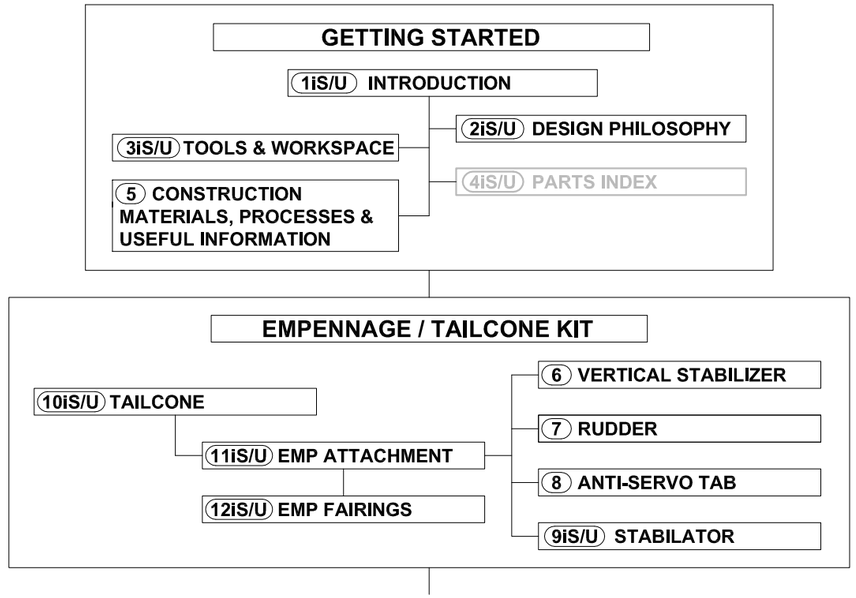

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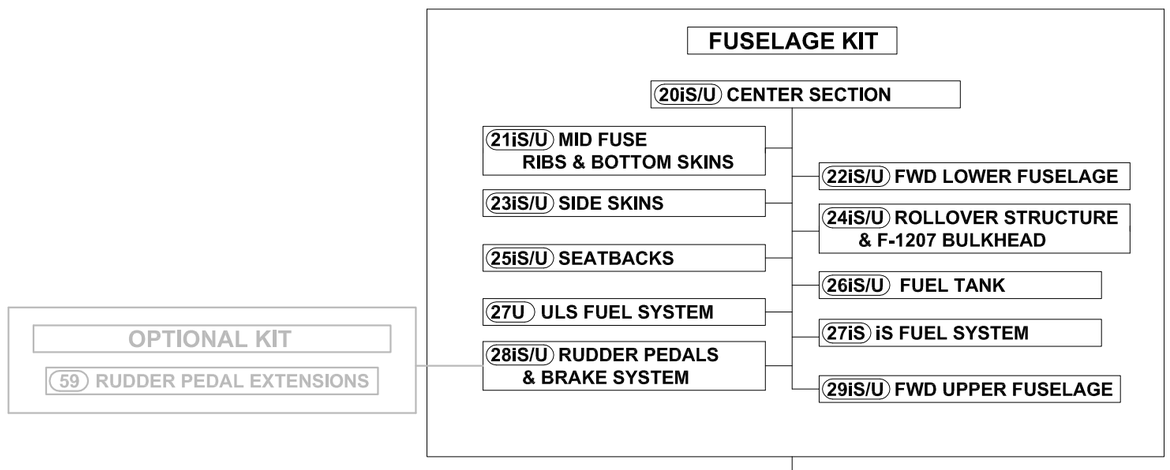
(SEE SECTION 38iS/ULS)



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(SEE FINISH KIT)

NOTES:
KITS IN GREY ARE NOT YET AVAILABLE FOR PURCHASE

"**RV-12**" Original Aircraft Model using a ROTAX 912 ULS engine.
"**RV-12iS**" Redesigned Aircraft Model using a ROTAX 912 ULS engine or ROTAX 912 iS Sport.

Plans pages common to both RV-12 and RV-12iS models that have had no changes to the plans pages or to the parts themselves will not have an "iS", "iS/U", or "U" suffix. Examples: Section 7 Rudder and Section 7A Trim Tab.

Plans pages that have an "iS", "iS/U", or "U" suffix include parts designed specifically for the RV-12iS model.

Plans pages with "iS" suffix correspond to aircraft installing the ROTAX 912 iS Sport engine.

Plans pages with "U" suffix correspond to aircraft installing the ROTAX 912 ULS engine.

Plans pages with "iS/U" suffix correspond to aircraft installing either engine option.

CONTINUED FROM PREVIOUS PAGE
(SEE FUSELAGE KIT)

FINISH KIT

- 32iS/U FLIGHT CONTROLS
- 35iS/U LANDING GEAR & ENGINE MOUNT
- 37iS/U COWLING
  (COMPLETE AFTER SECTION 46)
- 38iS/U AIRFRAME ASSEMBLY
- 39iS/U CANOPY

CONTINUED FROM PREVIOUS PAGE
(SEE TAILCONE KIT)

OPTIONAL KIT
- 41 INTERIOR PANEL KIT

OPTIONAL KIT
- 41A CANOPY FRAME MOLDING

OPTIONAL KIT
- 41B CANOPY GLARE SHIELD

OPTIONAL KIT
- 36iS/U GEAR LEG & WHEEL FAIRINGS

OPTIONAL KIT
- 52 TOW BAR

OPTIONAL KIT
- 35GiS/U PREMIUM BRAKE SYSTEM

WING KIT
- 13 SPAR ASSEMBLY (ASSEMBLED BY VAN'S)
- 14 REAR SPAR, STUB SPAR, HINGE BRACKETS
- 15 WING RIBS
- 16iS/U STALL WARN & AOA
- 17 WING SKINS
- 18 FLAPERON

ULS POWERPLANT KIT
- 45iS/U FIREWALL MOUNTED COMPONENTS
- 46U ENGINE INSTALLATION
- 47iS/U SPINNER & PROPELLER
- 48iS/U EXHAUST SYSTEM
- 49U ENGINE CONTROLS
- 50iS/U COOLING & HEATING SYSTEM

iS POWERPLANT KIT
- 45iS/U FIREWALL MOUNTED COMPONENTS
- 46iS ENGINE INSTALLATION
- 47iS/U SPINNER & PROPELLER
- 48iS/U EXHAUST SYSTEM
- 49iS ENGINE CONTROLS
- 50iS/U COOLING & HEATING SYSTEM

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NOTE:
KITS IN GREY ARE NOT YET AVAILABLE FOR PURCHASE

CONTINUED FROM PREVIOUS PAGE

OPTIONAL KIT
(40iS/U) LIGHTING

OPTIONAL KIT
(44AiS/U) SKYVIEW DUAL AXIS AP

OPTIONAL KIT
(53AiS/U) DYNON ADS-B IN

SKYVIEW AVIONICS KIT
(42MiS/U) COMMON ELECTRICAL
(42CiS/U) SKYVIEW AVIONICS & WIRING HARNESS

OPTIONAL KIT
(43BiS/U) SKYVIEW DUAL DISPLAY

OPTIONAL KIT
(40iS/U) LIGHTING

OPTIONAL KIT
(44BiS) GARMIN DUAL AXIS AP

OPTIONAL KIT
(53BiS) GARMIN ADS-B IN

GARMIN AVIONICS KIT
(42MiS/U) COMMON ELECTRICAL
(42NiS) GARMIN G3X TOUCH AVIONICS & WIRING HARNESS

OPTIONAL NAV KIT
(42PiS) GTN650

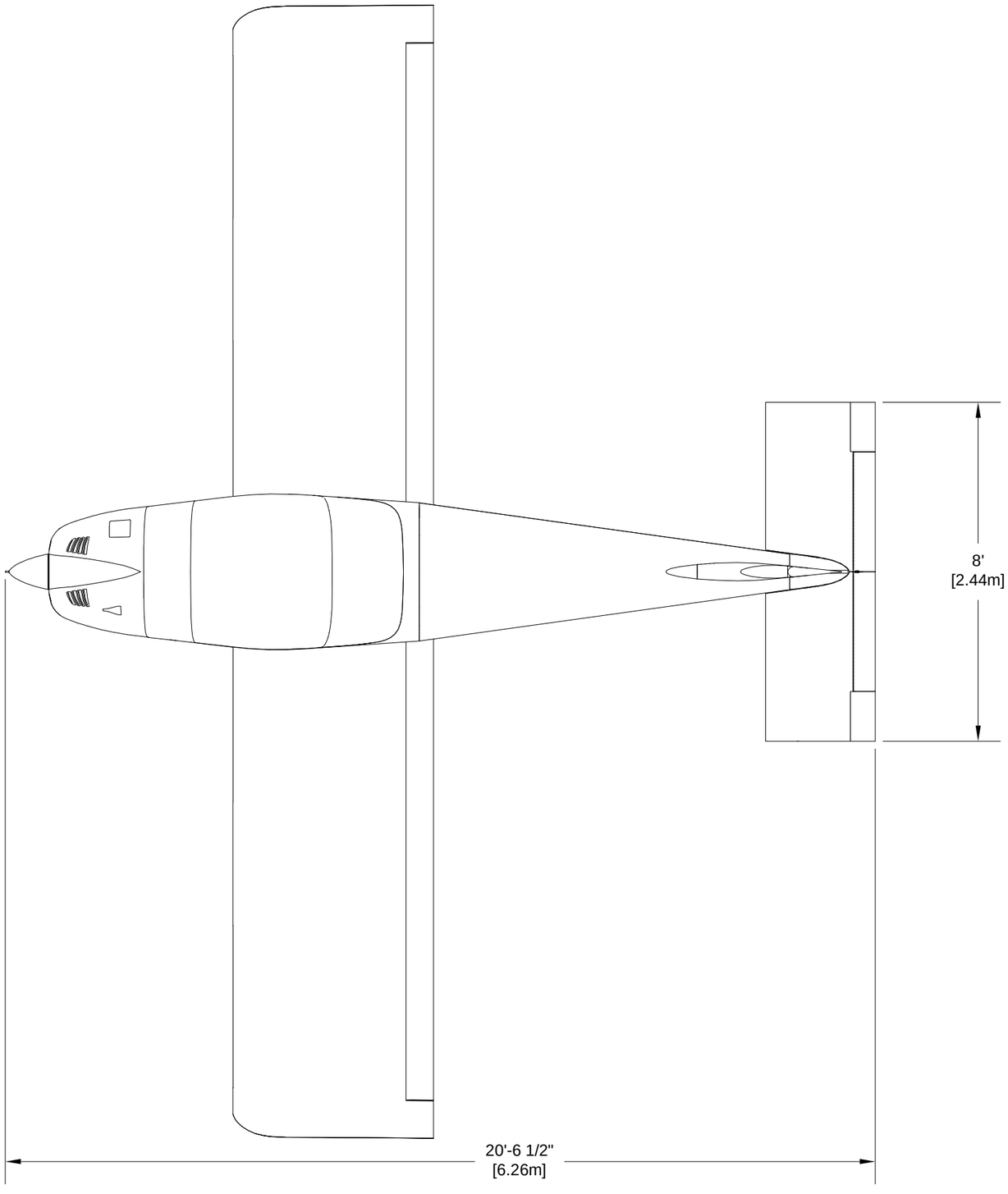
OPTIONAL KIT
(43CiS) G3X TOUCH DUAL DISPLAY

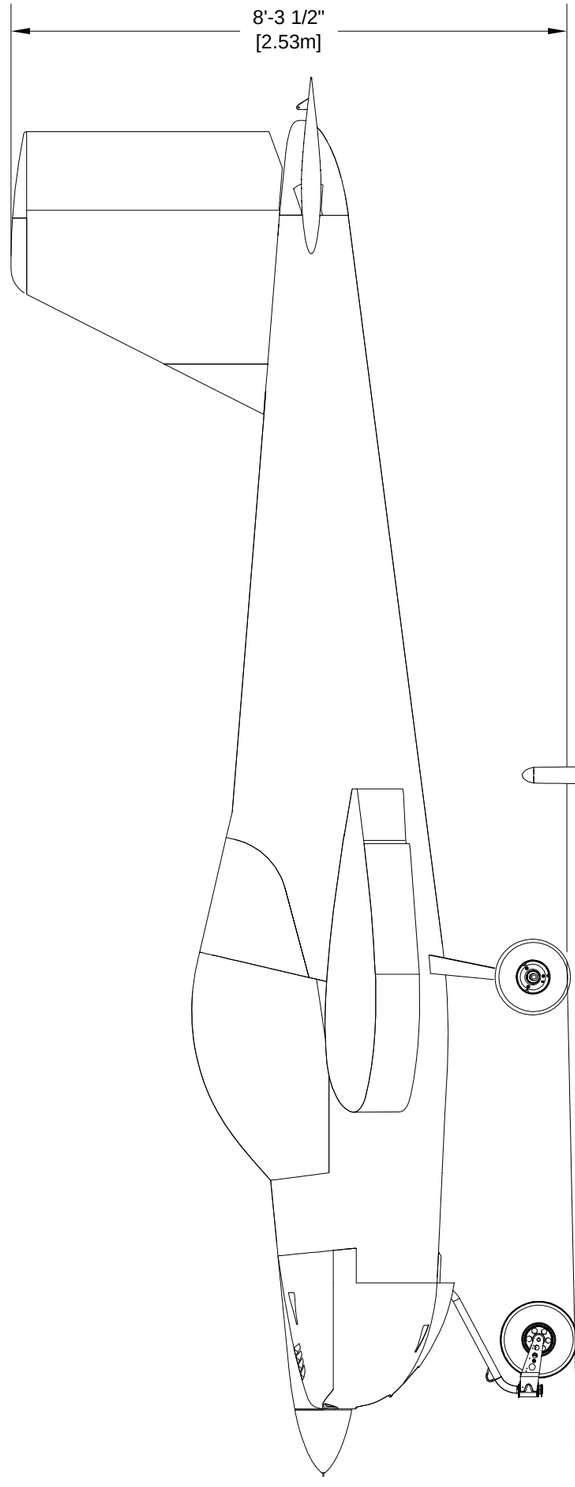
DOCUMENTATION KIT
(51AiS/U) PLACARDS AND CERTIFICATION DOCUMENTS

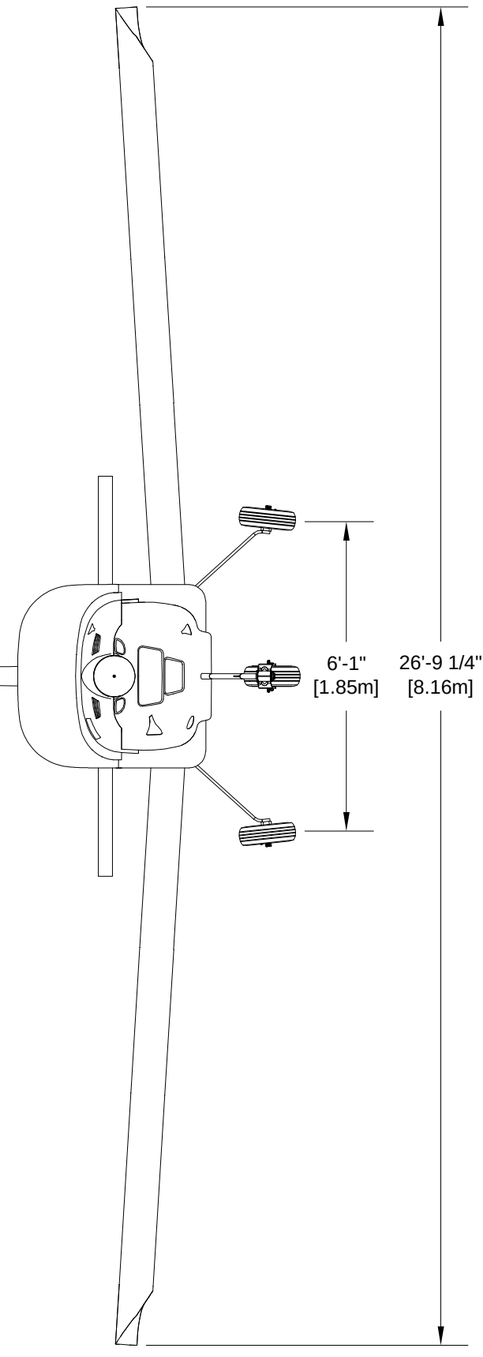
NOTE:
KITS IN GREY ARE NOT YET AVAILABLE FOR PURCHASE.

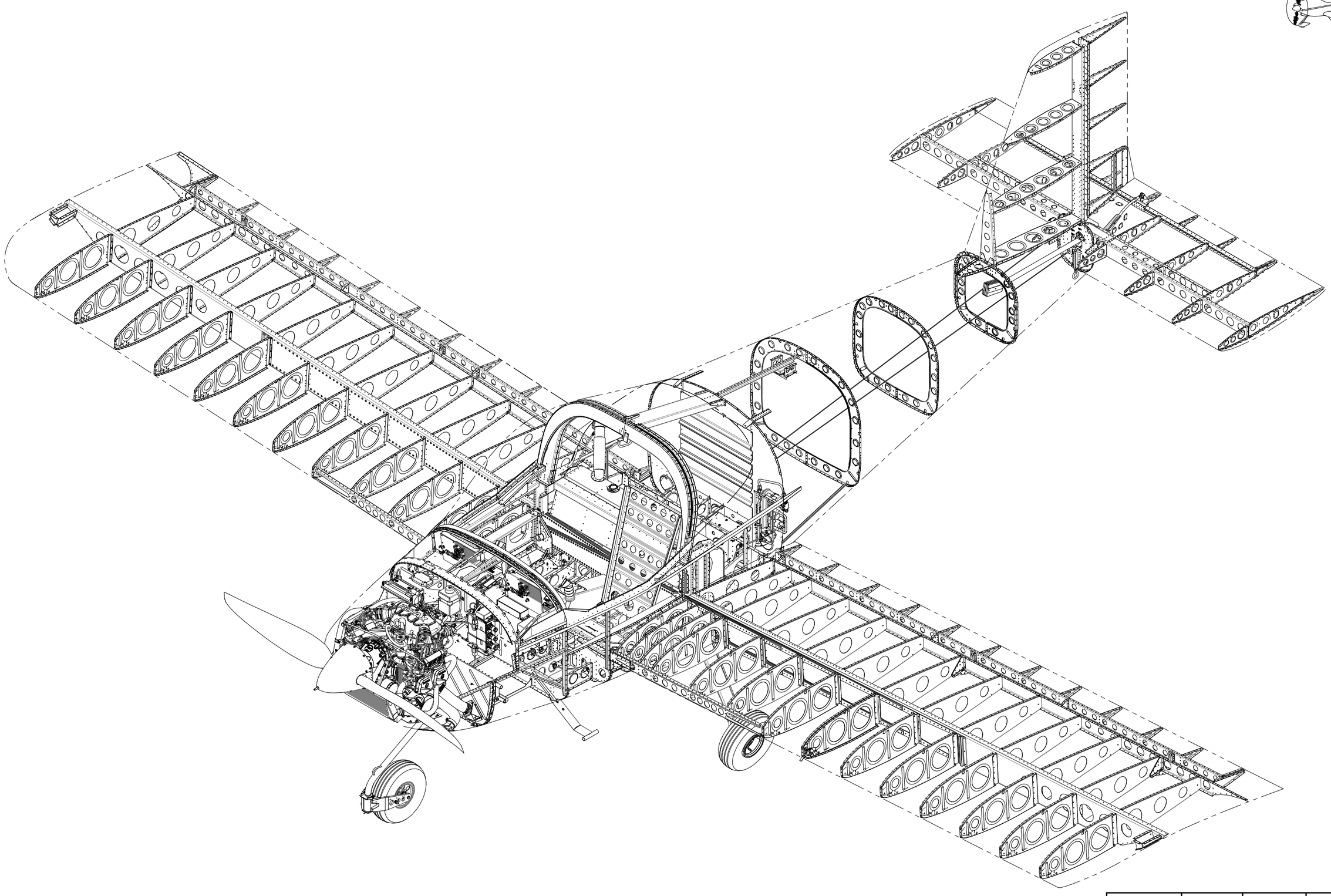
AFTER ALL OF THE KITS HAVE BEEN RECEIVED, CONTACT VAN'S AIRCRAFT TO REQUEST INFORMATION FOR REGISTERING AND LICENSING THE AIRCRAFT.

VAN'S AIRCRAFT, INC.









SECTION 1iS/U: INTRODUCTION

INTRODUCTION

Welcome to the wonderful world of homebuilt aircraft. The project you are about to undertake (assuming that this is your first homebuilt airplane) will probably be the most frustrating, time-consuming, enjoyable, fulfilling, and rewarding that you have ever experienced. The ultimate success of this project is determined by many factors, the most important of which only you control. These include your skills, patience, willingness to learn, willingness to seek help when necessary, and a firm desire to create for yourself a very special personal airplane.

The Federal Aviation Administration (FAA) allows us to build and fly experimental aircraft for the purpose of education and recreation. The education part is up to you. This instruction manual has been compiled to help you achieve your goal. Though we have made it as detailed and instructive as we feel is practical, it does not supply everything you need to know to complete an RV-12iS. These instructions tell you specifically how to build an RV-12iS, and presuppose that you already know (or will learn) the basics of aluminum aircraft construction. To assist your education, we have included a copy of the *Standard Aircraft Handbook* in your kit. Additionally, we have listed several other books and manuals that are helpful in this regard.

Additional help during construction can be had by becoming a member of the Experimental Aircraft Association (EAA), reading their *Sport Aviation* and *Sport Pilot* magazines, and most of all, by being an active member of one of their 600+ chapters. Associating with other homebuilders, particularly RV builders, can be extremely helpful and can even make the difference between success and failure of your project. It can provide actual building assistance, technical knowledge, and moral support.

In many places RV builders have formed their own organizations, often modeled on EAA chapters. They publish newsletters, hold regular meetings, and exchange techniques, information & tools. We have been highly impressed by the craftsmanship and camaraderie demonstrated by these Builders Groups and encourage any RV builder to join or form one whenever possible. (A list of Builders Groups and contact persons is available by contacting Van's Aircraft or by visiting http://www.vansaircraft.com/public/builders-groups.htm) Building an airplane is a big undertaking, and a builder should never be too proud or individualistic to take advantage of what others have to offer. It is a rare person who is so skilled that he/she cannot benefit from others.

VAN'S BUILDER ASSISTANCE

Van's offers builders assistance on the telephone between the hours of 7:30 - 9:30 AM and 3:00 - 4:00 PM Pacific Time. You can also e-mail us at support@vansaircraft.com. Please, for speedier answers when you call, have your builders manual with you and be ready with your 6-digit customer/builder number. When e-mailing questions please be sure to say that you are building an RV-12iS and to specify the manual page(s) you are referencing.

A WORD ABOUT THE BUILDERS MANUAL

When kits are shipped, they contain the latest revision of the builders manual. The builders manual matches the parts as shipped. Over time we make changes, corrections, and improvements to the builders manual. There is no need to request newer versions. New drawings may not match the parts that you have.

Van's has decided that our website (www.vansaircraft.com) will be the mechanism for putting necessary revisions into the hands of builders, therfore it is essential that all RV-12iS builders have access to a computer with an internet connection and an email account. The cost to builders should be minimal, as public access computers in libraries may be used, with a free gmail or hotmail account. These are essential for downloading manual revisions and are the primary means (with the Van's website) for us to stay in contact with RV-12iS builders. Paper manual revisions will not be mailed out in order to reduce costs and maintain kit affordability. Most builders will also want a computer/internet access to become part of the online RV community.

Here's how our revision system works:
Change Memos: note changes to the build process or insignificant spelling/wording changes that do not in any way alter the configuration of the finished aircraft. Memo changes will NOT show a revision level change in the title block but will show a change to the revision date.

Change Notices: note dimensional changes, change of parts/hardware, or any additional instructions or changes to the build process which result in a change in the configuration of the finished aircraft. Notice changes WILL show a revision level change in the title block as well as a date change.

As a builder, it is up to you to check our website frequently.

When you find a builders manual page with a later date or higher revision number than the one you have...

IF it shows a portion of construction you have not reached...
THEN simply print-out the new page and destroy the old one.

IF it shows a portion of construction you have already accomplished...
THEN there is NO NEED to re-do any step of construction to conform with a revision.

In any situation, there is NO NEED to keep track of exactly what changed.

Service Bulletins: will be issued if, for some reason, an already accomplished step must be re-done. The service bulletin will detail the steps that must be re-done along with any parts or hardware necessary to accomplish the required change. If/when a service bulletin is issued, we will contact all affected builders as well as post the service bulletin on our website (www.vansaircraft.com). Given the potential need for us to contact you, the builder, it is important to keep Van's Aircraft informed as to your current e-mail address and mailing address.

The builders manual not only guides you through the assembly process but also defines the exact configuration of your particular aircraft. For this reason the builders manual is considered a part of the aircraft documentation package and should remain with the aircraft if/when ownership is changed.

HELPFUL BOOKS AND MANUALS

AMT AIRFRAME HANDBOOK, Vol. 1 Chapter 4 - AIRCRAFT METAL STRUCTURAL REPAIR - FAA-H-8083-31 from www.faa.gov

HINTS FOR HOMEBUILDERS Video Series - from www.eaa.org

SHEET METAL BUILDING BASICS by Jack Dueck

THE SPORTPLANE BUILDER by Tony Bingelis

FIREWALL FORWARD by Tony Bingelis

SPORTPLANE CONSTRUCTION TECHNIQUES by Tony Bingelis

THE AEROELECTRIC CONNECTION by Robert L. Nuckols III (A great source for wiring information)

BUILDING THE METAL AIRPLANE by Paul Poberezny

LIGHT AIRPLANE CONSTRUCTION by Ladislao Pazmany

FAA ADVISORY CIRCULAR 43.13

AIRCRAFT WIRING GUIDE by Marc Ausman

Sources for some or all of these include:

Van's Aircraft, Inc.

Robert L. Nuckolls III (The Aeroelectric Connection)
PO Box 130
Medicine Lodge, KS 67104-0130
620-886-3403
www.aeroelectric.com

Builder's Bookstore
8001 Canoga Ave
Canoga Park, CA 91304-4101
www.buildersbooks.com

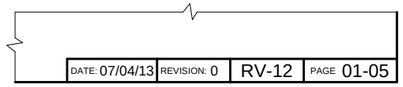
Cleaveland Aircraft Tool
2225 First St.
Boone, IA 50036-4429
800-368-1822
www.cleavelandtool.com

Experimental Aircraft Association
EAA Aviation Center
3000 Poberezny Road
Oshkosh, WI 54902-8939
www.eaa.org

Builder Feedback Form

Name: _____ Date: _____
Customer Number: _____
Phone Number: _____
Email Address: _____

Information from Manual Page Title Block:
Date: _____
Revision: _____
Aircraft: _____
Page No: _____



Example Title Block:

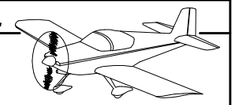
Step Number(s): _____ (if applicable)
Figure Number(s): _____ (if applicable)

Please describe the issue in the space provided below, then mail to:

Van's Aircraft Inc.
14401 Keil Road NE
Aurora, OR 97002 USA

NOTE: This form may be accessed online at our website: *www.vansaircraft.com*. **Click on the** *Support* **tab and select** *Downloads*. **Or by visiting:** *http://www.vansaircraft.com/public/downloads.htm*. **If you prefer to email please include the same information needed to complete this form. Send to:** *support@vansaircraft.com*.

VAN'S AIRCRAFT, INC.



Builder Feedback Form

Name: _____ Date: _____
Customer Number: _____
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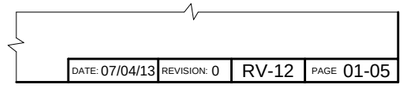

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Figure Number(s): _____ (if applicable)

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Aurora, OR 97002 USA

NOTE: This form may be accessed online at our website: *www.vansaircraft.com*. **Click on the** *Support* **tab and select** *Downloads*. **Or by visiting:** *http://www.vansaircraft.com/public/downloads.htm*. **If you prefer to email please include the same information needed to complete this form. Send to:** *support@vansaircraft.com*.

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