

# Why Engineering Drawings and not an Assembly Manual?

Sonex Aircraft LLC provides engineering drawings (also referred to as "drawings", "plans", and "blueprints") for the airframes, as engineering drawing are the standard and accepted method for communicating, in a precise and efficient manner, the geometric features and proper assembly of parts. Paragraphs of text and photographs are simply not an efficient method for delivering the tremendous amount of detail and information contained in Sonex Aircraft LLC airframe drawings.

## **Reading Engineering Drawings**

Sonex Aircraft drawings conform to the typical conventions used for engineering drawings. While every industry, company and draftsman may have their own drawing nuances, overall, engineering drawings follow accepted practices which are detailed in any "Drafting 101" textbook or website. Blueprint reading is a quickly learned skill which will serve you well long after you have completed your airplane.

### **Drawing System Description**

While Sonex Aircraft LLC engineering drawings adhere to common drafting practices, we do have our own system for identifying part numbers and drawing numbers, as well as unique features on our drawings which provide additional guidance for working your way through each drawing to the eventual completion of your aircraft. These features are detailed on the B02 drawing of your plans set.

#### The Drawing Tree

The drawing tree, in your blueprints, is a flowchart with numerous branches to guide you through the construction of your airplane. The tree has a branch for each major sub-group, and each box in the tree represents a single page in the blueprints.



The drawing tree is a "big picture" flowchart. Each box on the tree represents a page in the plans set. The tree has branches which flow together at the top: the completed aircraft.

#### Where to Start?

While most people begin with the rudder (or ruddervators) and vertical tail, you can begin anywhere in the tree where a box has only an "exit" line, with no boxes feeding in to it, as depicted below:



This is a small portion of the Sonex drawing tree to illustrate how the tree flows. While you can start at the bottom of any branch (in this case SNX-F24 or SNX-F27) and work your way up, you can also start on any drawing that does not have another drawing or branch flowing in to it. In this branch of the drawing tree the only drawings you can NOT start on are SNX-F25 and SNX-F21, as they both have other drawings "feeding" into them.

Generally speaking you will never need to use more than one drawing at a time, but sometimes looking ahead in the drawings to see how a part is installed may clear up any confusion you may have about how a part is made.

#### Building with Tunnel Vision

It is easy to look at the plans and become overwhelmed. Human nature is such that you will seek the most complicated drawing and say to yourself, "I can't do this", much like looking in the back of an algebra book on the first day of class and deciding you are in over your head.

However, if you concentrate on one part at a time, on one page at a time, you will quickly build the parts that become the subassemblies that become the airframe.