

# Sonex Highwing Update

Sonex LLC: January 30, 2025

## EAA Homebuilders Week



# ***sonex***



**AeroCon**  **versions**  
Power to the **Sport Pilot**

# Sonex Webinar Archive

- eaa.org/webinars
- sonexaircraft.com/webinars

## Homebuilders Week 2024



EAA Homebuilders Week 2024: Sonex Update

### The Sonex-B Kit

Stall Speed (V <sub>SO</sub> )	40 mph
Cruise at Sea Level*	130-135 mph
Cruise at 8,000' (IAS)	150-170 mph
Loads	+6G (solo) +4.4G (+2.2G dual)
Range (1)	687 miles
Gear	Tail dragger or Tricycle
LSA Compliant*	Removable Wings

Build and Fly for:  
**\$50,189**

**sonex-B** The Original Reality Check

Watch on 



## Recent: December 18th



Update: Rotax 9 Series Engines and Sonex Aircraft

Sonex LLC: December 18, 2024



### sonex

COOPER AIRCRAFT CORPORATION

AeroConVersions  
Power to the Sport Pilot

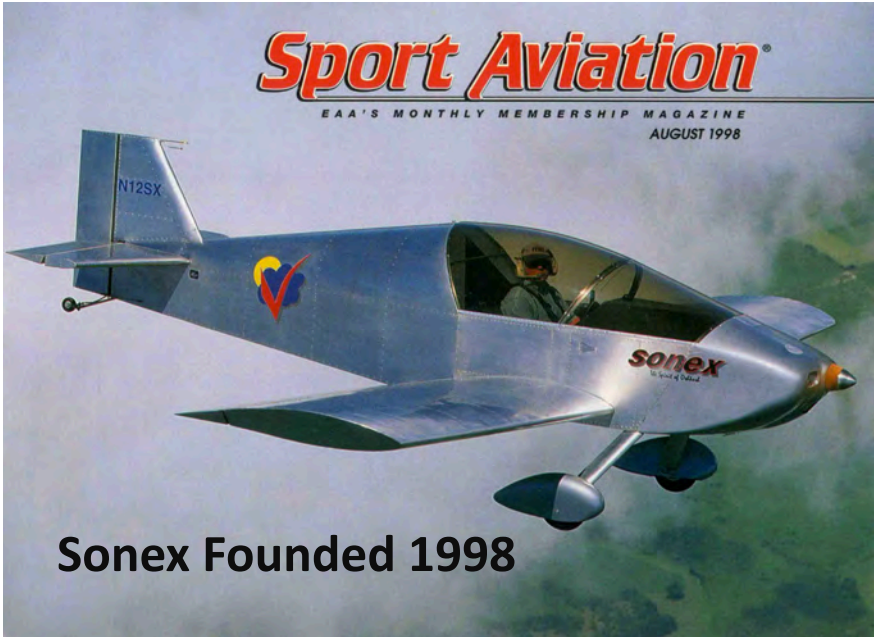
Watch on 

## Update: Rotax Engines and Sonex Aircraft



# The Sonex Family





**27 Years of Sonex!**

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Sonex LLC:

## Three Major Product Lines



***sonex***  
***aircraft***

**AeroCon**  **versions**  
Power to the **Sport Pilot**



***sonex***  
**AEROSPACE**



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# Sonex Highwing:

[www.sonexaircraft.com/hornets\\_nest-high-wing/](http://www.sonexaircraft.com/hornets_nest-high-wing/)



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Revision	Label	Change Description

Wing Span	7.9883 m
Aerobatic Span Option	7.3965 m
Length	5.8801 m
Wing Area	10.95 sq. m
Aerobatic Span	10.15 sq. m
Empty Weight	326.57 kg
Max. Gross Weight	598.74 kg
Aerobatic	476.27 kg
	100 - 130 HP
	75.7 Liters
	37.85 Liters
	27.22 kg
	64 km/h
	MPH 317 km/h
Load Factors: Utility	+4.4, -2.2g's @ 1320 lbs. (598.74 kg)
Load Factors: Aerobatic	+6, -3g's @ 1050 lbs. (476.27 kg)
Construction	All aluminum riveted

**sonex high wing**  
Aircraft 3 View & Specifications

Drawing Scale: 1/16 Drawing Number: HNB-B01 Revision: NC



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***Sonex Highwing:***

**Why Introduce a High Wing Aircraft?**

**“That’s not what we do!”**

**Concept for a Sonex high wing design  
first proposed prior to 2010**

- We have never served “High Wing People”
- Advantages for occupant ingress/egress
  - “Aging Pilot Population”
  - Disabled Pilots
- Opportunity to serve taller pilots
- Easier to provide more baggage space
- Most high wings cater to STOL crowd
- Not many aerobatic capable high wings
- Connection to Sonex Design Heritage
- Opportunity to do it “The Sonex Way”



## *Sonex Highwing:*







***Sonex Highwing:***

## **Mark's Design Requirements**

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### **“Not Worth Doing” Without These:**

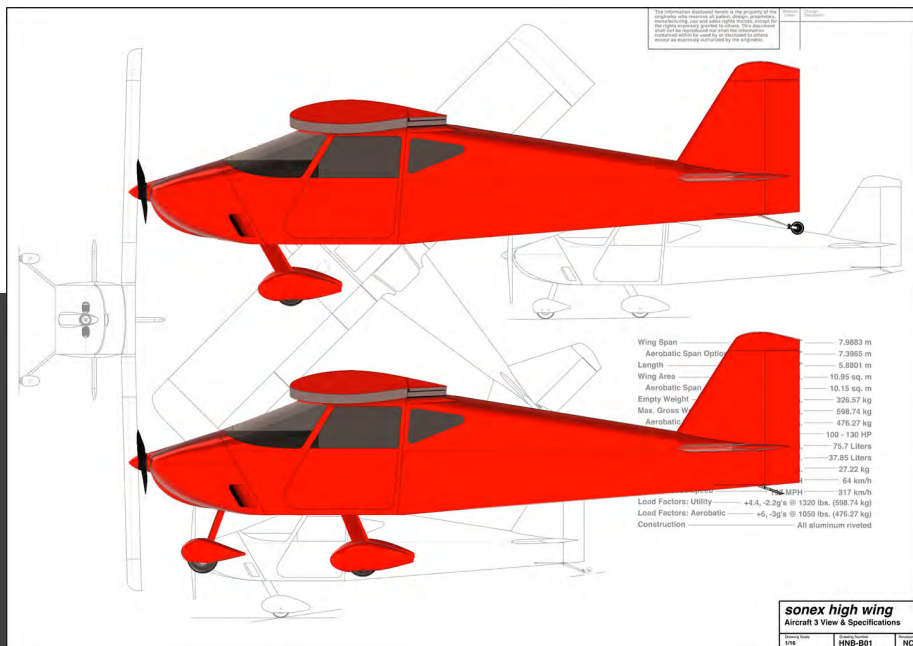
- LSA Max Gross Weight: More Useful Load
- Cantilever Wing: Aerobatic!
- Retain Sonex Performance & Handling Standards
- Easy Ingress/Egress:
  - Door that exposes foot well
  - Center Stick AND Dual Stick Options
  - Reasonable Step-In Height
- Good Looks!
- More Cockpit Space
- More Baggage Space
- Aux Fuel Options
- BRS Options
- E-AB, E-LSA and S-LSA Purchase Options
- Fit finished aircraft in a shipping container



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## Sonex Highwing:

# Estimated Specifications & Performance



Specifications	
Seats	2
Length	19' 3.5"
Wing Span	26' 2.4"
Wing Area	117.9 sq. ft.
Aerobatic (2-place) Wing Span	23' 1.3"
Aerobatic (2-place) Wing Area	104 sq. ft.
Tail Height (Taildragger)	61.5"
Tail Height (Tricycle Gear)	80.5"
Tail Width w/Wing Tips	92.75"
Inboard Wing Section Width	89.5"
Main Gear Width with Wheel Pants	73.75"
Air Foil	64-415
Primary Structure	6061-T6 Aluminum
Maximum Fuel Capacity	30 US Gal.
Cockpit Width (Interior)	42"
Engines (100-130 hp)	<ul style="list-style-type: none"> <li>AeroVee</li> <li>Jabiru 3300</li> <li>UL Power</li> <li>Rotax 9-series</li> </ul>

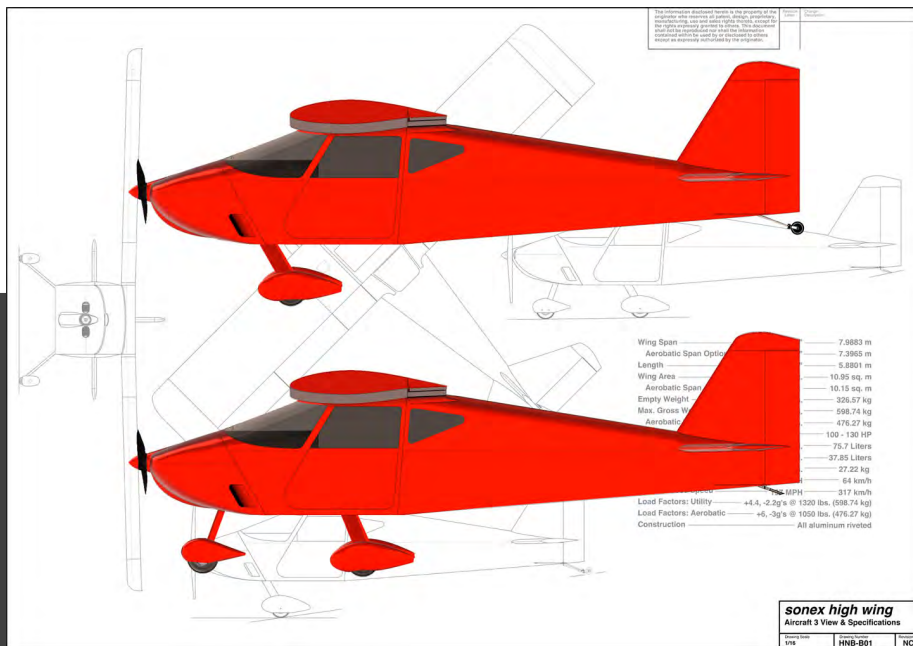


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## Sonex Highwing:

# Estimated Specifications & Performance

Utility Category	
Empty Weight (full span*)	820 lbs
Max Gross Weight	1500 lbs
Baggage (Max)	90 lbs
Useful Load (Including Fuel)	680 lbs
Wing Loading	12.7 lbs./sq. ft.
Power Loading	<ul style="list-style-type: none"> <li>• 100 hp: 15 lbs./hp.</li> <li>• 120 hp: 12.5 lbs./hp.</li> <li>• 130 hp: 11.5 lbs./hp.</li> </ul>
Limit Load Factors	+4.4 / -2.2 G
CG Limits	20-32% Wing Chord



**Expanded for MOSAIC  
(Sport Pilot 2.0)**



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## Sonex Highwing:

# Estimated Specifications & Performance

## Aerobatics:

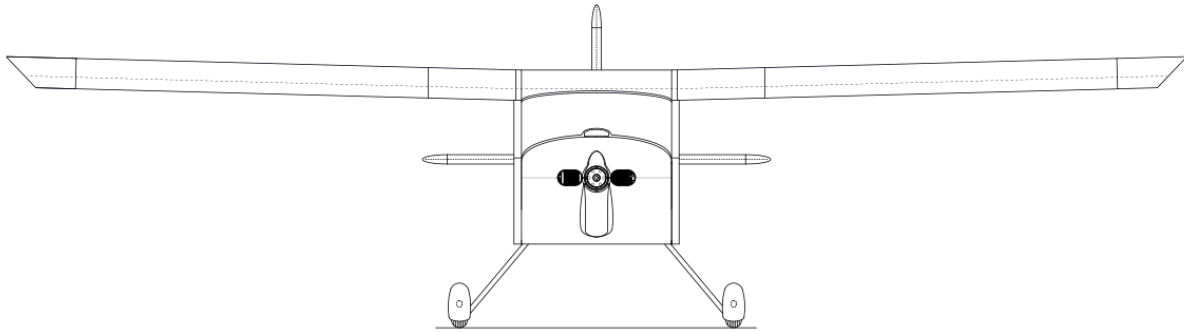
Aerobatic Category	
Empty Weight (short span*)	800 lbs
Max Gross Weight	1230 lbs
Baggage (Max)	None
Useful Load (Including Fuel)	430 lbs
Wing Loading	11.8 lbs./sq. ft.
Power Loading	<ul style="list-style-type: none"> <li>• 100 hp: 12.3 lbs./hp.</li> <li>• 120 hp: 10.25 lbs./hp.</li> <li>• 130 hp: 9.5 lbs./hp.</li> </ul>
Limit Load Factors	+6 / -3 G
CG Limits	23-29% Wing Chord

Aerobatic Category (Limited)	
Empty Weight (short span*)	800 lbs
Max Gross Weight	1340 lbs
Baggage (Max)	40 lbs. (or BRS installation)
Useful Load (Including Fuel)	540 lbs
Wing Loading	12.9 lbs./sq. ft.
Power Loading	<ul style="list-style-type: none"> <li>• 100 hp: 13.4 lbs./hp.</li> <li>• 120 hp: 11.2 lbs./hp.</li> <li>• 130 hp: 10.3 lbs./hp.</li> </ul>
Limit Load Factors	+5.5 / -2.5 G
CG Limits	23-29% Wing Chord



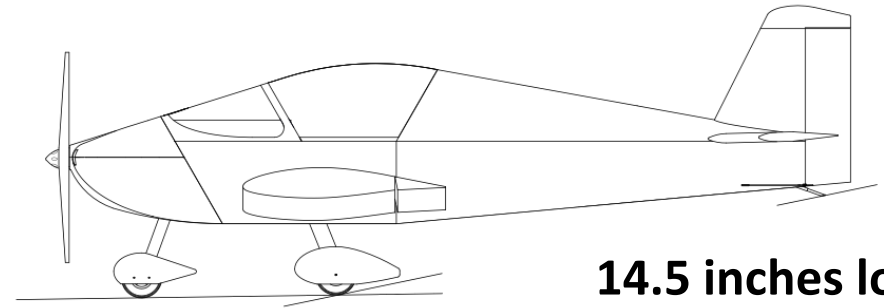
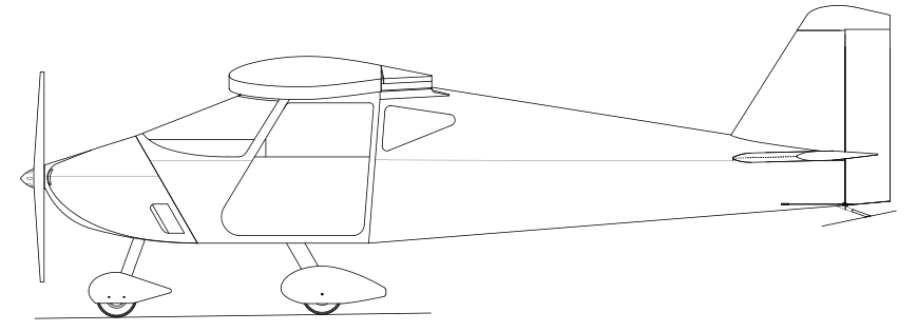
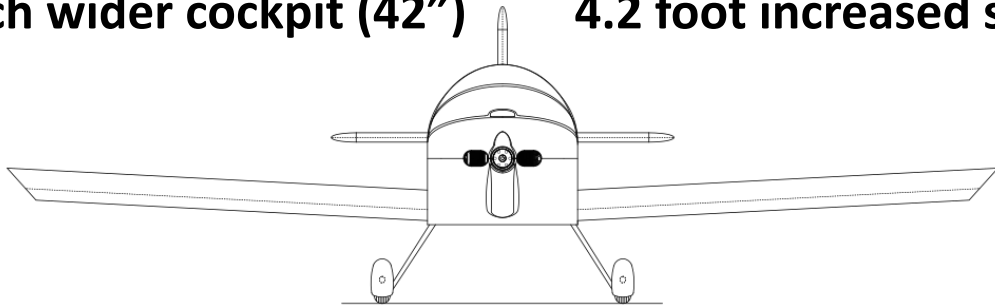
# *Sonex Highwing:* Size Comparison vs. Sonex

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**2 inch wider cockpit (42")**

**4.2 foot increased span**



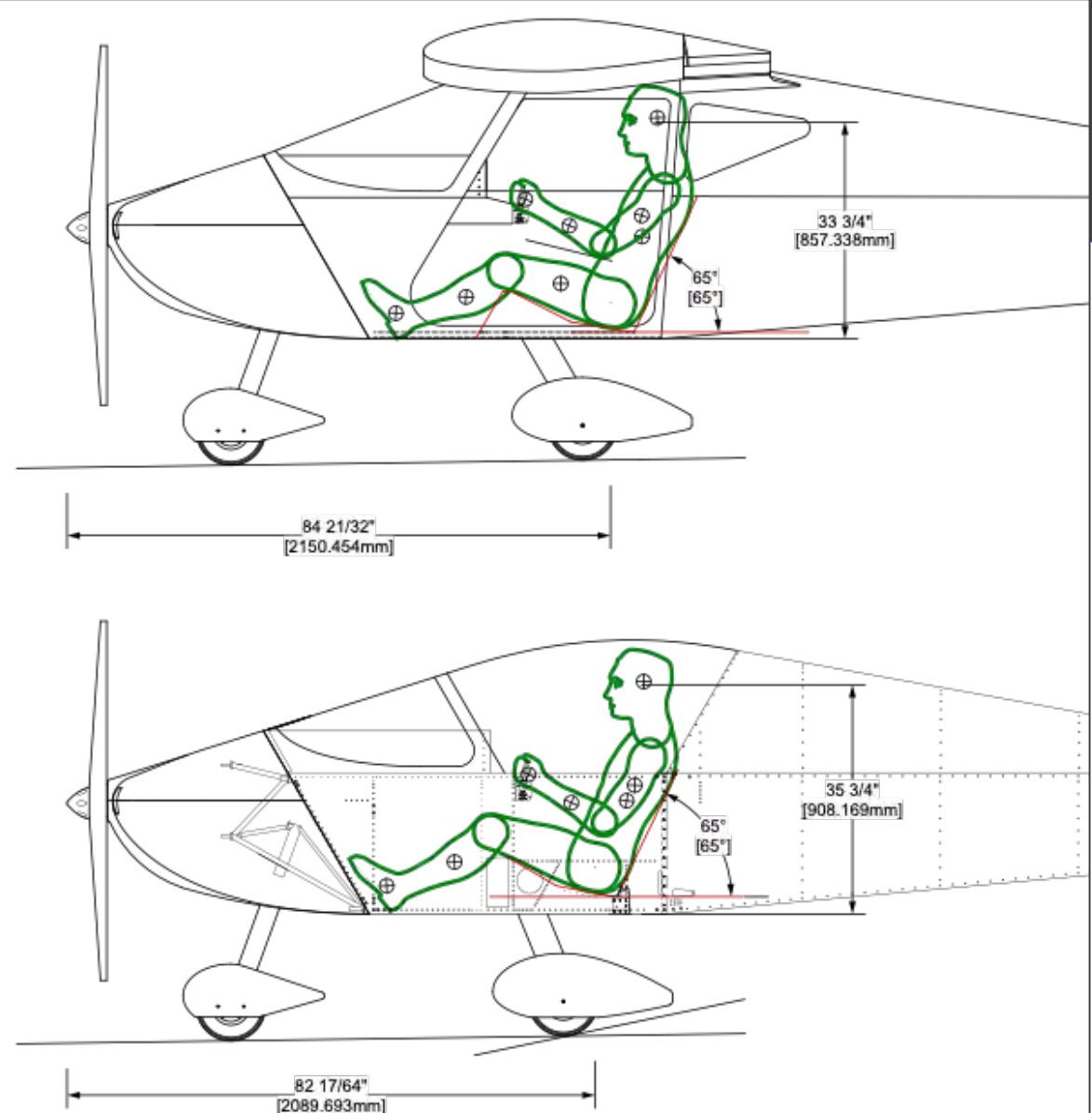
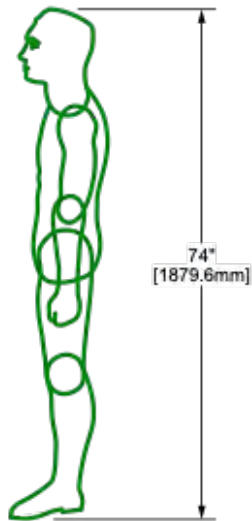
**14.5 inches longer**

# Sonex Highwing:



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Cockpit Comparison  
vs. Sonex





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# ***Sonex Highwing:*** Engine Options:



**AeroVee**



**UL Power**



**Jabiru 3300**



**Rotax 9xx**



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## Sonex Highwing Prototype:







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## Sonex Highwing Prototype:



James (above) is 6'4" without shoes and is sitting with a 3" thick lumbar cushion.





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## Sonex Highwing Prototype:





## *Sonex Highwing Prototype:*



**Skylight Windows**



## Sonex Highwing Prototype:

### Windshield & Doors





## Sonex Highwing Prototype:

### Door Latch & Handle





## Sonex Highwing Prototype:

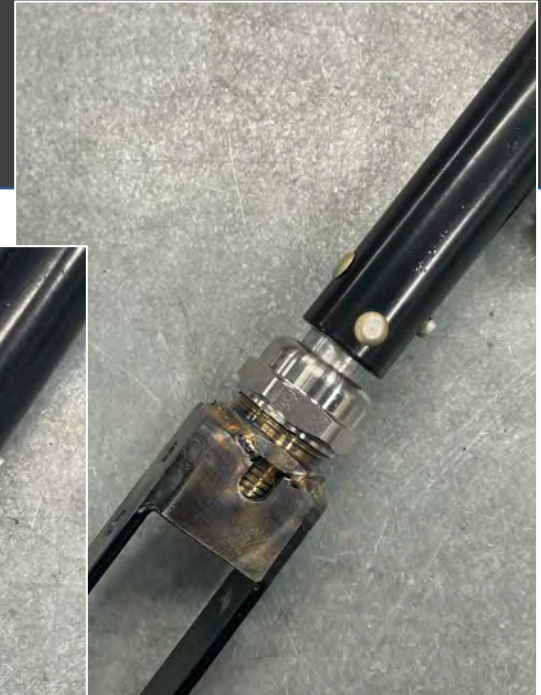
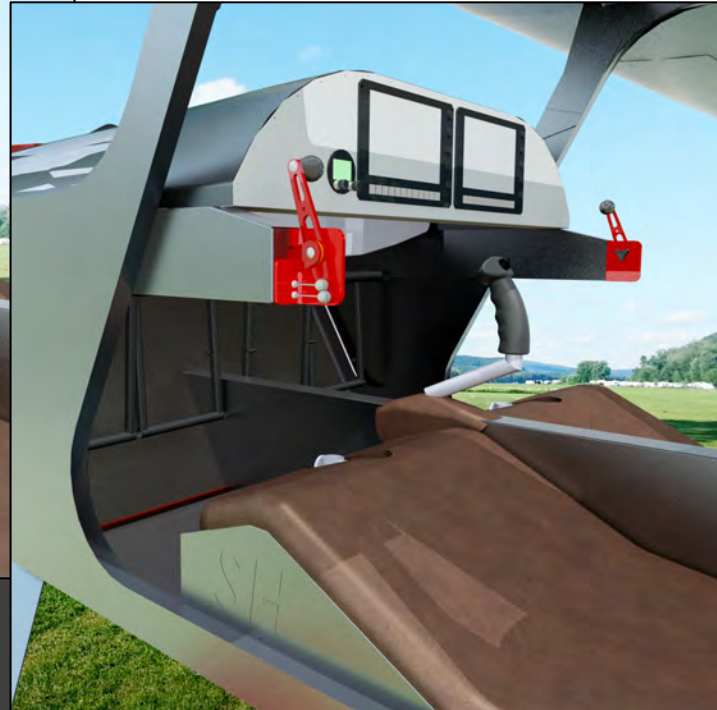
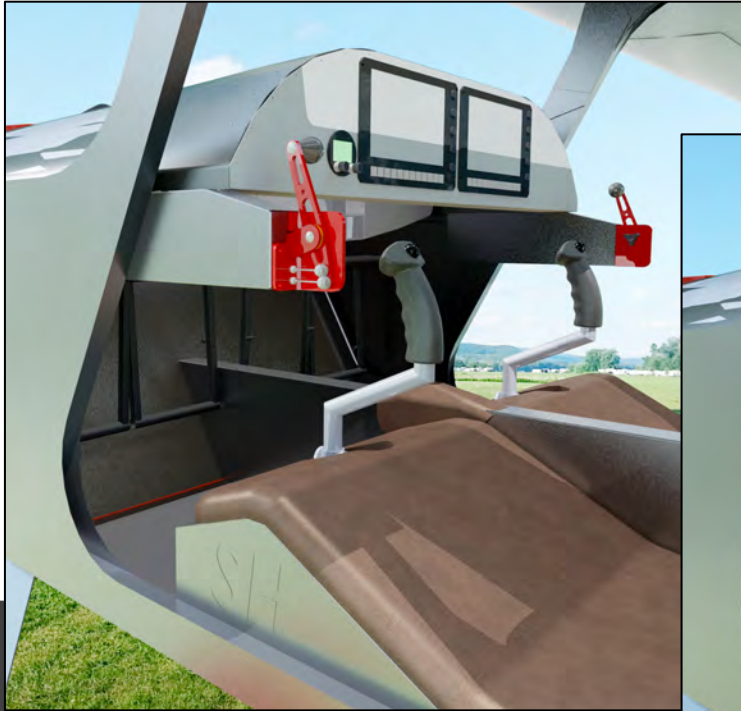
### Windshield Prototyping & Production





## Sonex Highwing Prototype:

### Convertible Control Sticks

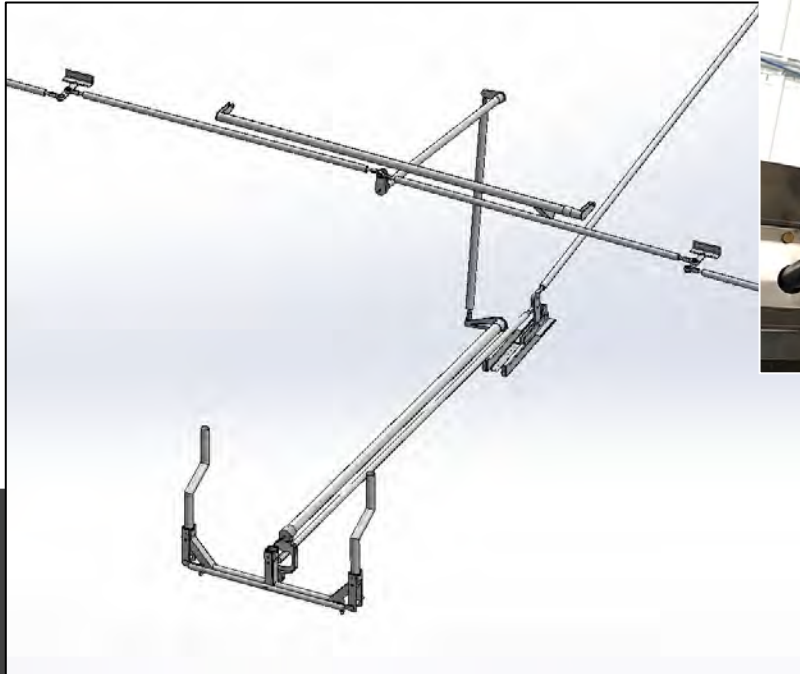




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## *Sonex Highwing Prototype:*

### **Ceiling Aileron Controls**

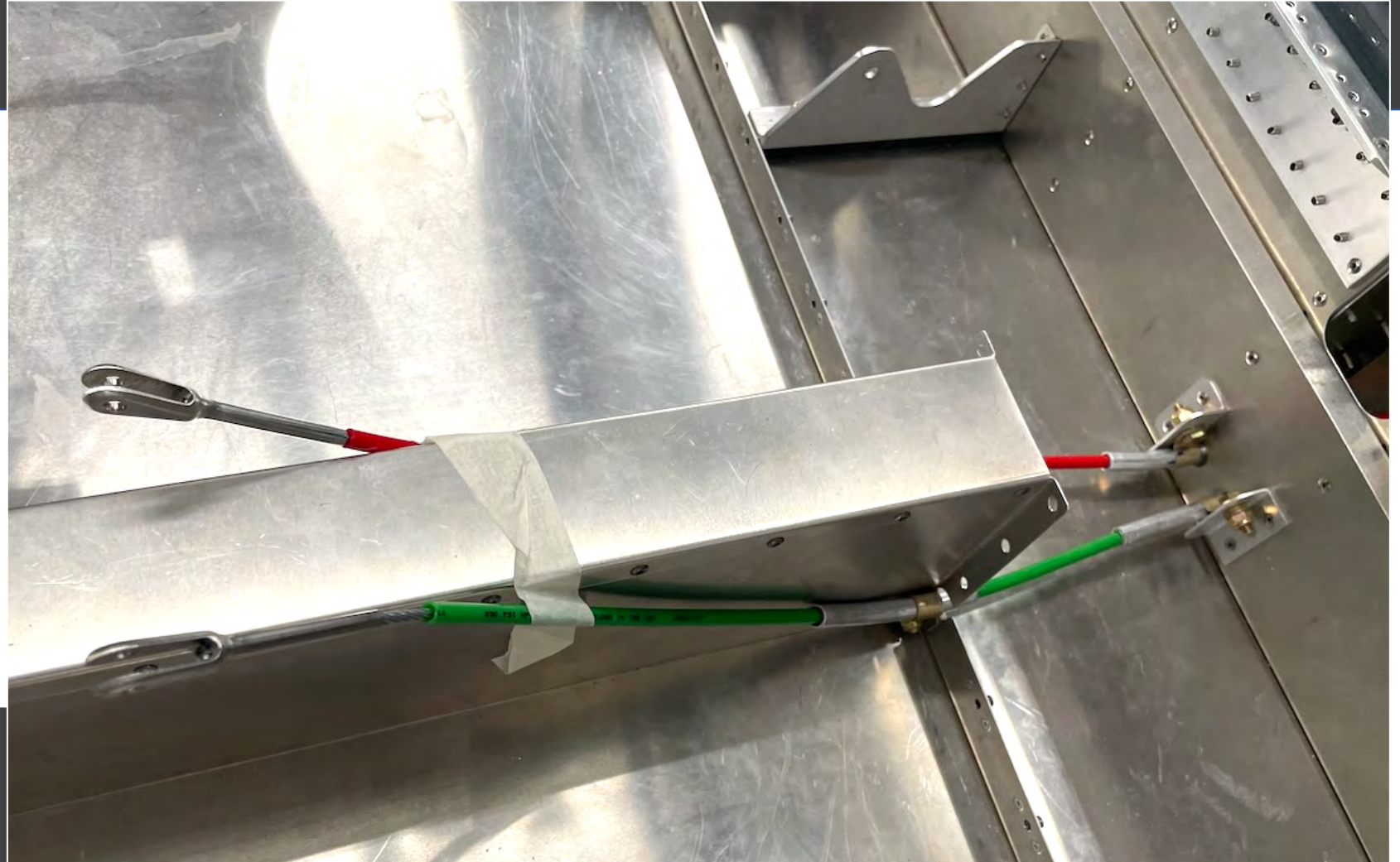






## *Sonex Highwing Prototype:*

**Rudder Cables**



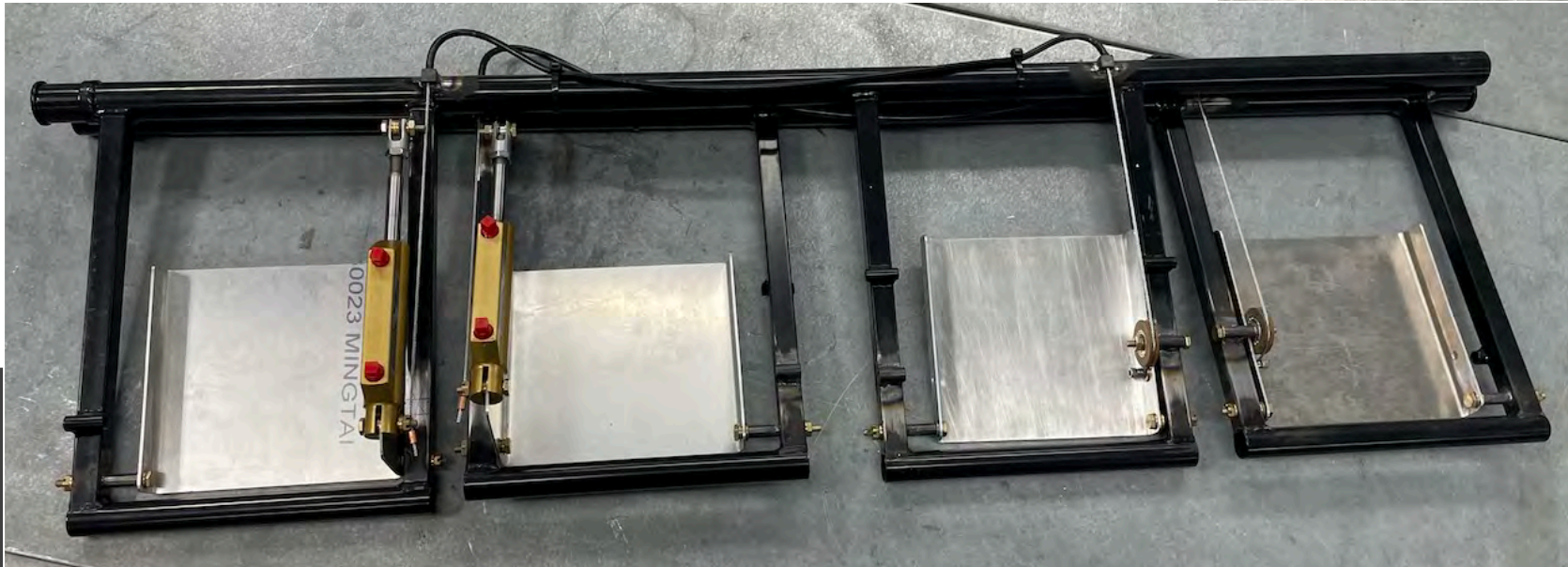
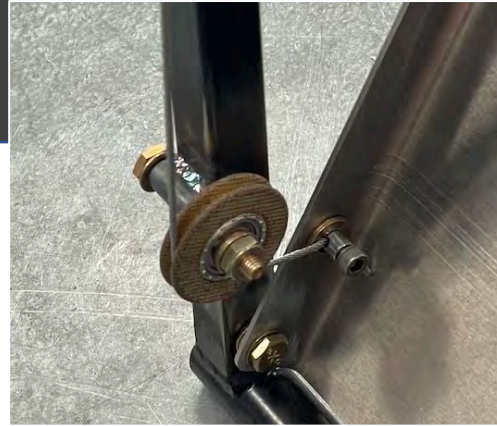
**Are You Ready to Have  
Your Mind Blown?**



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## Sonex Highwing Prototype:

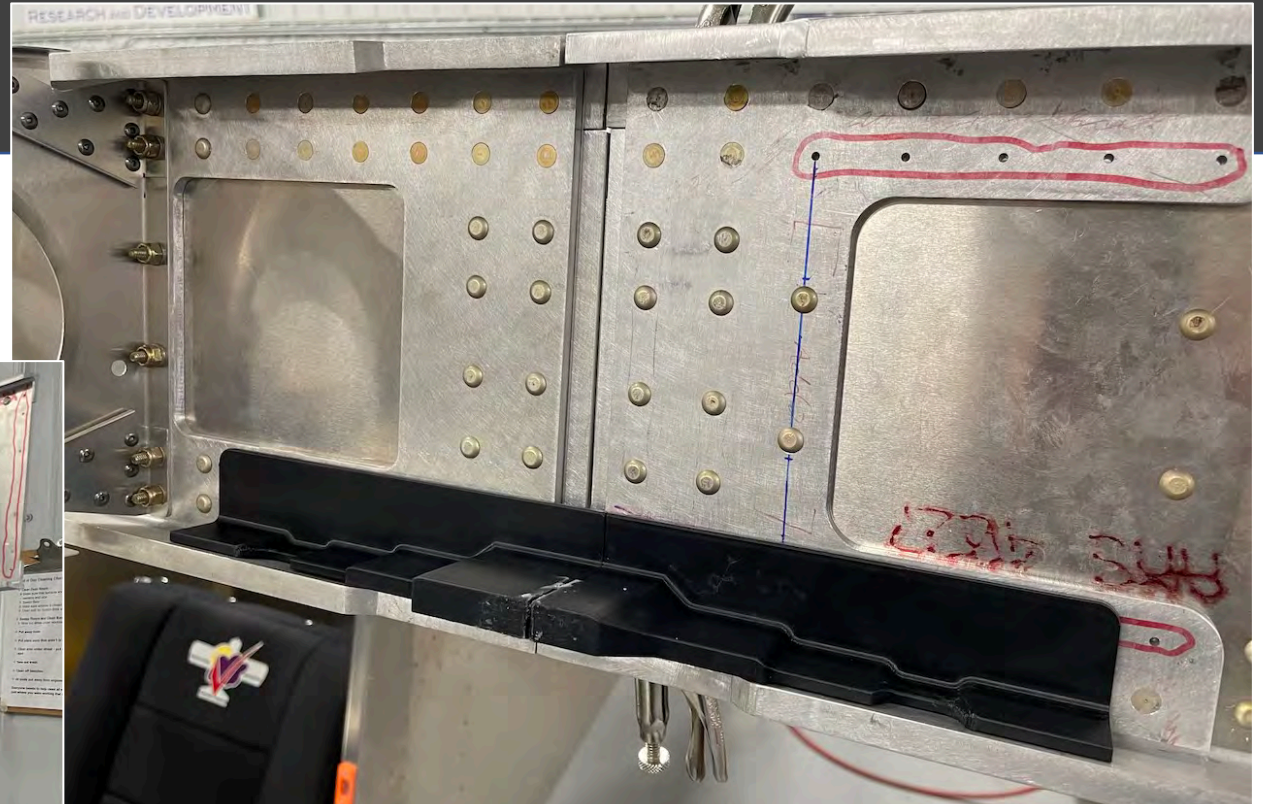
Rudder Pedals & Brakes:





## Sonex Highwing Prototype:

### Outboard Wings





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## Sonex Highwing Prototype:

### Outboard Wings





## Sonex Highwing Prototype:



**Tail Tips**



## Sonex Highwing Prototype:

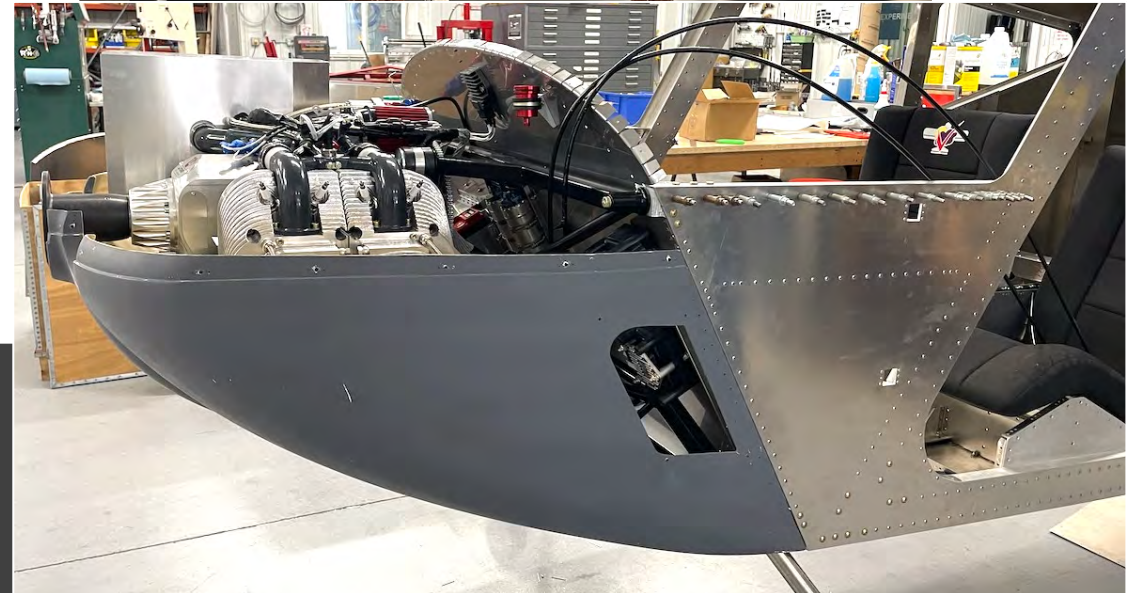
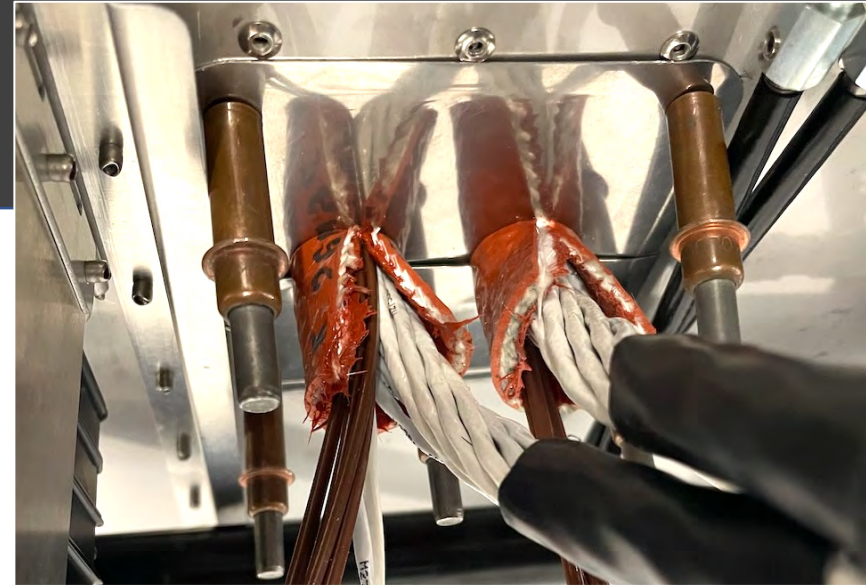
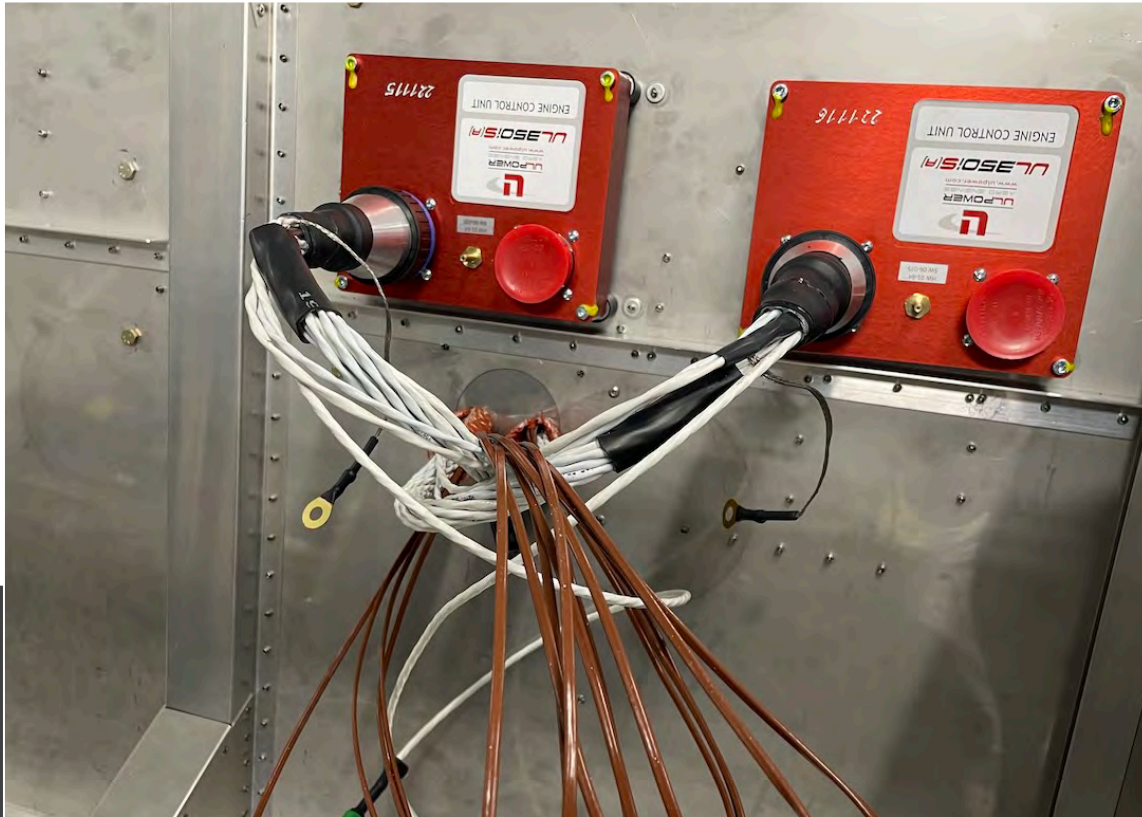
### Engine Installation





## Sonex Highwing Prototype:

### Engine Installation

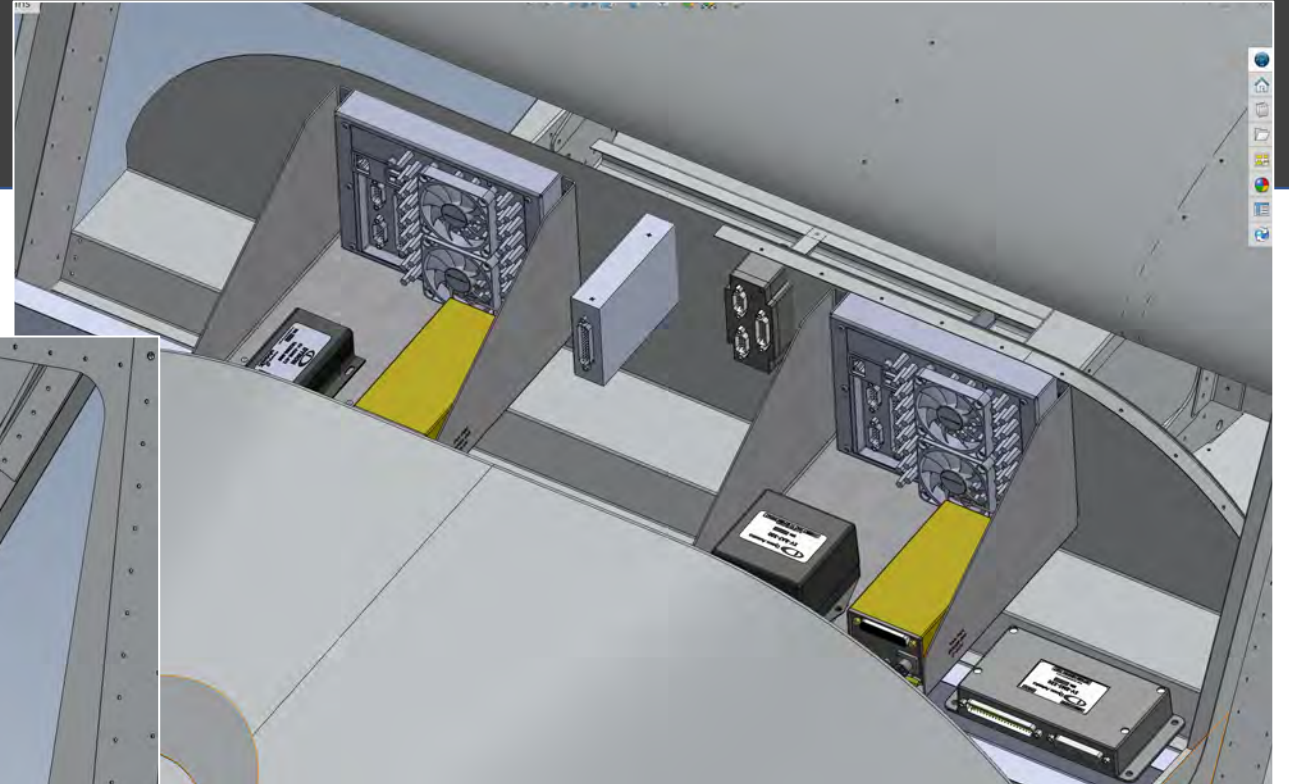
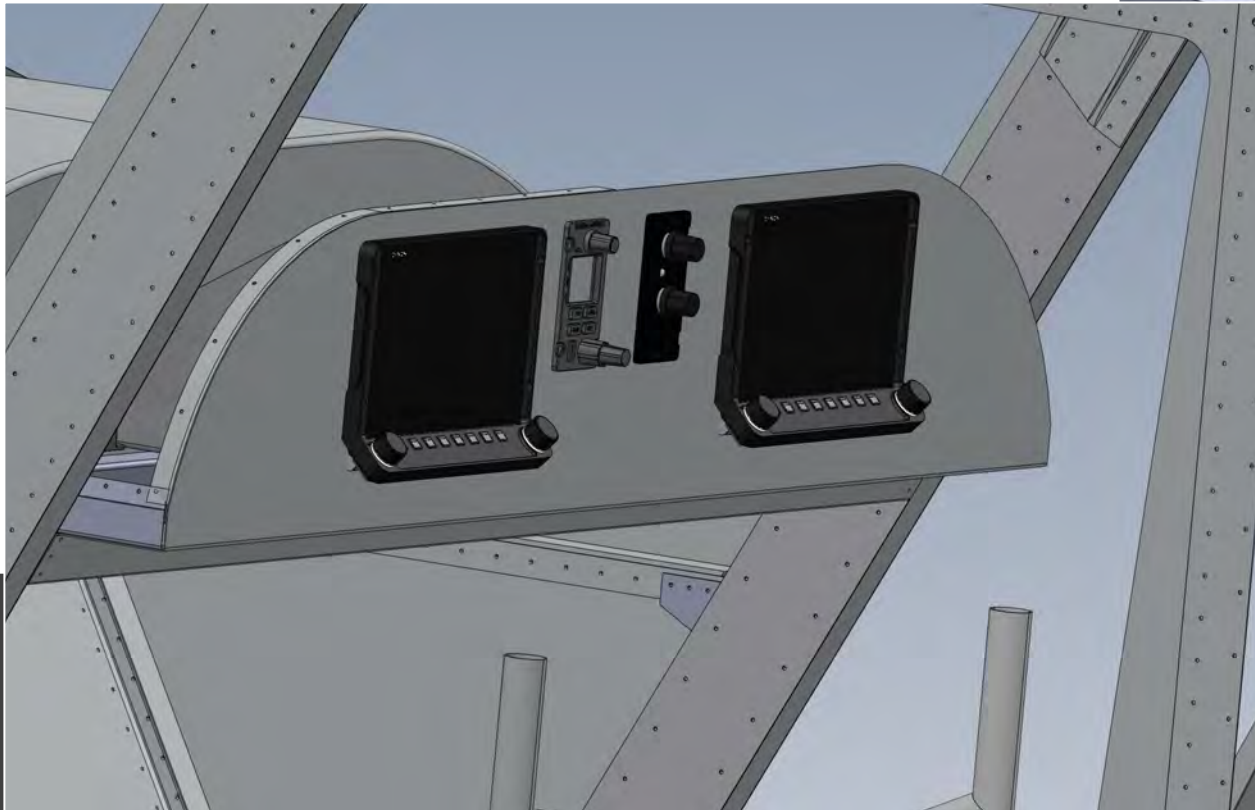




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## Sonex Highwing Prototype:

### Avionics Installation





# Sonex Highwing Mailing List:

[www.sonexaircraft.com/hornets\\_nest-high-wing/](http://www.sonexaircraft.com/hornets_nest-high-wing/)

## What's Next?

- Complete Outboard Wings
- Complete Controls Install
- Complete FWF
- Avionics Installation
- Cowling, Windows, Fairings

First Flight Goal: March/April

## SHX Deposits?

\$500 Reservations

## Questions?



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**[www.SonexAircraft.com](http://www.SonexAircraft.com)**

**920.231.8297**   **[sales@sonexaircraft.com](mailto:sales@sonexaircraft.com)**



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