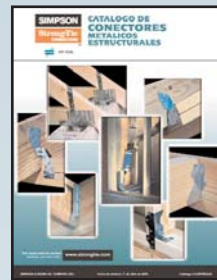
EUROPEAN FACILITIES
Visit our website for address and contact information for our European facilities.

TECHNICAL PUBLICATIONS



Wood Construction Connectors

Includes specifications and installation instructions on wood-to-wood and wood-to-concrete structural connectors. Includes load tables and material specifications.



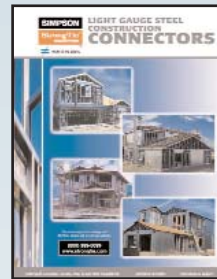
Wood Construction Connectors (Spanish)

Information for contractors using wood to wood, wood to concrete, and light gauge steel connectors, as well as do-it-yourself product information. Includes installation requirements and illustrations.



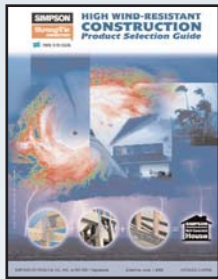
Simpson Anchor Systems

Includes specifications and installation instructions on chemical and mechanical anchors, and a comprehensive range of anchors for concrete, brick, and masonry. Includes load tables and material specifications.



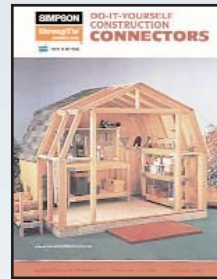
Light Gauge Steel Construction Connectors

Connectors for light gauge steel stud construction. 30 products have been developed and tested using screw fasteners to obtain actual load values. Includes installation requirements and illustrations.



High Wind-Resistant Structural Connectors

For builders and homeowners on retrofitting and new construction in highwind areas.



Do-It-Yourself Connectors

Suitable for a wide range of capabilities, this catalog includes nail and load tables, and ideas for home projects. Includes connectors for Decks, Gazebos, Home Projects, and the Color Systems shelf brackets.



Canadian Limit States Design Catalog

Specifications, loads and fasteners information provided in metric and imperial.

SOFTWARE

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