

Templates are available for customer use.

AT10 Includes Typical Run Details. Download and modify as needed. Items in red are typically changed with each project.

AutoTight Rod Holdown System Notes

- Holdown system conforms to the International Building Code (IBC) 2009 per local jurisdiction.
- Sealing and system requirements per structural plans, dated 01/20/2013.
- Roof deckings is minimum of 1/2" per floor, based on structural steel specifications.
- Beams are not to be used. Holdown Run Details (AT1) drawings are for location of run components only and may not reflect the correct number of compression posts. See Compression Post Schedule.
- Compression post may be installed on structural members (SMB).
- Compression post and nut are on AT10 on each side of the rod for all wet and for hold down run (HWR) (AIA).
- Compression post may be installed on structural members (SMB).
- Height of floor is to be greater than drawing and upon receiving the drawing will release the holdown system upon receiving correct drawings.
- Standard plans require Corrosive Protection.

Compression Post Notes

- Compression post shall be square, plain end per structural plans (SMB).
- Compression post and holdown shall have a minimum modulus ratio of 10.
- Compression post and holdown shall be equal or exceed the required loads on structural plans.
- Compression post and nut are on AT10 on each side of the rod for all wet and for hold down run (HWR) (AIA).
- Compression post may be installed on structural members (SMB).
- Minimum compression post may be compressed. (Check the history for possible alteration)
- Roof blocking height for solid steel plate shall be 1/2" greater than floor joist height per IBC. See IBC 2305.9.9.4.10
- Floor blocking height for solid steel plate shall be 1/2" less than hold-down floor joist height for blocking.
- Compression post may be welded to steel blocking if required. It is preferred that the steel blocking be welded to steel blocking plate. If not welded, additional compression post with required blocking shall be added if steel blocking requirements are not provided.
- Cutting or notching of compression post is prohibited to a depth not to exceed 20% of its width per 2009 IBC - 2305.9.9.4.10. Notching of compression post is prohibited to a hole not greater than 1/4" of its width and no more than 1/8" in the edge per 2009 IBC - 2305.9.9.11. See applicable code.

Table 1g 2009 International Building Code (IBC)

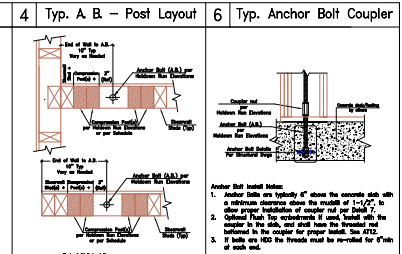
Threaded Rod and AT Take-Up Device Allowable Loads

Table 1g provides allowable loads for threaded rods and AT take-up devices. It includes columns for Rod Size (1/2", 3/4", 1", 1 1/4", 1 1/2", 2"), Allowable Load (Pounds), and Average (lb/rod) and Deviation (in).

Table 2a 2009 International Building Code (IBC)

Bearing Plate Allowable Loads

Table 2a provides allowable loads for bearing plates. It includes columns for Flange Dimensions (Thickness, Width, Length), Flange (in), and Allowable Load (lb).



Shop Drawing Disclaimer

Holdown design is by Commins Manufacturing, Inc. The holdown system described in these shop drawings shall be used in accordance with the specifications and details shown on the drawings. Commins Manufacturing, Inc. is not responsible for the design or construction of the holdown system.

Abbreviations

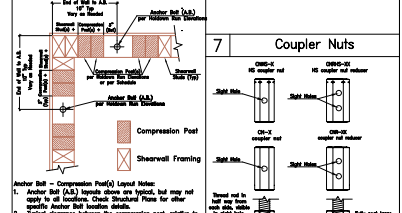
A.B.	Anchor bolt per plan or schedule
ATXX	AutoTight Take-Up Device (Installed with 1/2" to 3/4" or 1/2" to 3/4" or 1/2" to 3/4" rod)
CAT	Compressor nut
CHP	Coupler nut (SMB are notched)
CP	Coupler nut (SMB are notched)
DL	Dimension
FL	Flange
HL	High Strength
HS	High Strength
IS	Intermediate
LS	Low Strength
MB	Medium Modulus
MS	Medium Modulus
MS-2	MS (16 hole stamp grade)
MS-20	MS (20 hole stamp grade)
MS-25	MS (25 hole stamp grade)
MS-30	MS (30 hole stamp grade)
MS-35	MS (35 hole stamp grade)
MS-40	MS (40 hole stamp grade)
MS-45	MS (45 hole stamp grade)
MS-50	MS (50 hole stamp grade)
MS-55	MS (55 hole stamp grade)
MS-60	MS (60 hole stamp grade)
MS-65	MS (65 hole stamp grade)
MS-70	MS (70 hole stamp grade)
MS-75	MS (75 hole stamp grade)
MS-80	MS (80 hole stamp grade)
MS-85	MS (85 hole stamp grade)
MS-90	MS (90 hole stamp grade)
MS-95	MS (95 hole stamp grade)
MS-100	MS (100 hole stamp grade)
MS-105	MS (105 hole stamp grade)
MS-110	MS (110 hole stamp grade)
MS-115	MS (115 hole stamp grade)
MS-120	MS (120 hole stamp grade)
MS-125	MS (125 hole stamp grade)
MS-130	MS (130 hole stamp grade)
MS-135	MS (135 hole stamp grade)
MS-140	MS (140 hole stamp grade)
MS-145	MS (145 hole stamp grade)
MS-150	MS (150 hole stamp grade)

Threaded Rod, Couplers, Nuts and AT Strappings Data

Table providing detailed data for threaded rods, couplers, nuts, and AT strappings. Columns include Model Number, Diameter (in), Length (in), and Allowable Load (lb).

AutoTight Bearing Plate Schedule

Table providing schedule data for AutoTight bearing plates. Columns include Flange Dimensions (Thickness, Width, Length), Flange (in), and Allowable Load (lb).

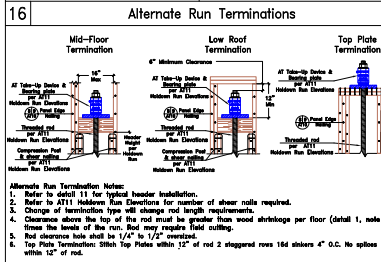
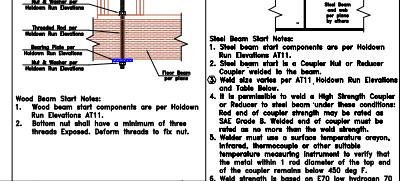
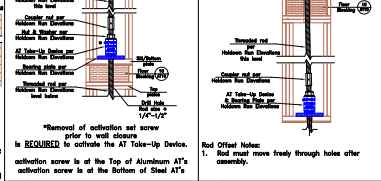
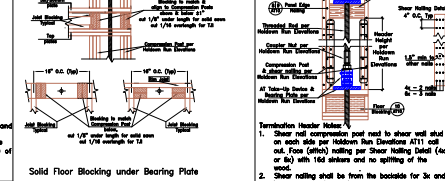
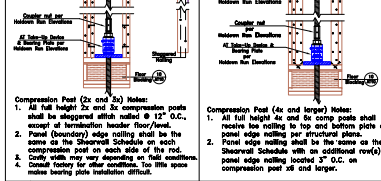
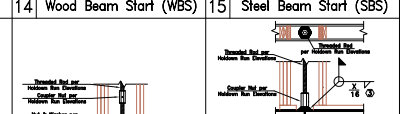
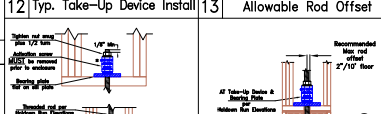
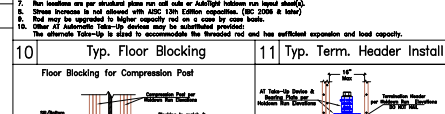
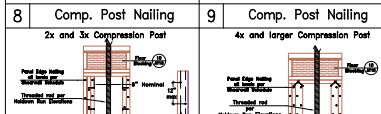
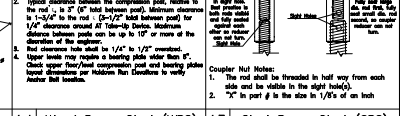
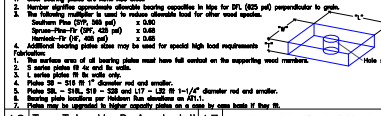


Structural Engineer of Record

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10 Typ. Floor Blocking

Diagram showing typical floor blocking details for compression posts. Includes notes on blocking height and placement.



17 Isolator Bushing Mud Sill

Diagram showing isolator bushing mud sill details. Includes notes on bushing placement and fasteners.

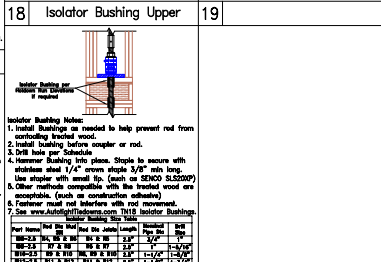


Table 2b 2009 International Building Code (IBC)

Bearing Plate Allowable Loads

Table providing allowable loads for bearing plates. It includes columns for Flange Dimensions (Thickness, Width, Length), Flange (in), and Allowable Load (lb).

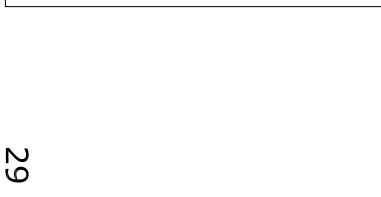


Table 2c 2009 International Building Code (IBC)

Bearing Plate Allowable Loads

Table providing allowable loads for bearing plates. It includes columns for Flange Dimensions (Thickness, Width, Length), Flange (in), and Allowable Load (lb).

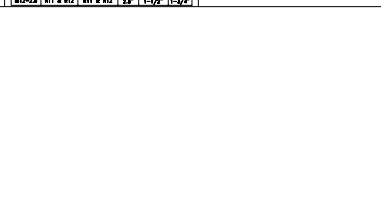


Table 2d 2009 International Building Code (IBC)

Bearing Plate Allowable Loads

Table providing allowable loads for bearing plates. It includes columns for Flange Dimensions (Thickness, Width, Length), Flange (in), and Allowable Load (lb).

AutoTight Holdown System
www.comminsmfg.com
by Commins Manufacturing, Inc.
9600 Guard St., Friday Harbor, WA 98250
Tel: 360.378.9484

Revision table with columns for Revision, Date, and Description.

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Revision table with columns for Revision, Date, and Description.

Holdown Run Details
AT10

AutoTight
Commins Manufacturing

Change items in red and other items as needed for your specific job.

Sample AT10 Holdown Run Details drawing

360-378-9484

AutoTight Tie-Down Systems
Commins Manufacturing Inc.

AT11 Includes Typical Run Details. Download and modify as needed. This template includes several dozen typical runs from 1 to 6 stoies and with several alternative terminations. This template also requires the designer to specify required componentst..

Run 5A

Wood Floor/Level	Tension Load Spec	Differential Load Spec	Compression Load Spec
5th Floor	5.10	5.10	per Plan
4th Floor	5.90	0.80	per Plan
3rd Floor	6.80	0.90	per Plan
2nd Floor	7.50	0.70	per Plan
1st Floor	9.20	1.70	per Plan

Loads shown in kips

Run 5B

Wood Floor/Level	Tension Load Spec	Differential Load Spec	Compression Load Spec
5th Floor	6.50	6.50	per Plan
4th Floor	10.75	4.25	per Plan
3rd Floor	10.90	0.15	per Plan
2nd Floor	16.00	5.10	per Plan
1st Floor	27.80	11.80	per Plan

Loads shown in kips

Run 3A

Wood Floor/Level	Tension Load Spec	Differential Load Spec	Compression Load Spec
3rd Floor	4.50	4.50	per Plan
2nd Floor	8.50	4.00	per Plan
1st Floor	16.00	7.5	per Plan

Loads shown in kips

Run 1A-SBS

Wood Floor/Level	Tension Load Spec	Differential Load Spec	Compression Load Spec
2nd Floor	8.20	8.20	per Plan

Loads shown in kips

Notes:

- Any AT specified may be replaced with any other AT that has a load rating equal to or higher than the load required, take-up travel equal to or higher than the shrinkage required and compatible with the rod diameter. AT6A-1.5 may be replaced with AT 7.5 at suppliers discretion. AT 7.5 may be replaced with AT6A-1.5 at suppliers discretion.
- Any bearing plate specified may be replaced with any bearing plate that has an equal or higher load rating and compatible rod diameter.
- Posts may be arranged as desired by the builder as long as:
 - The total post quantity is the same as or greater than the quantity listed here.
 - And there is at least 1 post on each side of each rod.

AutoTight® Holdown System
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No.	Revision	Date

13-124
 The Sample Project
 960 Guard Street
 Friday Harbor WA 98250
 Drawn: WS | Check: SW | Date: 07/01/13

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 Holdown Run Elevations
AT11

AT12 Details Embedments.

Use this as a starting point for detailing embedments. Our experience is embedments account for the most problems with design and installation of tie-down systems. Please consult factory for more information.

Anchor Bolt Embedment Notes

Anchor Bolt Embedment Design:

- Anchor Bolt Embedment Design conforms to the **2009 International Building Code (IBC)**.
- Required loads and system requirements per Final Show Wall Layout Structural Plan Set, dated 07/01/2013.
- Concrete Strength is **4,000 psi min.** Drawings are not to scale.
- Fabrication shall meet the requirements and specifications per structural plan general notes.

Anchor Bolt Installation:

- Contractor/Installer shall verify anchor bolt size, thread pitch and material for correct location per structural plans and AutoTight holdown log layout sheet(s).
- Anchor Bolt location relative to the end of the show wall shall be per AT10 Details 4 and 6.
- Anchor bolts shall be 4" minimum above concrete slab (U.A.C.).
(Excess exposure will impact RTI-over heights on floors above. Less exposure will not leave enough thread for coupler.)

Holdown System Design:

- For system design see Holdown Run Details (AT10), Holdown Run Elevations (AT11) and Structural Drawing S-203.
- Fabrication shall meet the requirements and specifications per structural plan general notes.

Shop Drawing Disclaimer | **Abbreviations**

Engineering has been provided by Zidner-Carter-Souders Engineering and Commins Manufacturing, Inc. for the holdown system described in these shop drawings only. This design uses the construction data and calculations provided by the Engineer of Record. No attempt has been made on the part of Zidner-Carter-Souders Engineering and Commins Manufacturing, Inc. to verify the values given in the calculations or design described by the construction drawings.

The Engineer of Record is responsible for the structural design of the building and the ability of the design to transfer loads imparted to the structure by the holdown system.

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Anchor Bolt Allowable Loads

Table 2b
2009 International Building Code (IBC)

Allowable Load (2009 IBC Min)	Anchor Bolts	
	CAT Rod	2B-Threaded (Anchored)
6,903	R6A307	5/8"-11 NC A307
9,840	R6A307	3/4"-10 NC A307
13,530	R7A307	7/8"-9 NC A307
17,671	R8A307	1"-8 NC A307
22,365	R9A307	1-1/8"-7 NC A307
27,612	R10A307	1-1/4"-7 NC A307
34,381	R9B7	5/8"-11 NC A193-B7
20,709	R6B7	3/4"-10 NC A193-B7
28,187	R7B7	7/8"-9 NC A193-B7
36,818	R8B7	1"-8 NC A193-B7
46,593	R9B7	1-1/8"-7 NC A193-B7
57,524	R10B7	1-1/4"-7 NC A193-B7
69,029	R10A354	1-1/4"-7 NC A354-BD

Threaded Rod, Couplers, Nuts and AT Shrinkage Device Notes:

- Red Alloy is incorporated in the red part name. See AT10 Holdown Run Details for data on other rod alloys.
- All threaded rod is Unified National Coarse (UNC) Threaded.
- High strength rod is usually treated with Red paint. Consult Factory for additional information.
- Standard couplers conform to ASTM A-563 grade A (SAC Grade 2).
- High strength (HS) couplers conform to ASTM A563 Grade C (SAC Grade B) and are notched for identification.
- Standard nuts conform to ASTM A-563 grade A (SAC Grade 2).
- High strength (HS) nuts conform to ASTM A563 Grade C (SAC Grade B) and are stamped for identification.
- Automatic (AT) Take-Up Device & Rod & Beating Plates by Commins Manufacturing Inc. per ICC ES report ESR-154, issued November 1, 2007.

Slab Edge Anchor

Concrete and Rebar per Structural Plans

Slab Interior Anchor

Concrete and Rebar per Structural Plans

Run #	Location	Rod	Plate Size Slab Interior	Embedment Depth	Quantity
1-E	Slab Edge	R6A307	3 1/2" x 7 1/2" x 1"	9"	14
2-E	Slab Edge	R9B7	3 1/2" x 7 1/2" x 1"	9"	2
3-E	Slab Edge	R8A307	3 1/2" x 7 1/2" x 1"	9"	0
4-E	Slab Edge	N.A.	Steel Beam Start	N.A.	N.A.

Run #	Location	Rod	Plate Size Slab Interior	Embedment Depth	Quantity
1-I	Slab Interior	R6A307	5" x 5" x 1"	9"	50
2-I	Slab Interior	R9B7	5" x 5" x 1"	9"	6
3-I	Slab Interior	R8A307	5" x 5" x 1"	9"	5
4-I	Slab Interior	N.A.	5" x 5" x 1"	N.A.	N.A.

AutoTight® Rod Holdown System
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894-989-989-989
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No.	Revision	Date

13-124
 The Sample Project
 960 Guard Street
 Friday Harbor WA 98250

Drawn: []
 Check: []
 Date: 07/07/13

Anchor Bolt Details

AT12

Sample AT12 Anchor Bolt Details drawing
 Change items in red and redesign as needed as needed for your specific job.

AutoTight Tie-Down Systems

Commings Manufacturing Inc.

360-378-9484

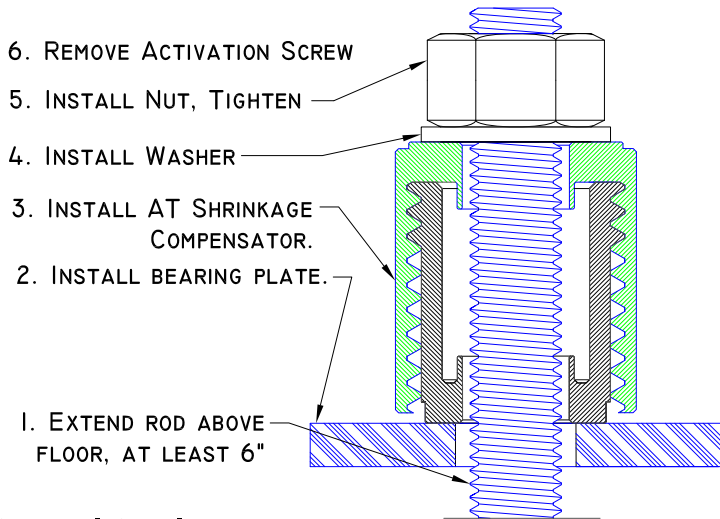


Notes:



AT Installation, Six Steps, 30 Seconds

Start from the **bottom**, work up.



Abbreviations

A.B.	Anchor bolt per plan or schedule
Alt	Alternate option
ATXX	AutoTight take-up device 75 & 75-2.5 (5/8" or 3/4" rod) 100 (7/8" or 1" rod) 125 (1 1/8" or 1 1/4" rod) 6A (1/2", 5/8" or 3/4" rod) 4A (1/2" rod) 200-2.0 (1 3/8" through 2" rod)
CAT	Commins AutoTight
CN(HS)	Coupler nut (HS are notched)
CNR(HS)	Coupler nut reducer(HS are notched)
Dia	Diameter
DFL	Douglas Fir-Larch
EOR	Engineer of record.
HF	Hemlock Fir
HS	High strength
LXX	Bearing plate, 6x wall only
Min	Minimum
Max	Maximum
N(HS)-XX	Nut (HS have stamped grade ID)
O.C.	On center
R-XX(HS)	Threaded rod, (HS rod is black)
SPF	Spruce-Pine-Fir
STD	Standard strength (STD rod is black)
SYP	Southern Pine
SXX	Bearing plate, 4x or 6x wall
Typ	Typical
TUD	Take Up Device
U.N.O.	Unless noted otherwise
W-XX	SAE Washer Rod, Nut & Washer Size
-5	5/8" -10 1-1/4"
-6	3/4" -11 1-3/8"
-7	7/8" -12 1-1/2"
-8	1" -14 1-3/4"
-9	1-1/8" -16 2"

General Catalog Notes:

Commins Manufacturing Inc. products are designed and tested to provide specified capacities per the referenced code. To achieve specified capacities, products must be properly installed in accordance with catalog information and/or information contained in the shop drawings. Should information be in conflict, shop drawings govern.

1. Commins Manufacturing Inc. reserves the right to change specifications, designs and models without notice or liability for such changes. Consult www.comminsmfg.com for any changes between catalog publication dates.
2. Components and systems shown in this catalog will only achieve stated capacities if the design and installation are per the project requirements and the appropriate code as determined by the engineer (EOR).
3. Wood shrinkage compensation shall be determined by the EOR.
4. Contractor/installer shall verify anchor bolt size, thread pitch and material for correct location per structural plans or AutoTight holdown run layout sheet(s).
5. Anchor bolt shall extend 6" minimum above concrete.

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Commins warrants that the Products supplied by Commins will conform to the specifications and design limits set forth in this catalog. Commins warrants that the Products shall be free from defects in material or workmanship under normal use and service. This limited warranty runs for one year from the date this Product is installed. Commins' warranty obligations are limited to the repair or replacement (including labor and materials), of defective parts, or at Commins' option, refund of the purchase price. Contact any Commins Distributor or contact Commins directly at Commins Manufacturing Inc., 960B Guard Street, Friday Harbor, Washington, 98250

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