

**8**      **7**      **6**      **5**      **4**      **3**      **2**      **1**

**REVISIONS**

ZONE	REV.	DESCRIPTION	DATE	APPROVED
------	------	-------------	------	----------

**D**      **D**

**Example Only**

**Bill of Materials**

The Sonex Highwing plans set utilizes a Bill of Materials table on each page to save space on the drawing and consolidate listings of parts, assemblies, hardware items, and the quantity of each used on each page.

**Part Numbers**

Each part has a unique part number that identifies that part, as needed, throughout the plans. This is the number you must reference when seeking technical support or ordering replacement parts.

The part number has three unique designators, separated by dashes. A complete Sonex Aircraft part number looks like this example: **SHX-V02-01**

- Part Designator
- Page/Assembly Designator
- Airframe Designator

**Airframe Designator:** The Airframe Designator identifies the airframe for which the part was originally designed and it may not be the same as the airframe you are building. The Sonex Highwing (SHX) uses some parts originally designed for the Sonex (SNX) and other airframes (SNB, ONX, etc.), therefore the Airframe Designator may be "SNX" rather than "SHX" for those parts.

**Page/Assembly Designator:** The Page/Assembly Designator identifies the plans page on which a part is detailed or appears for the first time and what assembly it is primarily used in. Just like the Airframe Designator above, the Page/Assembly Designator includes a Group Designation Letter and Group Drawing/Assembly Number as referenced in the "Drawing/Assembly Number" notes on this page.

Note that Parts from other airframes that do not use the "SHX" Airframe Designator but are used in these plans (SNX, SNB, ONX, etc.) will not have Page/Assembly Designators that are relevant to this plans set. For example, part number SNX-T13-05 is used in an assembly in the Sonex Highwing plans set, but the part cannot be found in page SHX-T13 of this plans set, and in-fact, page SHX-T13 does not exist in this plans set.

**Part Designator:** The part number is a 2-digit numerical identifier. When a part is mirror image of another part, it is typically further identified as being a left (L) or right (R) hand part, such as SHX-H03-02L and SHX-H03-02R for example.

**8**      **7**      **6**      **5**      **4**      **3**      **2**      **1**

**General Construction Order**

**Note:**  
When skinning the stabilizer you must match drill and rivet ribs to FWD and AFT spars SHX-V03 and SHX-V04. See General Assembly Note in View "Right View Not Skinned".

**Skinning:**

- Clean skin to a side of the vertical stabilizer structure.
- Wrap skin over to the opposite side and cleco skin to structure. (Cleco to the AFT Spar first, then wrap cleco's forward to the leading edge).
- On a flat table, rest the clecoed stabilizer on at least two 2"X4", avoiding cleco's.
- Place weight on top of the stabilizer. (Make sure to be on a rib or spar channel base, not the skin).
- Verify the stabilizer is laying flat before drilling. A digital protractor can be used to ensure a flat assembly.
- Use an air chisel (see "Left View Skinned") and flip the assembly to up-drill the opposite side.
- Disassemble and debur.
- Re-assemble stabilizer with clecos.
- On a flat table, rest the clecoed stabilizer on at least two 2"X4", avoiding cleco's.
- Place weight on top of the stabilizer. (Make sure to be on a rib or spar channel base, not the skin).
- Verify the stabilizer is laying flat before riveting. A digital protractor can be used to ensure a flat assembly.
- Rivet one side (As noted in "Left View Skinned") and flip the assembly to up-drill the opposite side.

**Top View**

**Left View Skinned**

**AFT View**

**Right View Not Skinned**

**SECTION A-A**  
SCALE 1:3

**SECTION B-B**  
SCALE 1:2

**SECTION C-C**  
SCALE 1:3

**SECTION D-D**  
SCALE 1:2

**General Assembly Note:**  
When drilling structure, lay assembly on a flat table with it's ribs clecoed in position. Ensure it is flat using weights. Follow sequence of drawings in Views: "AFT View" and section views A, B, C and D.

**General Construction Order:**  
The information disclosed herein is the property of the originator who reserves all patent, design, proprietary, manufacturing, use and sales rights thereto, except for the rights expressly granted to others. This document shall not be reproduced nor shall the information contained within be used by or disclosed to others except as expressly authorized by the originator.

**SHX-V02**      **1**      **Vertical Stabilizer**      **SHX-V01**

Assembly Number	QTY Required	Part Title	Next Assembly
-----------------	--------------	------------	---------------

**Sonex Highwing**

**Drawing Scale**

**Vertical Stabilizer Assembly**

**1:5 & Noted**      **SHX-V02**      **1**

**Revision Letter**

The Revision Letter identifies the drawing revision status:  
N/C - Indicates No Changes have been made to the drawing since its original release. Revisions after the N/C release are in alphabetical order (A, B, C, etc.)

The specific changes that have been made to a drawing have been recorded in the Revision Block, above.

**Note:** Revisions may have been made to a drawing after your particular copy was printed. Refer to the Drawing Revision Log on the Sonex Aircraft website (sonexaircraft.com) for changes that may have been made to a drawing after your copy was printed.

**Zone Coordinates**

Zone Coordinates are in the border of each drawing to assist builders in finding specific items on the page as referenced elsewhere on the page, in drawing revision notes, in technical communications on the sonexaircraft.com web site, or when corresponding with Sonex Technical Support.

The horizontal axis is labeled with numbers while the vertical axis is labeled with letters, and they are referenced as x/y (horizontal/vertical) coordinates to identify a zone on the page. For example, Section D-D of this drawing is found in Zone 3D.

**Revision Block**

The Revision Block maintains the history of changes that have been done to a drawing after the original N/C (No Change) release.

All changes listed here have already been incorporated into the drawing.

**Note:** Changes may have been made to this drawing after your particular copy was printed. Refer to the Drawing Revision Log on the Sonex Aircraft website (sonexaircraft.com) for additional changes that may have been made.

**Note:** Insignificant administrative changes (like fixing a spelling error) may be corrected without a "Letter Change" revision to the drawing.

**Fastener Installation Notes**

Installation of fasteners are noted in this plans set in a step-by-step fashion to include drilling, deburring, type of fastener used, and direction of fastener. These notes are not a replacement for metal aircraft construction best practices found in books, videos and classes and information such as torque values, etc. are missing from fastener installation notes in this plans set.

**Ballooned Callouts**

Ballooned Callouts identify parts and assemblies in the Bill of Materials.

See "Part Numbers" elsewhere on this page for a further description of part and assembly types.

**Next Assembly Block**

The Next Assembly Block identifies where the parts / assemblies defined on each particular drawing are used next, and the quantity needed.

**Drawing/Assembly Number**

**SHX-V01**

- Group Drawing/Assembly Number
- Group Designation Letter
- Airframe Designation

**Airframe Designation** - Identifies the particular airframe the drawing applies to. "SHX" designates the Sonex Highwing.

**Group Drawing/Assembly Number** - A two digit number identifying a specific drawing within a group. For example, "SHX-V01" is drawing number 1 in the Vertical Tail Group for the Sonex Highwing Airplane. Some groups may be missing sequential numbers. This is intentional.

**Drawing SHX-B03, Drawing Tree** - Depicts each page in the plans set as a box with the drawing's number and title. The Drawing Tree is also an important flow-chart, illustrating the build sequence for the aircraft from the bottom of the page to the top. Prerequisite drawings are below larger assembly drawings, and must be completed by the builder before progressing to the larger assembly drawings above.

**1**      **Drawing Tree**      **SHX-B03**

Assembly Number	QTY Required	Part Title	Next Assembly
-----------------	--------------	------------	---------------

**Sonex Highwing**

**Drawing System Description**

Drawing Scale	Drawing/Assembly Number	Revision
---------------	-------------------------	----------

**2:1 & Noted**      **SHX-B02**      **N/C**