DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING PERMIT

This is to certify that BENJAMIN CHIPMAN

Located At 5 MAYO ST

Job ID: 2012-04-3684-ALTCOMM

CBL: 022- J-023-001

has permission to Build a 2'5"(at 4'slope ht) x 20' shed dormer to increase headroom in exisitng 3rd floor apartment living room provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

4/23/12

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No:	Date Applied:	CBL:	
2012-04-3684-ALTCOMM	**4/4/2012**	**022- J-023-001**	
Location of Construction: **5 MAYO ST**	Owner Name: **BENJAMIN CHIPMAN**	Owner Address: **5 MAYO ST** **PORTLAND, ME 04101**	Phone: **207-318-4961**
Business Name:	Contractor Name: **Pollard Builders – Ben Pollard**	Contractor Address: **386 Fore ST., Suite 303, Portland, ME 04101**	Phone: **207-776-5711**
Lessee/Buyer's Name:	Phone:	Permit Type: **BLDG - Building**	Zone: **R-6**
Past Use: Three family	Proposed Use: Same – three family – build a 20' x ~~4'3"~~ 2'5" from 4' slope HT. shed dormer	Cost of Work: **10000.00**	CEO District:
		Fire Dept: ✓ Approved w/ conditions ___ Denied ___ N/A Signature: BJ Andrews - 58	Inspection: Use Group: R-2 Type: 5B IBC-2009 Signature: JMB 4/23/12
Proposed Project Description: **new 20' x 4'3" dormer**		Pedestrian Activities District (P.A.D.)	
Permit Taken By:			

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
___ Shoreland	___ Variance	✓ Not in Dist or Landmark
___ Wetlands 5 ~~10~~ % increase in floor area allowed 30%.	___ Miscellaneous	___ Does not Require Review
___ Flood Zone	___ Conditional Use	___ Requires Review
___ Subdivision	___ Interpretation	___ Approved
___ Site Plan	___ Approved	___ Approved w/Conditions
___ Maj ___ Min ___ MM	___ Denied	___ Denied
Date: OK w/ conditions 4/6/12 ASM	Date:	Date: ASM

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

5-7-12 DWM Roof framing NTC

5-9 & 5-10 Spoke w/ Ben C. & Joe D. about tie in of dormer to main Roof & Structural integrity of Ridge board. Require a Third party Engineers review. JMB

3/14/12 Rcv'd call from Chris Ray (engineer) on site - he was assessing the framing - New is acceptable. While a beam at the ridge is advised, using simpson rafter strap connectors from the new to old roof is acceptable. Ben C. will call for inspection. JMB

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

Close In Elec/Plmb/Frame prior to insulate or gyp

Final Inspection

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • *www.portlandmaine.gov*

Acting Director of Planning and Urban Development
Gregory Mitchell

Job ID: 2012-04-3684-ALTCOMM **Located At:** 5 MAYO ST **CBL:** 022- J-023-001

Conditions of Approval:

Zoning

1. This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.
2. This property shall remain a three family dwelling. Any change of use shall require a separate permit application for review and approval.
3. The property is legally nonconforming to setbacks and land area per dwelling unit.
4. This permit is being issued using section 14-436(a). 50% of the first floor footprint is 548 sf. The dormer is adding 50 sf of floor area. This is a 5% increase in floor area.

Fire

1. All construction shall comply with City Code Chapter 10.
2. This permit is being approved on the basis of the plans submitted. Any deviation from the plans would require amendments and approval.
3. Any Fire alarm or Sprinkler systems shall be reviewed by a licensed contractor(s) for code compliance. Compliance letters are required.
4. A separate Fire Alarm Permit is required for new systems; or for work effecting more than 5 fire alarm devices; or replacement of a fire alarm panel with a different model. This review does not include approval of fire alarm system design or installation.
5. A separate Suppression System Permit is required for all new suppression systems or sprinkler work effecting more than 20 heads. This review does not include approval of sprinkler system design or installation.
6. Emergency lights and exit signs are required. Emergency lights and exit signs are required to be labeled in relation to the panel and circuit and on the same circuit as the lighting for the area they serve.
7. Any cutting and welding done will require a Hot Work Permit from Fire Department.
8. All outstanding code violations shall be corrected prior to final inspection.

Building

1. Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approval prior to work.
2. Permit approved based on the plans submitted and reviewed w/owner/ contractor, with additional information as agreed on and as noted on plans, including the roof pitch to be a minimum of 2:12.

3. Separate permits are required for any electrical, plumbing, sprinkler, fire alarm, HVAC systems, heating appliances, including pellet/wood stoves, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.
4. Roof slopes from 2:12 to 4:12 with asphalt shingles are required to have double underlayment.
5. Those renovating residential dwellings shall install a CO detector in each area within or giving access to bedrooms. That detection must be powered by the electrical service in the building and battery.
6. Hardwired photoelectric interconnected battery backup smoke detectors shall be installed in all bedrooms, protecting the bedrooms, and on every level in the addition. The same is required for the existing building, where permanent wiring is feasible; or at the very least battery operated smoke detectors are required. Verification of this will be upon inspection.
7. Upon exposing the existing rafter/valley framing at the ridge, any deficiencies shall be addressed. Connections and ties shall be installed from the existing rafter framing to the new shed dormer framing and ridge. This shall be inspected prior to close in.

R-6 Ebc. Sic entered 2012 04 3684 66

General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: 5 MAYO STREET, APT. 3		
Total Square Footage of Proposed Structure/Area: 45 S.F.	Square Footage of Lot: 2283 SF	Number of Stories: 3
Tax Assessor's Chart, Block & Lot — Chart# 22 Block# J Lot# 23	Applicant: (must be owner, lessee or buyer) Name BEN CHIPMAN Address 5 MAYO ST, APT 3 City, State & Zip PORTLAND, ME 04101	Telephone: 318-4961
Lessee/DBA	Owner: (if different from applicant) Name mail Address City, State & Zip	Cost of Work: $10,000 C of O Fee: $ Historic Review: $ Planning Amin.: $ Total Fee: $ 180.00

RECEIVED
APR 04 2012
Dept. of Building Inspections
City of Portland Maine

Current legal use (i.e. single family) APARTMENT BUILDING Number of Residential Units 3
If vacant, what was the previous use? N/A
Proposed Specific use: NEW DORMER ADDITION
Is property part of a subdivision? NO If yes, please name
Project description: WE ARE PLANNING TO BUILD A NEW 20' x 4'3" SHED DORMER ADDITION TO THE THIRD FLOOR APARTMENT

Contractor's name: POLLARD BUILDERS / BEN POLLARD Email: JBPOLLARD@POLLARD-BUILDERS.COM
Address: 386 FORE ST, SUITE 303
City, State & Zip PORTLAND, ME 04101 Telephone: 207 776 5711
Who should we contact when the permit is ready: BEN POLLARD Telephone: 776 5711
Mailing address: SAME AS ABOVE

Please submit all of the information outlined on the applicable checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: JB Pollard Date: 2012.03.30

This is not a permit; you may not commence ANY work until the permit is issued

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Receipts Details:

Tender Information: Check , BusinessName: Pollard Builders, Check Number: 431
Tender Amount: 120.00

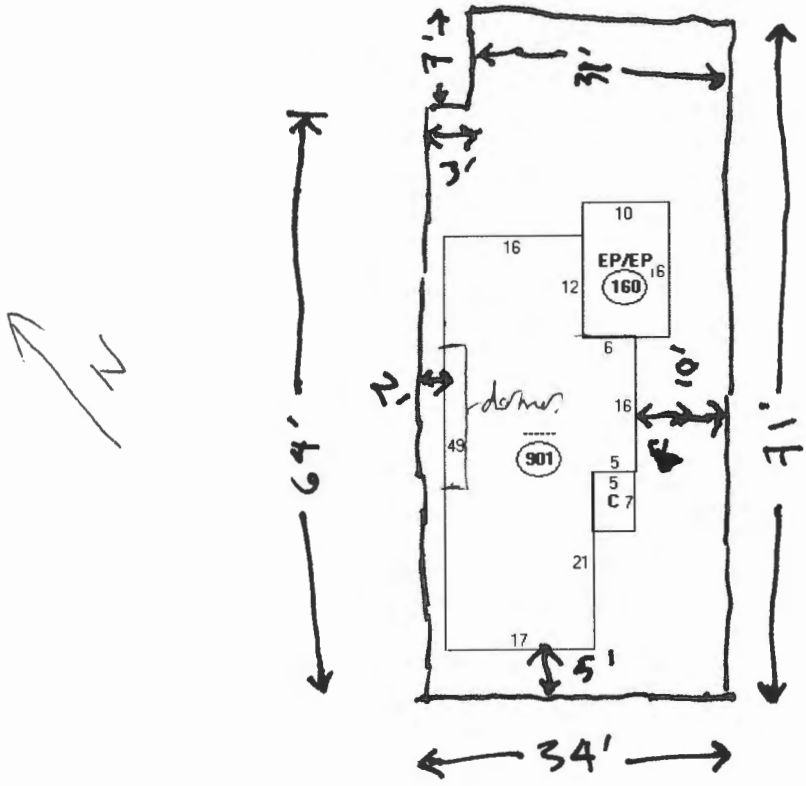
Receipt Header:

Cashier Id: gguertin
Receipt Date: 4/4/2012
Receipt Number: 42531

Receipt Details:

Referance ID:	5936	Fee Type:	BP-Constr
Receipt Number:	0	Payment Date:	
Transaction Amount:	120.00	Charge Amount:	120.00
Job ID: Job ID: 2012-04-3684-ALTCOMM - new 20' x 4'3" dormer			
Additional Comments: 5 Mayo			

Thank You for your Payment!



Descriptor/Area
A: ------
901 sqft
B: EP/EP
160 sqft
C: OFP
35 sqft

22-J-23

CHIPMAN DORMER SITE PLAN
5 MAYO ST
POLLARD BUILDERS

R-6

lot size 2283 ϕ

*using section 14-436(2) - not meet setback! Landscaper dW

1st floor footprint 1096 ϕ 50% = 548 ϕ

dormer is adding 20 × 2.5 = 50 sf

50 / 1096 = 4.5% increase in floor area.

Jeanie Bourke - Chipman project information

From: Benjamin Pollard <jbpollard@pollard-builders.com>
To: Jeanie Bourke <jmb@portlandmaine.gov>
Date: 4/20/2012 3:53 PM
Subject: Chipman project information
Attachments: 2012.04.20 Chipman LSU26 hanger.pdf; 2012.04.20 Chipman H3 hanger.pdf

Dear Ms. Bourke,

I am sorry that I did not send you an email yesterday as I had said I would. Here is the information that you requested yesterday:

1. The U-factor for the Pella windows is 0.30.
2. The total R-value of the insulation is R-49.75, based on 42.75 for the dense pack cellulose (11.25 inches at 3.8 per inch) plus R-7 for the 1" foil faced rigid insulation.
3. The rafter hangers will be Simpson LSU-26 and the hurricane hangers will be Simpson H3 (see attached pdf files).

I have been looking for my notes from our conversation, and for some reason I have not been able to find them just now, so if there is any additional information that you need, please let me know. Thank you for your help with this project.

Best wishes,

Benjamin

H/TSP *Seismic & Hurricane Ties*

The Hurricane Tie series features various configurations of wind and seismic ties for trusses and rafters.

The TSP stud plate tie has now been tested in the top-plate-to-rafter connection.

The H2A features an improved design and higher uplift loads to replace the H2. The H10A has a similar design as the H10 but offers higher uplift capacity. The H10S provides a high capacity connection from truss/rafter to stud.

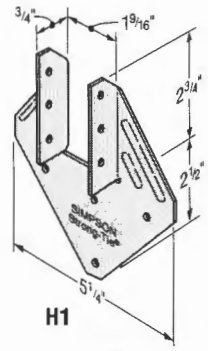
The H2.5T's truncated design was developed to accommodate trusses with 2x4 bottom chords. The easy to install, five nail pattern is stronger and gets better uplift loads than our popular H2.5 hurricane tie. H1, H10, H10S, H10-2, H11Z and H14 have also been rated for download to provide additional bearing capacity between the truss and wall.

MATERIAL: See table.

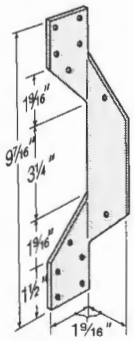
FINISH: Galvanized. H7Z and H11Z—ZMAX® coating. Some models available in stainless steel or ZMAX; see Corrosion Information, page 18-19.

INSTALLATION: • Use all specified fasteners. See General Notes.
- H1 can be installed with flanges facing inwards *(reverse of H1 drawing number 1).*
- H2.5, H2.5T, H3, H4, H5 and H6 ties are only shipped in equal quantities of rights and lefts. *(Rights shown.)*
- Hurricane Ties do not replace solid blocking.
- Do not drive nails through the truss plate on the opposite side of single-ply trusses, which could force the plate off the truss.

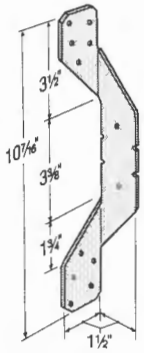
CODES: See page 20 for Code Reference Key Chart.



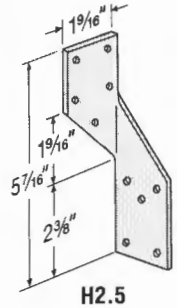
H1



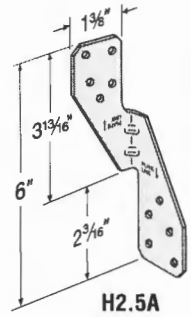
H2



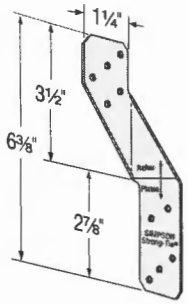
H2A



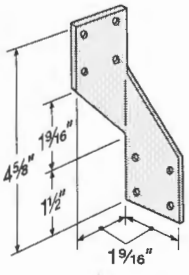
H2.5



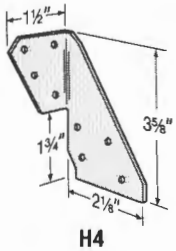
H2.5A



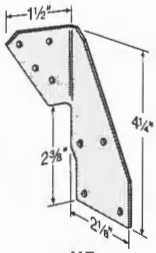
H2.5T



H3

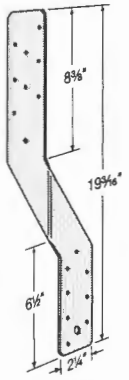


H4

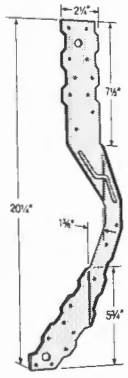


H5

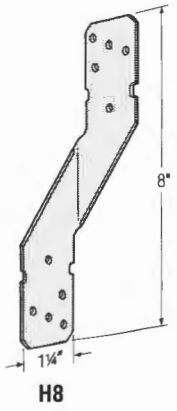

TSP



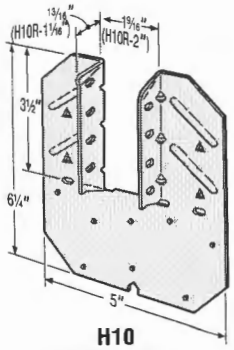
H6



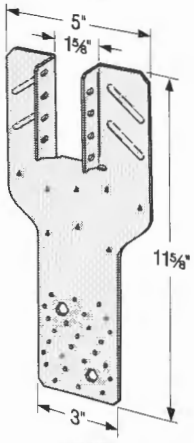
H7Z



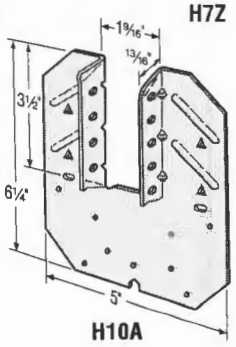
H8



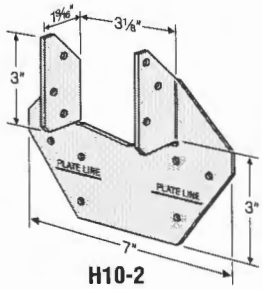
H10
(H10R similar)



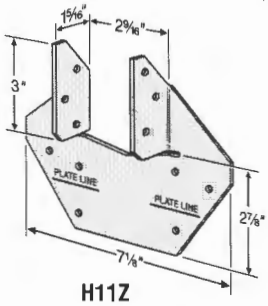
H10S



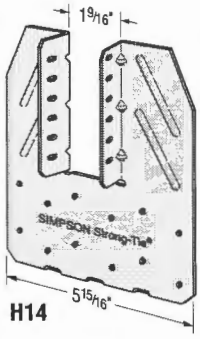
H10A



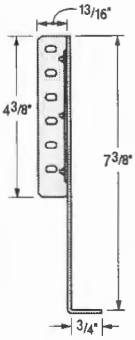
H10-2



H11Z



H14



H14 Profile

H/TSP *Seismic & Hurricane Ties*

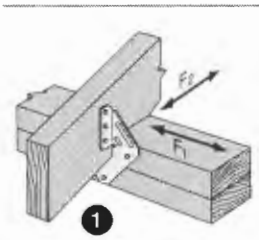
SIMPSON Strong-Tie®

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

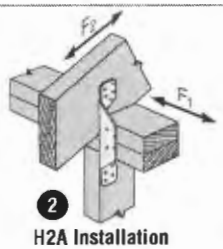
These products are approved for installation with the Strong-Drive SD Structural-Connector screw. See page 30 for the correct substitution and SD screw size.

Model No.	Ga	Fasteners			DF/SP Allowable Loads			Uplift Load with 8dx1½ Nails (160)	SPF/HF Allowable Loads			Uplift Load with 8dx1½ Nails (160)	Code Ref.
		To Rafters/ Truss	To Plates	To Studs	Uplift	Lateral (160)			Uplift	Lateral (160)			
					(160)	F_1	F_2		(160)	F_1	F_2		
H1	18	6-8dx1½	4-8d	—	585	485	165	455	400	415	140	370	I17, L6, F16
H2	18	5-8d	—	5-8d	335	—	—	335	230	—	—	230	
H2A	18	5-8dx1½	2-8dx1½	5-8dx1½	575	130	55	—	495	130	55	—	IP1, L18, F25
H2.5	18	5-8d	5-8d	—	415	150	150	415	365	130	130	365	I17, L6, F16
H2.5A	18	5-8d	5-8d	—	600	110	110	480	535	110	110	480	I17, F16
H2.5T	18	5-8d	5-8d	—	545	135	145	425	545	135	145	425	IP1, L18, F25
H3	18	4-8d	4-8d	—	455	125	160	415	320	105	140	290	I17, L6, F16
H4	20	4-8d	4-8d	—	360	165	160	360	235	140	135	235	
H5	18	4-8d	4-8d	—	455	115	200	455	265	100	170	265	
H6	16	—	8-8d	8-8d	950	—	—	—	820	—	—	—	I17, F16
H7Z	16	4-8d	2-8d	8-8d	985	400	—	—	845	345	—	—	
H8	18	5-10dx1½	5-10dx1½	—	745	75	—	630	565	75	—	510	F26
H10	18	8-8dx1½	8-8dx1½	—	995	590	275	—	850	505	235	—	I17, F16
H10A	18	9-10dx1½	9-10dx1½	—	1140[7]	590	285	—	1015	505	285	—	I17, L18, F25
H10S[9,10]	18	8-8dx1½	8-8dx1½[10]	8-8d	1010	660	215	550	870	570	185	475	IP1, L18, F25
H10-2	18	6-10d	6-10d	—	760	455	395	—	655	390	340	—	I17, F16
H11Z	18	6-16dx2½	6-16dx2½	—	830	525	760	—	715	450	655	—	170
H14	18	[1] 12-8dx1½	13-8d	—	1350[7]	515	265	—	1050	480	245	—	IP1, L18, F25
		[2] 12-8dx1½	15-8d	—	1350[7]	515	265	—	1050	480	245	—	
TSP	16	9-10dx1½	6-10dx1½	—	740	310	190	—	635	265	160	—	170
		9-10dx1½	6-10d	—	890	310	190	—	765	265	160	—	

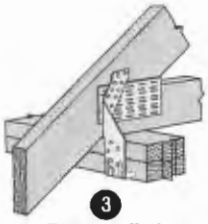
1. Loads have been increased 60% for wind or earthquake loading with no further increase allowed; reduce where other loads govern.
2. Allowable loads are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate *(exception: connectors installed such that nails on opposite sides don't interfere)*.
3. Allowable DF/SP uplift load for stud to bottom plate installation *(see detail 15)* is 400 lbs. (H2.5); 390 lbs. (H2.5A); 360 lbs. (H4) and 310 lbs. (H8). For SPF/HF values multiply these values by 0.86.
4. Allowable loads in the F_1 direction are not intended to replace diaphragm boundary members or prevent cross grain bending of the truss or rafter members.
5. When cross-grain bending or cross-grain tension cannot be avoided in the members, mechanical reinforcement to resist such forces may be considered.
6. Hurricane Ties are shown installed on the outside of the wall for clarity and assume a minimum overhang of 3½" installation on the inside of the wall is acceptable *(see General Instructions for the Installer notes u on page 22)*. For uplift Continuous Load Path, connections in the same area *(i.e. truss to plate connector and plate to stud connector)* must be on same side of the wall.
7. Southern Pine allowable uplift loads for H10A = 1340 lbs. and for H14 = 1465 lbs.
8. Refer to technical bulletin T-HTIEBEARING for H1, H10, H10S, H10-2, H11Z, H14 allowable bearing enhancement loads *(see page 214 for details)*.
9. H10S can have the stud offset a maximum of 1" from rafter *(center to center)* for a reduced uplift of 890 lbs. (DF/SP), and 765 lbs. (SPF).
10. H10S nails to plates are optional for uplift but required for lateral loads.
11. **NAILS:** 16dx2½ = 0.162" dia. x 2½" long, 10d = 0.148" dia. x 3" long, 10dx1½ = 0.148" dia. x 1½" long, 8d = 0.131" dia. x 2½" long, 8dx1½ = 0.131" dia. x 1½" long. See page 24-25 for other nail sizes and information.



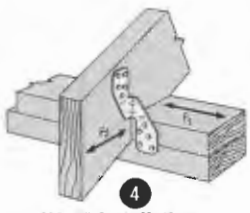
1 H1 Installation



2 H2A Installation
(H2 similar)

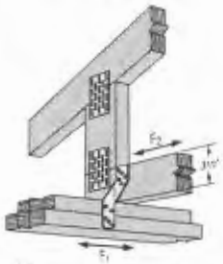


3 TSP Installation

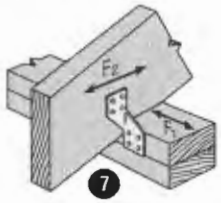


4 H2.5A Installation
(Nails into both top plates)
(H2.5 similar)

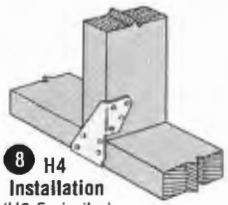
5 H2.5T Installation
(Nails into both top plates)



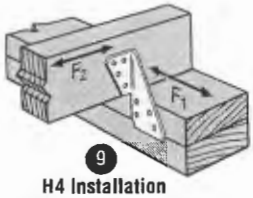
6 H2.5T Installation



7 H3 Installation
(Nails into upper top plate)

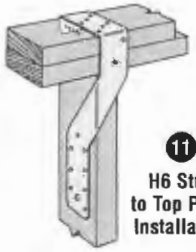


8 H4 Installation
(H2.5 similar)
(see footnote 3)

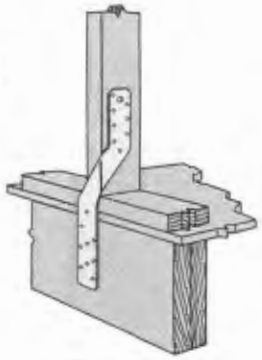


9 H4 Installation
(Nails into upper top plate)

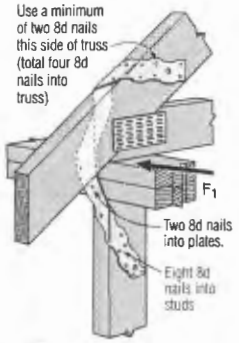
10 H5 Installation
(Nails into both top plates)



11 H6 Stud to Top Plate Installation

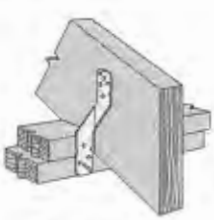


12 H6 Stud to Band Joist Installation

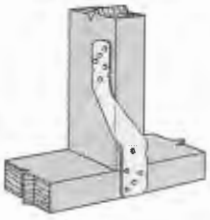


13 H7Z Installation

H/TSP *Seismic & Hurricane Ties*

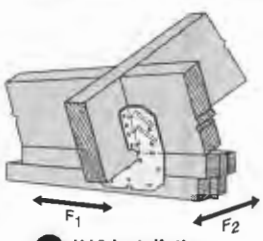


14 **H8 attaching rafter to double top plates**

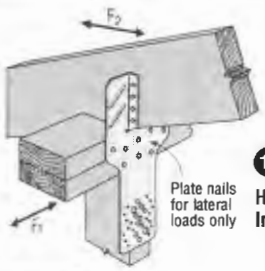


15 **H8 attaching stud to sill** *(4-8d into plate, 5-8d into stud, refer to footnote 3 for loads)*

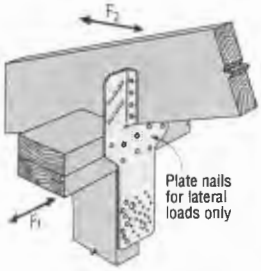
16 **H8 attaching I-joist to double top plates**



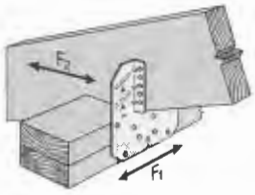
17 **H10 Installation**



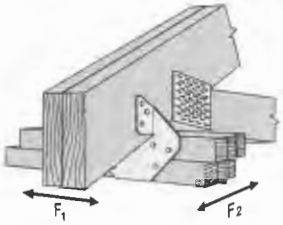
18 **H10S Installation**



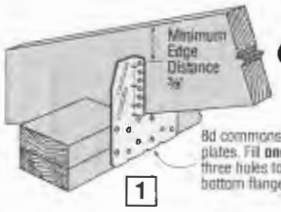
19 **H10S Installation with stud offset**



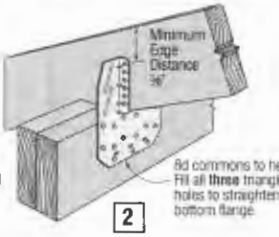
20 **H10A Installation**



21 **H10-2 Installation** *(H11Z similar)*

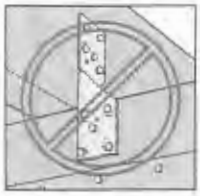


22 **H14 Installation to double top plates**



23 **H14 Installation to double 2x header**

AVOID A MISINSTALLATION



Do not make new holes or overdrive nails!

H10A and H10 optional nailing connects shear blocking to rafter. Use 8d common nails. Slot allows maximum field-bending up to a pitch of 6/12, use 75% of the table uplift load; bend one time only.

Considerations for Hurricane Tie Selection

1. What is the uplift load?
2. What is the parallel-to-plate load?
3. What is the perpendicular-to-plate load?
4. What is the species of wood used for the rafter and the top plates? *(Select the load table based on the lowest performing species of wood.)*
5. Will the hurricane tie be nailed into both top plates or the upper top plate only?
6. What load or loads will the hurricane tie be taking?

When a connector is loaded simultaneously in more than one direction, the allowable load must be evaluated as shown here. For all connectors use the following equation:

Design Uplift/Allowable Uplift + Design Lateral Parallel to Plate / Allowable Lateral Parallel to Plate + Design Lateral Perpendicular to Plate / Allowable Lateral Perpendicular to Plate < 1.0.

The three terms in the unity equation are due to the possible directions that exist to generate force on a connector. The number of terms that must be considered for simultaneous loading is at the sole discretion of the Designer and is dependent on their method of calculating wind forces and the utilization of the connector within the structural system.

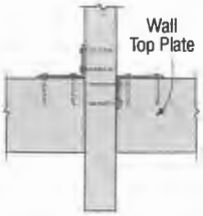
As an alternate, certain roof to wall connectors *(embedded truss anchors, pages 161 and 162, seismic and hurricane ties, pages 173-175, and twist straps, page 177)* can be evaluated using the following: The design load in each direction shall not exceed the published allowable load in that direction multiplied by 0.75.

7. Select hurricane tie based on performance, application, installed cost and ease of installation.

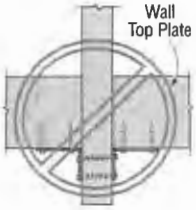
Hurricane Tie Installations to Achieve Twice the Load (Top View)

Both connectors shall be same model.

Install diagonally across from each other for minimum 2x truss.



Products can be on the same side of the wall provided they are configured as shown.



Nailing into both sides of a single ply 2x truss may cause the wood to split.

VB *Knee Braces*

The VB provides lateral resistance force at the bottom of beams when installed approximately 45° or more to the vertical plane.

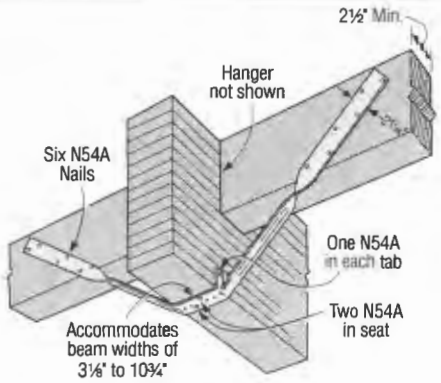
MATERIAL: 12 gauge **FINISH:** Galvanized

INSTALLATION: • Use specified fasteners. See General Notes.
• 16-N54A fasteners are included with the brace.

CODES: See page 20 for Code Reference Key Chart.

Model No.	H (Beam Depth)	L	Fasteners (Total)	Allowable Tension Loads[1]		Code Ref.
				Floor (100)	Roof (125)	
VB5	10" - 15"	5'	16-N54A	990	1240	I15, L7
VB7	15" - 22½"	7'	16-N54A	990	1240	
VB8	22½" - 28½"	8'	16-N54A	990	1240	
VB10	28½" - 36"	10'	16-N54A	990	1240	
VB12	36" - 42"	12'	16-N54A	990	1240	

1. Roof loads have been increased 25% with no further increase allowed.



Typical VB Installation

H *Seismic & Hurricane Ties*

SIMPSON Strong-Tie

The hurricane tie series features various configurations of wind and seismic ties for trusses and rafters.

The H16 series has a presloped seat of 5/12 for double trusses.

The presloped 5/12 seat of the H16 provides for a tight fit and reduced deflection. The strap length provides for various truss height up to a maximum of 13½" (H16 series). Minimum heel height for H16 series is 4".

The HGA10 attaches to gable trusses and provides good lateral wind resistance. The HS24 attaches the bottom chord of a truss or rafter at pitches from 0/12 to 4/12 to double 2x4 top plates. Double shear nailing allows for higher lateral resistance.

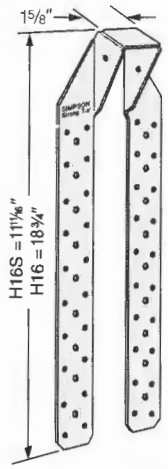
MATERIAL: See table

FINISH: Galvanized. See Corrosion Information, page 18-19.

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

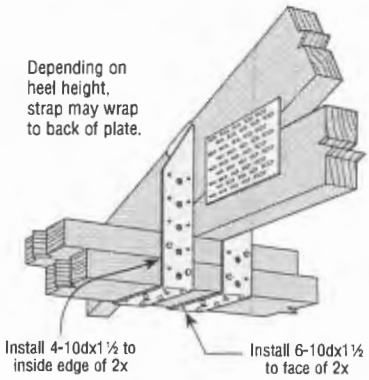
- HGA10KT: sold as a kit with (10) HGA10 connectors. SDS screws are included.
- HS24 requires slant nailing only when bottom chord of truss or rafter has no slope.

CODES: See page 20 for Code Reference Key Chart.



H16 and H16S

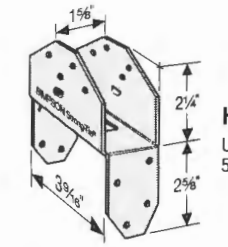
Presloped at 5/12. Truss/ Rafter Pitch of 3/12 to 7/12 is acceptable



H16 Installation

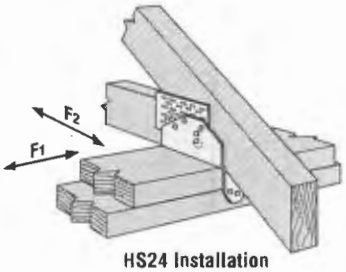
Model No.	Ga	Fasteners: To Rafters/ Truss	Fasteners: To Plates	Fasteners: To Studs	DF/SP Allowable Loads[1]: Uplift (160)	DF/SP Allowable Loads[1]: Lateral (160) F_1	DF/SP Allowable Loads[1]: Lateral (160) F_2	SPF/HF Allowable Loads[1]: Uplift (160)	SPF/HF Allowable Loads[1]: Lateral (160) F_1	SPF/HF Allowable Loads[1]: Lateral (160) F_2	Code Ref.
HGA10KT	14	4-SDS ¼"x1½"	4-SDS ¼"x3"	—	695	1165	940[6]	500	840	675	F26
HS24	18	8-8dx1½ & 2-8d slant	8-8d	—	605[3]	645[3]	1025[3]	520[3]	555[3]	880[3]	I17, F16
H15	Discontinued – See H10S, H14 or H16										
H15-2	Discontinued – See LGT2 or H16-2										
H16	18	2-10dx1½	10-10dx1½	—	1470	—	—	1265	—	—	F26
H16S	18	2-10dx1½	10-10dx1½	—	1470	—	—	1265	—	—	
H16-2	18	2-10dx1½	10-10dx1½	—	1470	—	—	1265	—	—	
H16-2S	18	2-10dx1½	10-10dx1½	—	1470	—	—	1265	—	—	

1. Loads have been increased for wind or earthquake loading with no further increase allowed; reduce where other loads govern.
2. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
3. HS24 DF/SP allowable loads without slant nailing are 605 lbs. (uplift), 590 lbs. (F_1), 640 lbs. (F_2). For SPF/HF loads multiply these values by 0.86.
4. For H16-2S, S = short.
5. Allowable loads in the F_1 direction are not intended to replace diaphragm boundary members or prevent cross grain bending of the truss or rafter members. Additional shear transfer elements shall be considered where there may be effects of cross grain bending or tension.
6. HGA10 F_2 load is for load acting toward the connector. For load away from the connector, allowable load is 780 lbs. DF/SP and 495 lbs. SPF/HF.
7. **NAILS**: 10dx1½ = 0.148" dia. x 1½" long, 8d = 0.131" dia. x 2½" long, 8dx1½ = 0.131" dia. x 1½" long. See page 24-25 for other nail sizes and information.

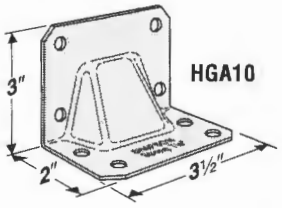


HS24

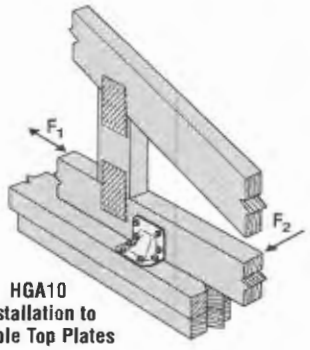
U.S. Patents 5,603,580



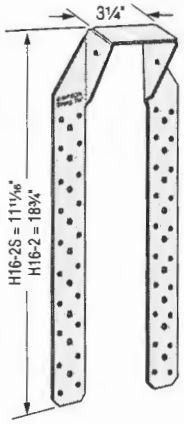
HS24 Installation



HGA10

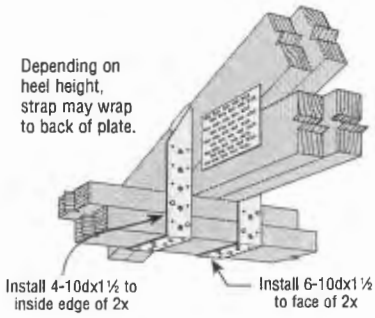


HGA10 Installation to Double Top Plates

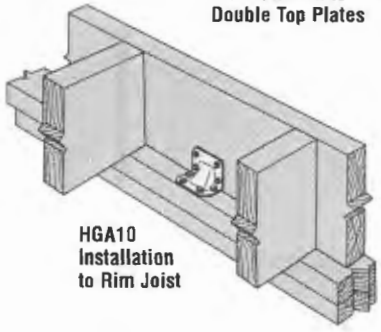


H16-2 and H16-2S

Presloped at 5/12. Pitch of 3/12 to 7/12 is acceptable



H16-2 Installation



HGA10 Installation to Rim Joist

LSU/LSSU *Adjustable Light Slopeable/Skewable U Hangers*

SIMPSON Strong-Tie

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

The LSU and LSSU series of hangers may be sloped and skewed in the field, offering a versatile solution for attaching joists and rafters. These hangers may be sloped up or down and skewed left or right, up to 45°.

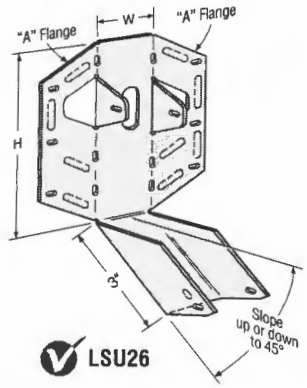
MATERIAL: See table

FINISH: Galvanized. Some products available in ZMAX® coating; see Corrosion Information, page 18-19.

INSTALLATION:

- Use all specified fasteners. See General Notes.
- Attach the sloped joist at both ends so that the horizontal force developed by the slope is fully supported by the supporting members.
- To see an installation video on this product, visit ***www.strongtie.com.***

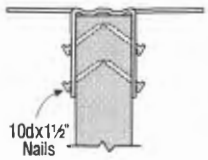
CODES: See page 20 for Code Reference Key Chart.



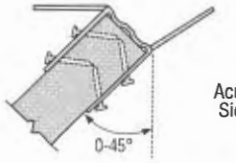
LSU26

LSU and LSSU INSTALLATION SEQUENCE

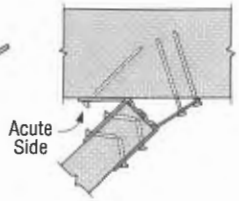
(For Skewed or Sloped/Skewed Applications)



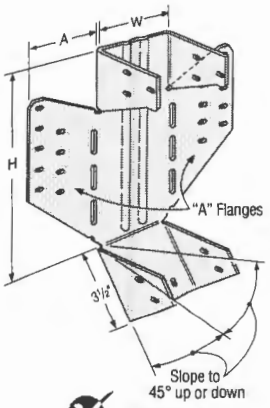
STEP 1
Nail hanger to slope-cut carried member, installing seat nail first. No bevel necessary for skewed installation. Install joist nails at 45° angle.



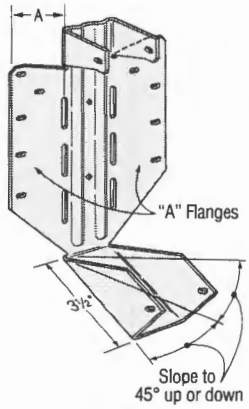
STEP 2
Skew flange from 0-45°. Bend other flange back along centerline of slots until it meets the header. Bend one time only.



STEP 3
Attach hanger to the carrying member, acute angle side first *(see footnote 4)*. Install nails at an angle.



LSSU410
(LSSU210-2 similar)



LSSU28

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

Joist Width	Model No.	Ga	Dimensions W	H	A	Fasteners Face	Joist	DF/SP Allowable Loads Uplift[2] (160)	Floor (100)	Snow (115)	Roof (125)	SPF/HF Allowable Loads Uplift[2] (160)	Floor (100)	Snow (115)	Roof (125)	Code Ref.
Sloped Only Hangers																
1½	LSU26	18	1⁹⁄₁₆	4⅞	1½	6-10d	5-10dx1½	535	665	765	800	415	575	660	690	
1½	LSSU28	18	1⁹⁄₁₆	7⅛	1½	10-10d	5-10dx1½	535	1110	1275	1390	415	960	1105	1200	I8, F7, L15
1½	LSSU210	18	1⁹⁄₁₆	8½	1⅝	10-10d	7-10dx1½	875	1110	1275	1390	625	960	1105	1200	
2½	LSSUH310	16	2⁹⁄₁₆	8½	3⅛	18-16d	12-10dx1½	1150	2295	2295	2295	990	1930	1930	1930	170
3	LSSU210-2	16	3⅛	8½	2⅞	18-16d	12-10dx1½	1150	2430	2795	3035	990	2160	2485	2700	I8, F7, L15
3½	LSSU410	16	3⁹⁄₁₆	8½	2⅝	18-16d	12-10dx1½	1150	2430	2795	3035	990	2160	2485	2700	
Skewed Hangers or Sloped and Skewed																
1½	LSU26	18	1⁹⁄₁₆	4⅞	1½	6-10d	5-10dx1½	535	665	765	800	415	575	660	690	
1½	LSSU28	18	1⁹⁄₁₆	7⅛	1½	9-10d	5-10dx1½	450	885	885	885	415	765	765	765	I8, F7, L15
1½	LSSU210	18	1⁹⁄₁₆	8½	1⅝	9-10d	7-10dx1½	785	995	1145	1205	625	860	995	1050	
2½	LSSUH310	16	2⁹⁄₁₆	8½	3⅛	14-16d	12-10dx1½	1150	1600	1600	1600	990	1385	1385	1385	170
3	LSSU210-2	16	3⅛	8½	2⅞	14-16d	12-10dx1½	1150	1625	1625	1625	990	1365	1365	1365	I8, F7, L15
3½	LSSU410	16	3⁹⁄₁₆	8½	2⅝	14-16d	12-10dx1½	1150	1625	1625	1625	990	1365	1365	1365	

1. Roof loads are 125% of floor loads unless limited by other criteria.
2. Uplift loads include an increase for wind or earthquake loading with no further increase allowed; reduce when other loads govern.
3. Truss chord cross-grain tension may limit allowable loads. Refer to technical bulletins T-ANSITPISPF, T-ANSITPISP and T-ANSITPIDF *(see page 213 for details)* for allowable loads that consider ANSI/TPI 1-2007 wood member design criteria.
4. For skewed LSSU hangers, the inner most face fasteners on the acute angle side are not installed.
5. Do not substitute 10dx1½" nails for face nails on slope and skew combinations or skewed only LSU and LSSU.
6. **NAILS:** 16d = 0.162" dia. x 3½" long, 10d = 0.148" dia. x 3" long, 10dx1½ = 0.148" dia. x 1½" long. See page 24-25 for other nail sizes and information.