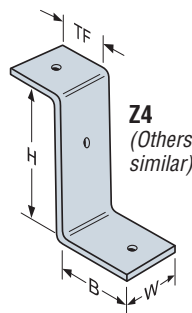


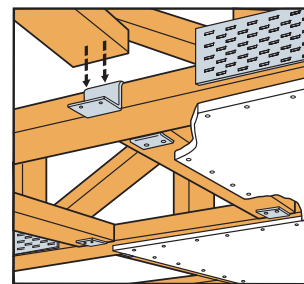
Z Clips

Model No.	Ga	Dimensions				Fasteners ¹ (Total)	Allowable Download ² (125)	Code Ref.
		W	H	B	TF			
Z2	20	2 ⁵ / ₁₆	1 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	4-10dx1 ¹ / ₂	465	170
Z4	12	1 ¹ / ₂	3 ¹ / ₂	2 ¹ / ₈	1 ³ / ₄	2-16d	465	I14, L21, F13
Z28	28	2 ⁵ / ₁₆	1 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	10dx1 ¹ / ₂ ¹	—	170
Z38	28	2 ⁵ / ₁₆	2 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	10dx1 ¹ / ₂ ¹	—	170
Z44	12	2 ¹ / ₂	3 ¹ / ₂	2	1 ³ / ₈	4-16d	865	I14, L21, F13

- Z28 and Z38 do not have nail holes. Fastener quantity and type shall be per Designer.
- Allowable loads have been increased 25% for roof loading (Z clips) with no further increase allowed; reduce where other loads govern.
- Z4 loads apply with a nail into the top and a nail into the seat.
- NAILS:** 16d = 0.162" dia. x 3¹/₂" long, 10dx1¹/₂ = 0.148" dia. x 1¹/₂" long. See page 16-17 for other nail sizes and information.



Z4 (Others similar)



Typical Z2 Installation

HL Heavy Angles and Gussets

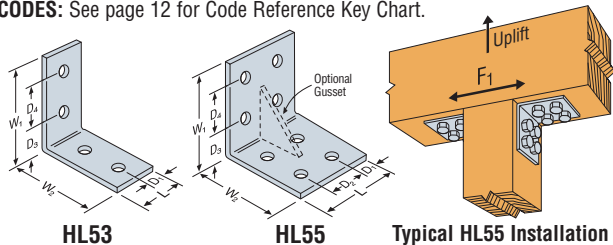
Versatile angle gussets and heavy angles promote standardization and construction economy, and are compatible with Simpson Strong-Tie® structural hardware.

FINISH: 7 ga Models—Galvanized; 3 ga Models—Simpson Strong-Tie® gray paint.

OPTIONS: Gussets may be added to HL models when L ≥ 5"

(specify G after model number, as in HL46G).

CODES: See page 12 for Code Reference Key Chart.



Model No.	Ga	Dimensions							Bolts (Total)		Allowable Loads		Code Ref.
		W ₁ & W ₂	L	D ₁	D ₂	D ₃	D ₄	Qty	Dia	Uplift	F ₁		
HL33	7	3 ³ / ₄	2 ¹ / ₂	1 ¹ / ₄	—	2	—	2	1/2	910	1580	170	
HL35	7	3 ³ / ₄	5	1 ¹ / ₄	2 ¹ / ₂	2	—	4	1/2	910	1580		
HL37	7	3 ³ / ₄	7 ¹ / ₂	1 ¹ / ₄	2 ¹ / ₂	2	—	6	1/2	910	1580		
HL53	7	5 ³ / ₄	2 ¹ / ₂	1 ¹ / ₄	—	2	2 ¹ / ₂	4	1/2	910	1580		
HL55	7	5 ³ / ₄	5	1 ¹ / ₄	2 ¹ / ₂	2	2 ¹ / ₂	8	1/2	910	1580		
HL57	7	5 ³ / ₄	7 ¹ / ₂	1 ¹ / ₄	2 ¹ / ₂	2	2 ¹ / ₂	12	1/2	910	1580		
HL43	3	4 ¹ / ₄	3	1 ¹ / ₂	—	2 ³ / ₄	—	2	3/4	1555	1580		
HL46	3	4 ¹ / ₄	6	1 ¹ / ₂	3	2 ³ / ₄	—	4	3/4	1555	2025		
HL49	3	4 ¹ / ₄	9	1 ¹ / ₂	3	2 ³ / ₄	—	6	3/4	1555	2025		
HL73	3	7 ¹ / ₄	3	1 ¹ / ₂	—	2 ³ / ₄	3	4	3/4	1555	2025		
HL76	3	7 ¹ / ₄	6	1 ¹ / ₂	3	2 ³ / ₄	3	8	3/4	2115	3800		
HL79	3	7 ¹ / ₄	9	1 ¹ / ₂	3	2 ³ / ₄	3	12	3/4	2115	3800		

- Allowable loads have been increased 60% for wind or earthquake loading with no further increase allowed; reduce where other loads govern.
- Use 0.85 times table load for Hem Fir.
- Parts should be centered on the face of the member to which they are attached.
- Wood members for the '3' and '5' series must have a minimum width and thickness of 3¹/₂" for table loads to apply.
- Wood members for the '4' and '7' series must have a minimum width and thickness of 5¹/₈" for table loads to apply.
- Parts must be used in pairs.
- Lag bolts of equal diameter (minimum 5" long) may be substituted for machine bolts into beam with no reduction in load.

L/LS/GA Reinforcing and Skewable Angles

L—Staggered nail pattern reduces the possibility for splitting.

LS—Field-adjustable 0° to 135° angles.

The GA Gusset Angles' embossed bend section provides added strength.

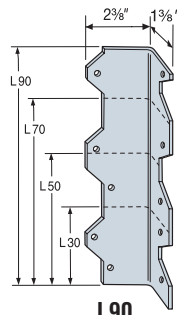
MATERIAL: L—16 gauge; GA and LS—18 gauge

FINISH: Galvanized. Some products available in stainless steel or ZMAX® coating; see Corrosion Information, page 10-11.

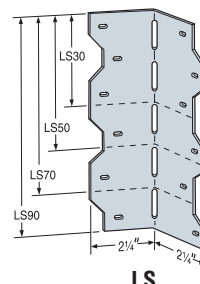
INSTALLATION:

- Use all specified fasteners; see General Notes.
- LS—field skewable; bend one time only.
- Joist must be constrained against rotation (for example, with solid blocking) when using a single LS per connection.
- Nail the L angle's wider leg into the joist to ensure table loads and allow correct nailing.

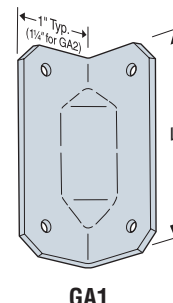
CODES: See page 12 for Code Reference Key Chart.



L90



LS

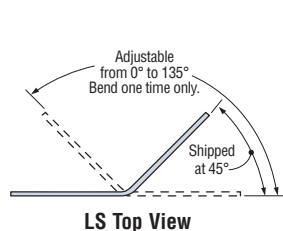


GA1

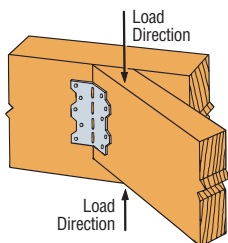
These products are available with additional corrosion protection. Additional products on this page may also be available with this option, check with Simpson Strong-Tie for details.

Model No.	L	Fasteners	DF/SP Allowable Loads ^{1,2,3}				SPF/HF Allowable Loads				Code Ref.
			Floor (100)	Snow (115)	Roof (125)	(160)	Floor (100)	Snow (115)	Roof (125)	(160)	
GA1	2 ³ / ₄	4-10d	185	185	185	185	160	160	160	160	I14, L21, F13
GA2	3 ¹ / ₄	6-10d	335	385	415	450	290	335	335	335	I14, L4, F13
L30	3	4-10d	220	240	240	240	190	205	205	205	
L50	5	6-10d	335	385	420	445	290	335	360	385	
L70	7	8-10d	445	510	555	565	380	435	475	485	
L90	9	10-10d	555	640	695	740	480	550	600	640	IP1, F13
LS30	3 ³ / ₈	6-10d	355	395	395	395	305	335	335	335	
LS50	4 ⁷ / ₈	8-10d	475	540	585	730	410	465	505	630	
LS70	6 ³ / ₈	10-10d	595	675	730	915	510	580	630	785	
LS90	7 ⁷ / ₈	12-10d	715	810	875	1040	615	695	755	895	

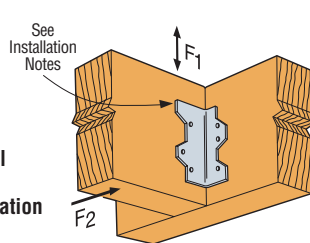
- L angles—loads are for condition F₁ or F₂; LS angles—loads are for condition F₁ only.
- GA1 and GA2 angles table loads are F₁ — loads for F₂ are 220 lbs. and 335 lbs. (100) and 280 lbs. and 415 lbs. (125), respectively.
- Roof loads are 125% of floor loads unless limited by other criteria.
- Connectors are required on both sides to achieve F₂ loads in both directions.
- NAILS:** 16d = 0.162" dia. x 3¹/₂" long, 10d = 0.148" dia. x 3" long, 10dx1¹/₂ = 0.148" dia. x 1¹/₂" long. See page 16-17 for other nail sizes and information.



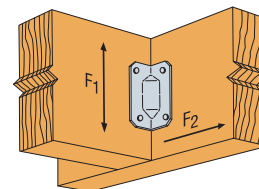
LS Top View



Typical LS70 Installation



Typical L50 Installation



Typical GA Installation