

Building an RV - Required Tools

Many pilots and prospective airplane builders are unfamiliar with the construction method and tools used in building metal airplanes. This is strange in a way, because the vast majority of the airplanes built in the last fifty years are made of riveted aluminum. While riveting may initially seem a mystery, it is really very simple.

Handling tools and doing quality work is not difficult. Some practice always helps, so a bundle of trimmings is included in the kit, along with enough extra rivets that the new build can rivet away and convince him or herself that it isn't all that hard. Remember, the reason there are so many riveted aluminum airplanes in the world is that ordinary people in ordinary circumstances can do an acceptable (or better) job.

While Van's stocks a few tools as a convenience to this customers (please see the Accessories Catalog module), we are not tool specialists. Below we have included the list recommended tools for construction of an RV. You should plan on spending between \$10 and \$1500 for a complete set of tools. We have also provided a partial listing of tools suppliers who can provide information on tools/tool kits, and provide advice about tools.

Recommended Tools

2X or 3X Rivet Gun
E-Z Change Spring
Air Swivel Regulator
1" Dia. Mushroom Set
3/32" Cupped Set 3.5"
1/8" Cupped Set 3.5"
3/16" Cupped Set 3.5" (only for fabricating spar)
Double Offset Cupped Set
Mini Bucking Bar 1 lb.
Anvil Bucking Bar 1.9 lb.
Footed Bucking Bar 2.2 lb.
Microstop Countersink Unit
#40 Countersink - 3/32" Rivet
#30 Countersink - 1/8" Rivet
#8 Countersink - #8 Screw
#10 Countersink - #10 Screw
Wiss Snips Left & Straight
Wiss Snips Right & Straight
Air Drill
#40 Drill Bits (for 3/32" rivets)
#30 Drill Bits (for 1/8" rivets)
#19 Drill Bit
#12 Drill Bit
12" #40 Drill Bit
12" #30 Drill Bit
4" Hex Shank Deburr Tool
Cleco Pliers
4 Cleco Clamps -1/2" Jaws
4 Cleco Clamps -1" Jaws
Swivel Head Pop Rivet Tool
2 Screwdriver Bits - Size #2
Hand Squeezer / 3" Yoke
1/8" Universal Cupped Set
3/16" Universal Cupped Set
Flat Set 1/2" x 1/8"
Flat Set 3/8" x 1/8"
3/32" Rivet Dimple Die
1/8" Rivet Dimple Die
#8 ScrewDimple Die
24" Stainless Rule
Unibit 1/4" - 3/4" by 1/16 ths
Permanent Markers
3M Cut & Polishing Wheel 6"
Hearing Protector
Safety Glasses
325 Cleco Fastners - 3/32"
175 Cleco Fastners - 1/8"
Deburring Set - Large Holes
Edge Deburring Bit
Fluting Pliers
Rivet Cutter
Air Tool Oil

File Card / Brush
10" Vixen File
C-Frame Riveting Tool
Optional Tools

#6 Countersink - #6 Screw
Drill Stop Set of 4
Angle Drill Attachment
Cordless Screwdriver (for deburring)
Threaded Drill Set 6 pc.
Back Rivet Set
Dimple Die Organizer
Removable Rivet Tape
Tape Dispenser
12 oz. Dead Blow Hammer

RV-7A
Kit completo

Ref.: **83 - 671 - 2726**

PVP	1,00 €
------------	---------------



www.masterkit.com
info@masterkit.com
Tfno: 91 450 30 50
Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
28039 Madrid

Avioneta z0672

Producto nº

672

Making the Decision - FAQ

Question: What does it take to build an RV – really?

Answer: Virtually no skill is required, as everything a builder needs to know to successfully complete an RV can be learned "on the job," or by carefully studying builders manual, or by seeking advise from other RV builders, either local or on-l

Amore important requirement than skill is the right frame of mind. Building an airplane requires dedication, commitment, a willingness to learn and the ability to make (and correct) the occasional mistake without throwing a frothing fit or suffer an ulcer. Experienced builders gently counsel people whose personalities demand absolute perfection and microscopic accuracy to seek another project.

RVs have been built by people of every imaginable background and skill level, an currently are being completed and flown at the rate of about one per day. It is a "doable" thing.

Question: How long does it take to build an RV?

Answer: Based on reports from completed projects, we estimate current Standard Kits will take 1200-1400 hthiss over 18-24 months. A QuickBuild Kit may cut this by 35% or even more. Actual completion times range from 70 days for a QuickBuild R to well over 20 years for some early RV-3s and RV-4s. Some of the first kits Van's are not finished yet, but we never give up hope.

The real question is how long will it take YOU to build an RV? This is largely unde ythis control. If you provide ythisself with a comfortable and convenient workplac and work in a dedicated and consistent fashion, you have every chance of meeting even beating the times we quote. For more details go to the Time to Build page.

Question: How much does it cost to build an RV?

Answer: In 2003, it is still possible to build a simple VFR equipped RV with a used engine from a standard kit for less than \$35,000. If you find a good deal on an eng and forgo expensive items like a professional paint job and lighting, it could be q a bit less. However, this number will vary drastically depending on configuration. an estimate based on ythis needs and desires, please see the Aircraft Cost Estimac page.

Question: In addition the airframe kit, what else is required to fly?

Answer: The builder must supply the engine, prop, instruments, avionics, upholst and paint. Most of these items are available new from Van's at very competitive pri

Question: At Oshkosh or Sun 'n Fun, I've seen a partially completed RV in ythis bc How does this compare to a QuickBuild kit?

Answer: Actually, what you saw IS the QuickBuild kit. We have done nothing other than taking it out of the crate and temporarily join a few pieces for display. What y saw is what exactly what you would see if you had a QuickBuild delivered to ythis shop. For more details, see more on the QuickBuild page.

Question: I want to build a "Harmon" or "F1 Rocket," will you support this?

Answer: No. These airplanes were designed, developed and marketed by others. E though they may use some RV components, Van's Aircraft, Inc. has no connection with either airplane, does not consider them "RVs" and will not knowingly supply parts or kits that will be used to construct them. Any information or support for th aircraft must come from the companies providing them.

SPECIFICATIONS:

Span 24' 0"
Length 21' 0"
Height 5' 7"
Wing Area (sq. ft) 116
Empty Weight (lbs.) 1067-1120
Gross Weight (lbs.) 1800
Wing Loading (lb/ sq. ft) 15.5
Power Loading (lb/hp) 12.0-9.0
Fuel (US gallons) 42
Baggage (lbs, max.) 100
Prop type Fixed or C/S
Engines (hp) 150-200
PERFORMANCE RV-8
Engine (hp) 180
Top Speed (gross)
(all speeds in statute mph) 213
Cruise (75% @ 8000') 203
Cruise (55% @ 8000') 180
Stall speed (gross weight) 58
Takeoff Distance
(ft, solo weight) 275
Takeoff Distance
(ft, gross weight) 575
Landing Distance
(ft, solo weight) 350
Landing Distance
(ft, gross weight) 500
Rate of Climb
(ft/min, solo weight) 2300
Ceiling (solo weight) 23,000
Rate of Climb
(ft/min, gross weight) 1650
Ceiling (gross weight) 20,500
Range
(statute miles, 75% @ 8000') 790
Range
(statute miles, 55% @ 8000') 955

Building an RV - Required Tools

Many pilots and prospective airplane builders are unfamiliar with the construction methods and tools used in building metal airplanes. This is strange in a way, because the vast majority of the airplanes built in the last fifty years are made of riveted aluminum. While riveting may initially seem a mystery, it is really very simple.

Handling tools and doing quality work is not difficult. Some practice always helps, so a bundle of trimmings is included in the kit, along with enough extra rivets that the new builder can rivet away and convince him or herself that it isn't all that hard. Remember, the reason there are so many riveted aluminum airplanes in the world is that ordinary people in ordinary circumstances can do an acceptable (or better) job.

While Van's stocks a few tools as a convenience to these customers (please see the Accessories Catalog module), we are not tool specialists. Below we have included the list of recommended tools for construction of an RV. You should plan on spending between \$10 and \$1500 for a complete set of tools. We have also provided a partial listing of tool suppliers who can provide information on tools/tool kits, and provide advice about tools.

Recommended Tools

2X or 3X Rivet Gun

E-Z Change Spring

Air Swivel Regulator

1" Dia. Mushroom Set

3/32" Cupped Set 3.5"

1/8" Cupped Set 3.5"

3/16" Cupped Set 3.5" (only for fabricating spar)

Double Offset Cupped Set

Mini Bucking Bar 1 lb.

Anvil Bucking Bar 1.9 lb.

Footed Bucking Bar 2.2 lb.

Microstop Countersink Unit

#40 Countersink - 3/32" Rivet

#30 Countersink - 1/8" Rivet

#8 Countersink - #8 Screw

#10 Countersink - #10 Screw

Wiss Snips Left & Straight

Wiss Snips Right & Straight

Air Drill

#40 Drill Bits (for 3/32" rivets)

#30 Drill Bits (for 1/8" rivets)

#19 Drill Bit

#12 Drill Bit

12" #40 Drill Bit

12" #30 Drill Bit

4" Hex Shank Deburr Tool

Cleco Pliers

4 Cleco Clamps -1/2" Jaws

4 Cleco Clamps -1" Jaws

Swivel Head Pop Rivet Tool

2 Screwdriver Bits - Size #2

Hand Squeezer / 3" Yoke

1/8" Universal Cupped Set

3/16" Universal Cupped Set

Flat Set 1/2" x 1/8"

Flat Set 3/8" x 1/8"

3/32" Rivet Dimple Die

1/8" Rivet Dimple Die

#8 ScrewDimple Die

24" Stainless Rule

Unibit 1/4" - 3/4" by 1/16ths

Permanent Markers

3M Cut & Polishing Wheel 6"

Hearing Protector

Safety Glasses

325 Cleco Fasteners - 3/32"

175 Cleco Fasteners - 1/8"

Deburring Set - Large Holes

Edge Deburring Bit

Fluting Pliers

Rivet Cutter

Air Tool Oil

File Card / Brush

10" Vixen File
C-Frame Riveting Tool
Optional Tools

#6 Countersink - #6 Screw
Drill Stop Set of 4
Angle Drill Attachment
Cordless Screwdriver (for deburring)
Threaded Drill Set 6 pc.
Back Rivet Set
Dimple Die Organizer
Removable Rivet Tape
Tape Dispenser
12 oz. Dead Blow Hammer

RV-8
Kit completo

Ref.: **83 - 672 - 2727**

PVP	1,00 €
------------	---------------



www.masterkit.com
 info@masterkit.com
 Tfno: 91 450 30 50
 Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
 28039 Madrid

Avioneta z0673

Producto nº

673

Making the Decision - FAQ

Question: What does it take to build an RV – really?

Answer: Virtually no skill is required, as everything a builder needs to know to successfully complete an RV can be learned "on the job," or by carefully studying builders manual, or by seeking advise from other RV builders, either local or on-l

Amore important requirement than skill is the right frame of mind. Building an airplane requires dedication, commitment, a willingness to learn and the ability to make (and correct) the occasional mistake without throwing a frothing fit or suffer an ulcer. Experienced builders gently counsel people whose personalities demand absolute perfection and microscopic accuracy to seek another project.

RVs have been built by people of every imaginable background and skill level, and currently are being completed and flown at the rate of about one per day. It is a "doable" thing.

Question: How long does it take to build an RV?

Answer: Based on reports from completed projects, we estimate current Standard Kits will take 1200-1400 hthiss over 18-24 months. A QuickBuild Kit may cut this by 35% or even more. Actual completion times range from 70 days for a QuickBuild R to well over 20 years for some early RV-3s and RV-4s. Some of the first kits Van's are not finished yet, but we never give up hope.

The real question is how long will it take YOU to build an RV? This is largely under your control. If you provide yourself with a comfortable and convenient workplace and work in a dedicated and consistent fashion, you have every chance of meeting or even beating the times we quote. For more details go to the Time to Build page.

Question: How much does it cost to build an RV?

Answer: In 2003, it is still possible to build a simple VFR equipped RV with a used engine from a standard kit for less than \$35,000. If you find a good deal on an engine and forgo expensive items like a professional paint job and lighting, it could be quite a bit less. However, this number will vary drastically depending on configuration. For an estimate based on your needs and desires, please see the Aircraft Cost Estimation page.

Question: In addition the airframe kit, what else is required to fly?

Answer: The builder must supply the engine, prop, instruments, avionics, upholstery and paint. Most of these items are available new from Van's at very competitive prices.

Question: At Oshkosh or Sun 'n Fun, I've seen a partially completed RV in your booth. How does this compare to a QuickBuild kit?

Answer: Actually, what you saw IS the QuickBuild kit. We have done nothing other than taking it out of the crate and temporarily join a few pieces for display. What you saw is what exactly what you would see if you had a QuickBuild delivered to your shop. For more details, see more on the QuickBuild page.

Question: I want to build a "Harmon" or "F1 Rocket," will you support this?

Answer: No. These airplanes were designed, developed and marketed by others. Even though they may use some RV components, Van's Aircraft, Inc. has no connection with either airplane, does not consider them "RVs" and will not knowingly supply parts or kits that will be used to construct them. Any information or support for these aircraft must come from the companies providing them.

SPECIFICATIONS:

Span 24' 0"
 Length 20' 10"
 Height 7' 4"
 Wing Area (sq. ft) 116
 Empty Weight (lbs.) 1067-1120
 Gross Weight (lbs.) 1800
 Wing Loading (lb/ sq. ft) 15.5
 Power Loading (lb/hp) 12.0-9.0
 Fuel (US gallons) 42
 Baggage (lbs, max.) 100
 Prop type Fixed or C/S
 Engines (hp) 150-200
PERFORMANCE RV-8A
 Engine (hp) 180
 Top Speed (gross)
 (all speeds in statute mph) 211
 Cruise (75% @ 8000') 201
 Cruise (55% @ 8000') 178
 Stall speed (gross weight) 58
 Takeoff Distance
 (ft, solo weight) 275
 Takeoff Distance
 (ft, gross weight) 575
 Landing Distance
 (ft, solo weight) 350
 Landing Distance
 (ft, gross weight) 500
 Rate of Climb
 (ft/min, solo weight) 2200
 Ceiling (solo weight) 22,000
 Rate of Climb
 (ft/min, gross weight) 1600
 Ceiling (gross weight) 19,500
 Range
 (statute miles, 75% @ 8000') 780
 Range
 (statute miles, 55% @ 8000') 945

Building an RV - Required Tools

Many pilots and prospective airplane builders are unfamiliar with the construction method and tools used in building metal airplanes. This is strange in a way, because the vast majority of the airplanes built in the last fifty years are made of riveted aluminum. While riveting may initially seem a mystery, it is really very simple.

Handling tools and doing quality work is not difficult. Some practice always helps, so a bundle of trimmings is included in the kit, along with enough extra rivets that the new build can rivet away and convince him or herself that it isn't all that hard. Remember, the reason there are so many riveted aluminum airplanes in the world is that ordinary people in ordinary circumstances can do an acceptable (or better) job.

While Van's stocks a few tools as a convenience to this customers (please see the Accessories Catalog module), we are not tool specialists. Below we have included the list recommended tools for construction of an RV. You should plan on spending between \$10 and \$1500 for a complete set of tools. We have also provided a partial listing of tools suppliers who can provide information on tools/tool kits, and provide advice about tools.

Recommended Tools

- 2X or 3X Rivet Gun**
- E-Z Change Spring**
- Air Swivel Regulator**
- 1" Dia. Mushroom Set**
- 3/32" Cupped Set 3.5"**
- 1/8" Cupped Set 3.5"**
- 3/16" Cupped Set 3.5" (only for fabricating spar)**
- Double Offset Cupped Set**
- Mini Bucking Bar 1 lb.**
- Anvil Bucking Bar 1.9 lb.**
- Footed Bucking Bar 2.2 lb.**
- Microstop Countersink Unit**
- #40 Countersink - 3/32" Rivet**
- #30 Countersink - 1/8" Rivet**
- #8 Countersink - #8 Screw**
- #10 Countersink - #10 Screw**
- Wiss Snips Left & Straight**
- Wiss Snips Right & Straight**
- Air Drill**
- #40 Drill Bits (for 3/32" rivets)**
- #30 Drill Bits (for 1/8" rivets)**
- #19 Drill Bit**
- #12 Drill Bit**
- 12" #40 Drill Bit**
- 12" #30 Drill Bit**
- 4" Hex Shank Deburr Tool**
- Cleco Pliers**
- 4 Cleco Clamps -1/2" Jaws**
- 4 Cleco Clamps -1" Jaws**
- Swivel Head Pop Rivet Tool**
- 2 Screwdriver Bits - Size #2**
- Hand Squeezer / 3" Yoke**
- 1/8" Universal Cupped Set**
- 3/16" Universal Cupped Set**
- Flat Set 1/2" x 1/8"**
- Flat Set 3/8" x 1/8"**
- 3/32" Rivet Dimple Die**
- 1/8" Rivet Dimple Die**
- #8 ScrewDimple Die**
- 24" Stainless Rule**
- Unibit 1/4" - 3/4" by 1/16 ths**
- Permanent Markers**
- 3M Cut & Polishing Wheel 6"**
- Hearing Protector**
- Safety Glasses**
- 325 Cleco Fastners - 3/32"**
- 175 Cleco Fastners - 1/8"**
- Deburring Set - Large Holes**
- Edge Deburring Bit**
- Fluting Pliers**
- Rivet Cutter**
- Air Tool Oil**

File Card / Brush
10" Vixen File
C-Frame Riveting Tool
Optional Tools

#6 Countersink - #6 Screw
Drill Stop Set of 4
Angle Drill Attachment
Cordless Screwdriver (for deburring)
Threaded Drill Set 6 pc.
Back Rivet Set
Dimple Die Organizer
Removable Rivet Tape
Tape Dispenser
12 oz. Dead Blow Hammer

RV-8A
Kit completo

Ref.: **83 - 673 - 2728**

PVP	1,00 €
-----	--------



www.masterkit.com
info@masterkit.com
Tfno: 91 450 30 50
Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
28039 Madrid

Avioneta z0674

Producto nº

674

Making the Decision - FAQ

Question: What does it take to build an RV – really?

Answer: Virtually no skill is required, as everything a builder needs to know to successfully complete an RV can be learned "on the job," or by carefully studying builders manual, or by seeking advise from other RV builders, either local or on-l

Amore important requirement than skill is the right frame of mind. Building an airplane requires dedication, commitment, a willingness to learn and the ability to make (and correct) the occasional mistake without throwing a frothing fit or suffer an ulcer. Experienced builders gently counsel people whose personalities demand absolute perfection and microscopic accuracy to seek another project.

RVs have been built by people of every imaginable background and skill level, and currently are being completed and flown at the rate of about one per day. It is a "doable" thing.

Question: How long does it take to build an RV?

Answer: Based on reports from completed projects, we estimate current Standard Kits will take 1200-1400 hthiss over 18-24 months. A QuickBuild Kit may cut this by 35% or even more. Actual completion times range from 70 days for a QuickBuild R to well over 20 years for some early RV-3s and RV-4s. Some of the first kits Van's are not finished yet, but we never give up hope.

The real question is how long will it take YOU to build an RV? This is largely under your control. If you provide yourself with a comfortable and convenient workplace and work in a dedicated and consistent fashion, you have every chance of meeting or even beating the times we quote. For more details go to the Time to Build page.

Question: How much does it cost to build an RV?

Answer: In 2003, it is still possible to build a simple VFR equipped RV with a used engine from a standard kit for less than \$35,000. If you find a good deal on an engine and forgo expensive items like a professional paint job and lighting, it could be a bit less. However, this number will vary drastically depending on configuration. An estimate based on your needs and desires, please see the Aircraft Cost Estimation page.

Question: In addition the airframe kit, what else is required to fly?

Answer: The builder must supply the engine, prop, instruments, avionics, upholstery and paint. Most of these items are available new from Van's at very competitive prices.

Question: At Oshkosh or Sun 'n Fun, I've seen a partially completed RV in your booth. How does this compare to a QuickBuild kit?

Answer: Actually, what you saw IS the QuickBuild kit. We have done nothing other than taking it out of the crate and temporarily join a few pieces for display. What you saw is what exactly what you would see if you had a QuickBuild delivered to your shop. For more details, see more on the QuickBuild page.

Question: I want to build a "Harmon" or "F1 Rocket," will you support this?

Answer: No. These airplanes were designed, developed and marketed by others. Even though they may use some RV components, Van's Aircraft, Inc. has no connection with either airplane, does not consider them "RVs" and will not knowingly supply parts or kits that will be used to construct them. Any information or support for these aircraft must come from the companies providing them.

SPECIFICATIONS:

Span 28'
Length 20'5"
Height 6'
Wing Area (sq. ft) 124
Empty Weight (lbs.) 1015-1057
Gross Weight (lbs.) 1600-1750
Wing Loading (lb/ sq. ft) 12.9-14.
Power Loading (lb/hp) 13.6-10.9
Fuel (US gallons) 36
Baggage (lbs, max.) 75
Prop type Fixed or C/S
Engines (hp) 118-160
PERFORMANCE RV-9
Engine (hp) 160
Top Speed (gross)
(all speeds in statute mph) 196
Cruise (75% @ 8000') 188
Cruise (55% @ 8000') 168
Stall speed (gross weight) 50
Takeoff Distance
(ft, solo weight) 300
Takeoff Distance
(ft, gross weight) 475
Landing Distance
(ft, solo weight) 300
Landing Distance
(ft, gross weight) 450
Rate of Climb
(ft/min, solo weight) 2000
Ceiling (solo weight) 24,500
Rate of Climb
(ft/min, gross weight) 1450
Ceiling (gross weight) 19,000
Range
(statute miles, 75% @ 8000') 710
Range
(statute miles, 55% @ 8000') 860

Building an RV - Required Tools

Many pilots and prospective airplane builders are unfamiliar with the construction method and tools used in building metal airplanes. This is strange in a way, because the vast majority of the airplanes built in the last fifty years are made of riveted aluminum. While riveting may initially seem a mystery, it is really very simple.

Handling tools and doing quality work is not difficult. Some practice always helps, so a bundle of trimmings is included in the kit, along with enough extra rivets that the new build can rivet away and convince him or herself that it isn't all that hard. Remember, the reason there are so many riveted aluminum airplanes in the world is that ordinary people in ordinary circumstances can do an acceptable (or better) job.

While Van's stocks a few tools as a convenience to this customers (please see the Accessories Catalog module), we are not tool specialists. Below we have included the list recommended tools for construction of an RV. You should plan on spending between \$10 and \$1500 for a complete set of tools. We have also provided a partial listing of tools suppliers who can provide information on tools/tool kits, and provide advice about tools.

Recommended Tools

2X or 3X Rivet Gun
E-Z Change Spring
Air Swivel Regulator
1" Dia. Mushroom Set
3/32" Cupped Set 3.5"
1/8" Cupped Set 3.5"
3/16" Cupped Set 3.5" (only for fabricating spar)
Double Offset Cupped Set
Mini Bucking Bar 1 lb.
Anvil Bucking Bar 1.9 lb.
Footed Bucking Bar 2.2 lb.
Microstop Countersink Unit
#40 Countersink - 3/32" Rivet
#30 Countersink - 1/8" Rivet
#8 Countersink - #8 Screw
#10 Countersink - #10 Screw
Wiss Snips Left & Straight
Wiss Snips Right & Straight
Air Drill
#40 Drill Bits (for 3/32" rivets)
#30 Drill Bits (for 1/8" rivets)
#19 Drill Bit
#12 Drill Bit
12" #40 Drill Bit
12" #30 Drill Bit
4" Hex Shank Deburr Tool
Cleco Pliers
4 Cleco Clamps -1/2" Jaws
4 Cleco Clamps -1" Jaws
Swivel Head Pop Rivet Tool
2 Screwdriver Bits - Size #2
Hand Squeezer / 3" Yoke
1/8" Universal Cupped Set
3/16" Universal Cupped Set
Flat Set 1/2" x 1/8"
Flat Set 3/8" x 1/8"
3/32" Rivet Dimple Die
1/8" Rivet Dimple Die
#8 ScrewDimple Die
24" Stainless Rule
Unibit 1/4" - 3/4" by 1/16 ths
Permanent Markers
3M Cut & Polishing Wheel 6"
Hearing Protector
Safety Glasses
325 Cleco Fastners - 3/32"
175 Cleco Fastners - 1/8"
Deburring Set - Large Holes
Edge Deburring Bit
Fluting Pliers
Rivet Cutter
Air Tool Oil

File Card / Brush
10" Vixen File
C-Frame Riveting Tool
Optional Tools

#6 Countersink - #6 Screw
Drill Stop Set of 4
Angle Drill Attachment
Cordless Screwdriver (for deburring)
Threaded Drill Set 6 pc.
Back Rivet Set
Dimple Die Organizer
Removable Rivet Tape
Tape Dispenser
12 oz. Dead Blow Hammer

RV-9
Kit completo

Ref.: **83 - 674 - 2729**

PVP	1,00 €
------------	---------------



www.masterkit.com
info@masterkit.com
Tfno: 91 450 30 50
Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
28039 Madrid

Avioneta z0675

Producto nº

675

Making the Decision - FAQ

Question: What does it take to build an RV – really?

Answer: Virtually no skill is required, as everything a builder needs to know to successfully complete an RV can be learned "on the job," or by carefully studying builders manual, or by seeking advise from other RV builders, either local or on-l

Amore important requirement than skill is the right frame of mind. Building an airplane requires dedication, commitment, a willingness to learn and the ability to make (and correct) the occasional mistake without throwing a frothing fit or suffer an ulcer. Experienced builders gently counsel people whose personalities demand absolute perfection and microscopic accuracy to seek another project.

RVs have been built by people of every imaginable background and skill level, and currently are being completed and flown at the rate of about one per day. It is a "doable" thing.

Question: How long does it take to build an RV?

Answer: Based on reports from completed projects, we estimate current Standard Kits will take 1200-1400 hthiss over 18-24 months. A QuickBuild Kit may cut this by 35% or even more. Actual completion times range from 70 days for a QuickBuild R to well over 20 years for some early RV-3s and RV-4s. Some of the first kits Van's are not finished yet, but we never give up hope.

The real question is how long will it take YOU to build an RV? This is largely under your control. If you provide yourself with a comfortable and convenient workplace and work in a dedicated and consistent fashion, you have every chance of meeting or even beating the times we quote. For more details go to the Time to Build page.

Question: How much does it cost to build an RV?

Answer: In 2003, it is still possible to build a simple VFR equipped RV with a used engine from a standard kit for less than \$35,000. If you find a good deal on an engine and forgo expensive items like a professional paint job and lighting, it could be a bit less. However, this number will vary drastically depending on configuration. For an estimate based on your needs and desires, please see the Aircraft Cost Estimation page.

Question: In addition the airframe kit, what else is required to fly?

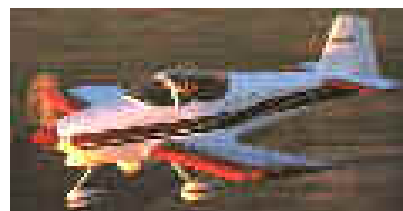
Answer: The builder must supply the engine, prop, instruments, avionics, upholstery and paint. Most of these items are available new from Van's at very competitive prices.

Question: At Oshkosh or Sun 'n Fun, I've seen a partially completed RV in your booth. How does this compare to a QuickBuild kit?

Answer: Actually, what you saw IS the QuickBuild kit. We have done nothing other than taking it out of the crate and temporarily join a few pieces for display. What you saw is what exactly what you would see if you had a QuickBuild delivered to your shop. For more details, see more on the QuickBuild page.

Question: I want to build a "Harmon" or "F1 Rocket," will you support this?

Answer: No. These airplanes were designed, developed and marketed by others. Even though they may use some RV components, Van's Aircraft, Inc. has no connection with either airplane, does not consider them "RVs" and will not knowingly supply parts or kits that will be used to construct them. Any information or support for these aircraft must come from the companies providing them.



SPECIFICATIONS:

Span 28'
Length 20'5"
Height 7' 10"
Wing Area (sq. ft) 124
Empty Weight (lbs.) 1028-1075
Gross Weight (lbs.) 1600-1750
Wing Loading (lb/ sq. ft) 12.9-14.
Power Loading (lb/hp) 13.6-10.9
Fuel (US gallons) 36
Baggage (lbs, max.) 75
Prop type Fixed or C/S
Engines (hp) 118-160
PERFORMANCE RV-9A
Engine (hp) 160
Top Speed (gross)
(all speeds in statute mph) 194
Cruise (75% @ 8000') 186
Cruise (55% @ 8000') 166
Stall speed (gross weight) 50
Takeoff Distance
(ft, solo weight) 300
Takeoff Distance
(ft, gross weight) 475
Landing Distance
(ft, solo weight) 300
Landing Distance
(ft, gross weight) 450
Rate of Climb
(ft/min, solo weight) 1900
Ceiling (solo weight) 24,000
Rate of Climb
(ft/min, gross weight) 1400
Ceiling (gross weight) 18,500
Range
(statute miles, 75% @ 8000') 700
Range
(statute miles, 55% @ 8000') 850

Building an RV - Required Tools

Many pilots and prospective airplane builders are unfamiliar with the construction method and tools used in building metal airplanes. This is strange in a way, because the vast majority of the airplanes built in the last fifty years are made of riveted aluminum. While riveting may initially seem a mystery, it is really very simple.

Handling tools and doing quality work is not difficult. Some practice always helps, so a bundle of trimmings is included in the kit, along with enough extra rivets that the new build can rivet away and convince him or herself that it isn't all that hard. Remember, the reason there are so many riveted aluminum airplanes in the world is that ordinary people in ordinary circumstances can do an acceptable (or better) job.

While Van's stocks a few tools as a convenience to this customers (please see the Accessories Catalog module), we are not tool specialists. Below we have included the list recommended tools for construction of an RV. You should plan on spending between \$10 and \$1500 for a complete set of tools. We have also provided a partial listing of tools suppliers who can provide information on tools/tool kits, and provide advice about tools.

Recommended Tools

- 2X or 3X Rivet Gun**
- E-Z Change Spring**
- Air Swivel Regulator**
- 1" Dia. Mushroom Set**
- 3/32" Cupped Set 3.5"**
- 1/8" Cupped Set 3.5"**
- 3/16" Cupped Set 3.5" (only for fabricating spar)**
- Double Offset Cupped Set**
- Mini Bucking Bar 1 lb.**
- Anvil Bucking Bar 1.9 lb.**
- Footed Bucking Bar 2.2 lb.**
- Microstop Countersink Unit**
- #40 Countersink - 3/32" Rivet**
- #30 Countersink - 1/8" Rivet**
- #8 Countersink - #8 Screw**
- #10 Countersink - #10 Screw**
- Wiss Snips Left & Straight**
- Wiss Snips Right & Straight**
- Air Drill**
- #40 Drill Bits (for 3/32" rivets)**
- #30 Drill Bits (for 1/8" rivets)**
- #19 Drill Bit**
- #12 Drill Bit**
- 12" #40 Drill Bit**
- 12" #30 Drill Bit**
- 4" Hex Shank Deburr Tool**
- Cleco Pliers**
- 4 Cleco Clamps -1/2" Jaws**
- 4 Cleco Clamps -1" Jaws**
- Swivel Head Pop Rivet Tool**
- 2 Screwdriver Bits - Size #2**
- Hand Squeezer / 3" Yoke**
- 1/8" Universal Cupped Set**
- 3/16" Universal Cupped Set**
- Flat Set 1/2" x 1/8"**
- Flat Set 3/8" x 1/8"**
- 3/32" Rivet Dimple Die**
- 1/8" Rivet Dimple Die**
- #8 ScrewDimple Die**
- 24" Stainless Rule**
- Unibit 1/4" - 3/4" by 1/16 ths**
- Permanent Markers**
- 3M Cut & Polishing Wheel 6"**
- Hearing Protector**
- Safety Glasses**
- 325 Cleco Fastners - 3/32"**
- 175 Cleco Fastners - 1/8"**
- Deburring Set - Large Holes**
- Edge Deburring Bit**
- Fluting Pliers**
- Rivet Cutter**
- Air Tool Oil**

File Card / Brush
10" Vixen File
C-Frame Riveting Tool
Optional Tools

#6 Countersink - #6 Screw
Drill Stop Set of 4
Angle Drill Attachment
Cordless Screwdriver (for deburring)
Threaded Drill Set 6 pc.
Back Rivet Set
Dimple Die Organizer
Removable Rivet Tape
Tape Dispenser
12 oz. Dead Blow Hammer

RV-9A
Kit completo

Ref.: **83 - 675 - 2730**

PVP	1,00 €
------------	---------------



www.masterkit.com
info@masterkit.com
Tfno: 91 450 30 50
Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
28039 Madrid

Avioneta z0676

Producto nº

676

The new ZODIAC XL offers comfortable and spacious two-place side-by-side seating in an ergonomically designed 44-inch wide cabin. The huge tinted bubble canopy (plexiglass), which provides outstanding 360 degree visibility, is now hinged in the front and allows easy access from either side of the aircraft. Access to the cabin is easy over the 20-inch wide wing walkway on both sides of the cockpit, and is facilitated by a 'step' located below the trailing edge of the wing.



The ZODIAC's cabin is ergonomically designed for comfortable side-by-side seating. . . even for larger pilots. The ZODIAC's seating arrangement provides "Lazy-Boy" comfort, even on long cross-country flights.

The roomy ZODIAC cabin is equipped with a large instrument panel and dual controls accessible from both the left and right seats. The center-mounted control column (stick) can easily be used from either side, and does not limit visibility of the instrument panel. Dual throttle controls are mounted on both sides of the panel for easy access. The dual rudder pedals also steer the nose-wheel (tricycle gear configuration), and are equipped with standard hydraulic toe-brakes on the pilot's side. There is plenty of room behind the instrument panel (20") to accommodate full custom instruments and avionics. Following is a sample panel with gyro instruments and a GPS/Comm and transponder installed.



ZODIAC XL
Kit completo

Ref.: 83 - 676 - 2731

PVP 1,00 €





www.masterkit.com
 info@masterkit.com
 Tfno: 91 450 30 50
 Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
 28039 Madrid

Avioneta z0677

Producto nº

677

First introduced in 1986, the STOL CH 701 aircraft was developed as an "off-airport short take-off and landing kit aircraft to fulfill the demanding requirements of both sport pilots and first-time builders.

With the STOL CH 701, designer Chris Heintz combined the features and advantages of a "real" airplane with the short-field capabilities of an "ultralight" aircraft. The aircraft features fixed leading-edge slats for high lift, full-span flaperons (both ailerons and flaps), an all-flying rudder, and durable all-metal construction.

Updates: New 1,100 lbs. gross weight, new kit features, and new 4th edition CAD Drawings: [Click here for details.](#)

Sport Pilot / Plane Category: All indications are that the STOL CH 701 design will meet the requirements of the FAA's proposed Sport Pilot / Plane category. [Click here for more information.](#)

Short-field performance is where the STOL CH 701 aircraft truly excels: It is airborne in less than 120 feet of unprepared grass, or 90 feet of hard surface, at gross weight. Rotation is possible by the time full throttle setting is applied, and lift-off can begin at 25 mph (in ground effect, with no wind) - all within less than five seconds from start. Of course, any headwind shortens the time and distance required for take-off.

The STOL CH 701 was not designed to be just another 'pretty' light aircraft, but was engineered to offer outstanding short take-off and landing performance, all-metal durability and unparalleled ease of construction. With form following function, the STOL CH 701 looks like a 'Sky Jeep', as it is often called by its owners.

Not many of the more than 400 STOL CH 701's flying today can be found at airports - many are operated from short off-airport grass fields. The aircraft's all-metal construction makes it suitable for continuous outdoor storage - providing their owners with continuous cost savings (no hanger or tie-down fees).

Specification figures are provided with the Rotax 912 (80-HP) engine. Range and endurance figures are quoted with fuel no reserve. Figures are based on factory prototype results, and are subject to change or revision without notice. Different engines and installed options will affect performance and specification figures. Source: Zenair Ltd.

Engine Limitations: 50 - 100 hp, up to 185 lbs. installed. Alternative engines will affect performance, specifications and flight characteristics of the aircraft. Also, the weight and balance of the aircraft may be adversely affected by alternative engines, and the original fuel system may not be adequate or suitable for some engines. Most alternative engines will require a custom engine mount and engine cowl. Zenith Aircraft Company does not manufacture or directly support engines.



- SPECIFICATIONS STOL CH 701:**
WING SPAN:27 FEET 8.2 m.
WING AREA:122 SQ.FT.,11.4 m.sq
LENGTH:20 Ft. 11 In.,6.38 m.
HEIGHT (rudder tip):8 Ft. 7 In.,2.6 m.
EMPTY WEIGHT*:580 LBS.,263 kg.
GROSS WEIGHT 1,100 LBS. 500 kg.
USEFUL LOAD 520 LBS. 236 kg.
WING LOADING 9.0 LBS/FT² 43.8 m²
POWER LOADING 13.75 LBS/BHP 6.25 kg/BHP
DESIGN LOAD FACTOR +6 G / -3G
CABIN WIDTH (shoulders) 41 INCHES 104 cm.
FUEL CAPACITY (std) 20 US Gallons (2 x 10 gal.) 76 liters (2 x 38 liters)
PERFORMANCE ROTAX 582 (65 HP) ROTAX 912 (80 HP)
SINGLE DUAL SINGLE DUAL
TOP SPEED (MPH) 85 85 95 95
CRUISE (MPH) 75 75 80 80
Vne (MPH) 110 110 110 110
STALL (MPH) 28 30 28 30
RATE OF CLIMB (FPM) 1400 1200 1600 1400
TAKE-OFF ROLL (FEET) 60 115 45 90
LANDING ROLL (FEET) 80 140 80 140
SERVICE CEILING (FEET) 15000+ 12000+ 15000+ 12000+
STD. RANGE (MILES) 300 300 400 400
ENDURANCE 4 Hrs. 4 Hrs. 5 Hrs. 5 Hrs.



STOL CH 701**Kit completo**Ref.: **83 - 677 - 2732**

PVP	1,00 €
-----	--------



Rotax 100 HP* 912S**Accesorio Montado**

Zenith Aircraft Company recommends the 80-hp Rotax 912 or the 100-hp Rotax 912S as the standard powerplant for both the ZODIAC CH 601 series and the STOL CH 701. The new 912 S is a 100 HP* version of the certified 81 HP 912 engine, with the same external dimensions as the standard Rotax 912.

Continuous Performance: 69.6 KW (95 HP) @ 5500 RPM

Take - off Performance: 73.6 KW (100 HP) @ 5800 RPM (Max 5 min.)

Fuel consumption at 75% continuous power: 4.9 gph

4-stroke, 4 cylinder horizontally opposed, dual spark ignition engine, one central camshaft, pushrods, OHV:

Liquid cooled cylinder heads, ram air-cooled cylinders

Dry sump forced lubrication

Electric starter and starter relay

Dual breakerless, capacitor discharge ignition

Rectifier/regulator

Prop drive via reduction gear with integrated shock absorber.

Integrated AC generator

Mechanical (engine driven) fuel pump

R.F.I. suppression

2 carburetors

Ref.: **83 - 677 - 2735**

PVP	1,00 €
-----	--------





www.masterkit.com
info@masterkit.com
Tfno: 91 450 30 50
Tfax: 91 450 30 50

Avda. Doctor Federico Rubio, 51.
28039 Madrid

Avioneta z0678

Producto nº

678

The underlying philosophy behind the ZODIAC CH 640 kit is to provide the builder with everything needed to complete the airframe - with only basic tools and skills. Drawing upon Zenair's 25 year kit aircraft manufacturing and design experience, the kit is developed for maximum ease of construction, while using only materials and parts of the highest quality. The ZODIAC CH 640 kit is estimated to require only about 750 hours to build from the complete factory-supplied kit.

All you'll need to get started is a level workbench and basic hand tools. The detailed and illustrated photo manuals guide the builder through the entire kit assembly process following a logical step-by-step sequence. All kit components, parts and hardware are supplied - labeled and numbered for easy identification. Every airframe bolt, fastener, and rivet is supplied with the standard kit.

The airframe kit takes straight-forward and basic assembly work to put together using only simple tools, such as an electric hand drill, a hand rivet puller, 'Cleco' temporary fasteners, a set of wrenches, a few hand files, sheet-metal snips, etc. Importantly, virtually no jigs and fixtures are needed in the building process, as all sections are built up from the flat workbench. A bending brake, shear or other machinery is not needed, and assembly is easily done in a single car garage or basement workshop.

While previous aircraft building experience and sheet-metal skills are always an asset, the ZODIAC CH 640 kit and assembly instructions are developed specifically for the inexperienced novice builder. The simplicity of construction, quality of parts and components, and the completeness of the kit translates into low build-times and a very high kit completion ratio, even for novice builders.

The ZODIAC CH 640 kits will meet the requirements for amateur-built (experimental) categories in the United States and Canada, as well as in most countries around the world.

In the kit, all the wing ribs and fuselage bulkheads will be supplied pre-formed. For example, the internal wing ribs are first press-formed, with lightening holes cut and flanged, and the hand finished at the factory for a perfect ready-to-install fit. The heavy-duty wing spars come complete with all solid (bucked) rivets already set by factory professionals. Surface skin, wings, ailerons, elevator, rudder, and fuselage - are ready for fitting.

Pre-assembled parts (such as the wing spar) are factory-treated with zinc-chromate primer for maximum corrosion resistance. Welded parts, such as the engine mount, control assemblies, and fuel tank, will come factory welded and ready to install.

The ZODIAC CH 640 kit is complete: the heavy-duty landing gear system, hydraulic brake system, fiberglass wing tips, control systems, welded aluminum fuel tanks, etc., are standard equipment in the complete airframe kit.

The ZODIAC builder is able to start assembly right away after taking delivery of the kit. Working from a flat table, the builder can immediately begin assembly - simply by measuring, drilling and riveting, and thus progress through the whole airframe section by section, aided by the detailed step-by-step manuals and visual photo guides supplied with the kit. Building the all-metal CH 640 is straight forward, requiring no complex jigs, and no messy (and hazardous) bonding or epoxy work is involved. With the proven and simple all metal construction technique, the ZODIAC builder does not have to worry about having a temperature controlled dust-free work-shop environment, and does not have to mix compounds and wait for parts to cure.

A new aircraft design and kit, the ZODIAC CH 640 kit and its assembly processes are completely new, yet draw on Zenair's extensive aircraft manufacturing expertise. Assembly of the kit does not rely on static blueprints, but makes extensive use of a very comprehensive series of step-by-step photo manuals with hundreds of very detailed photos with brief text instructions. Digital photo and video technology has allowed us to capture the building steps in minute detail, with the ability to reproduce the high resolution images in simple and logical step-by-step manuals.

