May 1, 2020

Re: Compound Angle Truss/Rafter-to-Top Plate Connection Installation for Simpson Strong-Tie® Strong-Drive® SDWC TRUSS Screw

To Whom It May Concern:

Simpson Strong-Tie further investigated the compound angle rafter/truss-to-top plate installation of the Strong-Drive SDWC Truss screws (SDWC15600) introduced with the Quik Stik® tool. This investigation includes Southern Pine lumber and differentiates allowable loads from the other supported installation options. The design loads listed below meet or exceed the originally published design loads.

The SDWC Truss screws are the subject of IAPMO-UES ER-262 and were tested and reevaluated for truss/rafter-to-top plate connections in accordance with ICC-ES AC233 (Acceptance Criteria for Dowel-Type Threaded Fasteners Used in Wood, Approved February 2020).

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Installation</th>
<th>Allowable Loads (lbs)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DFL</td>
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<tr>
<td></td>
<td></td>
<td>Uplift F1 F2</td>
</tr>
<tr>
<td>SDWC15600</td>
<td>Compound Angle</td>
<td>615 245 225</td>
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<tr>
<td></td>
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<td>485 235 190</td>
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</table>

1. Loads have increased for wind and earthquake (CD=1.6); no further increases allowed. Reduce when other loads govern.
2. The SDWC is to be installed through a double 2x top plate into a minimum 2x4 truss or rafter.
3. The SDWC screws shall be driven such that the shank is fully embedded in the connection members, the head is in contact with or embedded in the side member, and the point does not protrude from the lateral surface of the main member. When embedded, the top surface of the head shall be no more than 1/8″ beyond flush.
4. An SDWC screw may be used in each ply of two- or three-ply rafters or trusses. The allowable uplift load for each screw shall be multiplied by 0.90, but may be limited by the capacity of the plate or the connection between the top plate to the framing below. SDWC screws in multi-ply assemblies must be spaced a minimum of 1 1/2" o.c.
5. Screws are shown installed on the interior side of the wall. Installations on the exterior side of the wall are acceptable when the rafter/truss overhangs the top plates a minimum of 3 1/2".
6. For Uplift Connection Load Path, the designer shall verify complete continuity of the uplift load path.
7. F1 and F2 are the directions parallel and perpendicular to the wall, respectively.
8. When a screw is loaded simultaneously in more than one direction, the allowable load must be evaluated using the unity equation: (Design Uplift ÷ Allowable Uplift) + (Design F1 ÷ Allowable F1) + (Design F2 ÷ Allowable F2) ≤ 1.0. The three terms in the unity equation represent the possible generated force directions. The number of terms that must be considered for simultaneous loading is the sole discretion of the designer and depends on the method of calculating wind forces and the utilization of the screws within the structural system.
9. Table loads do not apply to trusses with end-grain bearing.
10. Top plate-to-stud and top-plate splice connections shall be fastened per applicable Building Code.

**FIGURE 1:** Truss/Rafter Aligned with Stud – Compound Angle from Front Corner of Stud Installation
The information in this letter is valid until **12/31/2021** when it will be re-evaluated by Simpson Strong-Tie. Please visit [strongtie.com](http://strongtie.com) for additional pertinent information. If you have questions or need further assistance regarding this matter, please contact the Simpson Strong-Tie Engineering Department at 800.999.5099.

Sincerely,

SIMPSON STRONG-TIE COMPANY INC.