

## S2F Tracker Moves to Princeton

With much anticipation the S2F Tracker (STOOF) made it’s historic journey to Princeton, MN the week of February 4, 2024.

The loading began on February 4, 2024 in the afternoon. The trailer that was used could expand to the length needed. Then Anderson House Moving company extended the width with a metal plate attached to two beams; cradling the two main landing gear.

The STOOF (S-TWO-F) revolutionized antisubmarine warfare (ASW) during the Cold War. It was able to patrol hundreds of miles of ocean on each flight with it’s twin engines and crew of four, making sure that American carrier groups could move without harassment from Soviet subs. A search radar was mounted on the bottom of the fuselage in a retractable radome, along with a retractable magnetic anomaly detector that was mounted at the base of the tail fin and air-launched sono buoys carried in the ends of both engine nacelles.

Other unique features of the STOOF include it’s wing folding mechanism. The right wing folds forward while the left wing folds slightly aloft. This allows the wings to remain nearly flat on top of the cabin, reducing the plane’s width by nearly 40 feet. Continued on page 2.



On the night of February 5, 2024, it took approximately 4 hours to travel from the Anoka-Blaine Airport to Princeton. Driving at an average of 20 mph for the entire trip.

## Making Dreams Become A Reality!

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### Special points of interest

- Kruse Aviation, Inc.
- Flight Expo Merchandise
- Spring Build a Plane Session
- Flying Club



Photo taken by J. Callahan Photography

# STOOF Moves to Princeton



Photo taken by J. Callahan Photography

As years went on, variations of the STOOF design were developed to serve many functions including: fire bombing, target towing, photo-reconnaissance, Carrier Onboard Delivery and multi-engine proficiency training. This particular aircraft made over 744,000 carrier landings and flew approximately 6,100,000 hours in its 27 years in the Navy.

Brian Mann, USN 1977-1981, shared his story with the STOOF, "I flew on this very plane while in the Navy. I was a qualified Crew Chief/Air Crewman. I was part of the last crew that flew this plane, stationed at naval Air Station Whidbey Island, Oak Harbor, WA. If you look close on the lower portion of the rudder, you can see the letter "Y" and barely the letter "E" above. I and another sailor painted "Whidbey" in Old English letters down both sides of the rudder. I was recently in Blaine, MN (Oct. 1, 2012) and saw my old plane for the first time in over 33 years. It brought back some great memories."



The 7E on the depicts that this aircraft was stationed in Minneapolis, MN.

After so many February's having the state of MN snow bound, we were all concerned that we would be moving this aircraft in a snow storm. God and Mother Nature shined on us this year. Temperatures in the 50's during the day and low 30's at night. Thank you to all of you that were praying and helping financially to move this historical artifact from the Cold War Era.



The STOOF in Princeton. Photo taken by J. Callahan Photography.



# AIRBUS

Airbus, a global leader in aerospace industry, is redefining the industries' ability to manufacture components for its helicopters and aircraft for Airbus by using a new TRUMPF TruPrint 3000 at its 3D printing center in Donauwörth, Germany.

To date, the 3D Printer has been used to manufacture structural components made of titanium and high-strength aluminum. Its now expanding to additive manufacturing which allows them to create lighter components. An additional benefit is that less material is wasted in the manufacturing process and unused metal powder can be reused.

Airbus will create components for its electric-powered CityAirBus diagramed below.

## CityAirBus

A multi-passenger, self-piloted electric vertical takeoff and landing (VTOL) demonstrator designed for urban air mobility with cost efficiency, high-volume production and a low environmental footprint in mind.

**AUTONOMY**  
15 minutes

**ENGINES**  
• 8 fixed pitch propellers powered by direct drive engines  
• 8 x 100 kW electric motors

**SIZE**  
Compact size for ideal integration into urban landscapes

**BATTERIES**  
• 140 kW power x 4 batteries  
• 110 kW energy in all 4 batteries

**Ducted high lift propulsion units** designed for efficiency, low acoustic footprint and safety

**CAPACITY**  
Transports up to 4 passengers

**CRUISE SPEED**  
120 km/h

Avionics and autopilot built for optimised urban air traffic management

### Making CityAirBus a reality

2015	2016	2017	2018	2023
<b>Feasibility study</b> Study confirms that CityAirBus will meet operating cost targets and safety requirements to be certified for public use	<b>Full scale component testing</b> Key technologies demonstrated at full size	<b>Flight testing with small scale drone</b> Control algorithms and flight mechanics developed	<b>Demonstrator team created</b> Collaborative team of highly dynamic and experienced engineers set up	<b>Full size demonstrator</b> Full-scale in-flight demonstration and verification of a full electric, RPM-controlled multi-propeller vertical takeoff and landing (VTOL)
				<b>CityAirBus takes to the sky</b> Fully certified CityAirBus becomes part of public urban transport mix, in conjunction with upgraded urban air traffic management

### Benefits of adding the third dimension to urban transport networks

<b>1 URBAN DEVELOPMENT</b> The third dimension increases the geographic accessibility to remote and underserved areas of the city	<b>2 HIGHER SPEED AND RANGE</b> Self-piloted flying vehicles can operate at three times the speed of the average road vehicle and extend commuters' geographical reach by tenfold	<b>3 ENVIRONMENTAL FOOTPRINT</b> Self-piloted flying vehicles are fuelled by electricity and are energy efficient
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**AIRBUS**

## 10 Year Anniversary of the Kitfox Donation



On May 5, 2014, Build a Plane received its very first donation of a Kitfox and trailer. It was donated to us by Dennis and Mary Biros. Dennis was a psychologist that built the plane from a kit in his spare time. This plane was the first to be donated into the program and gave us our start!

Kitfox started in 1984 in Indiana and has been sold world-wide. The aircraft featured a 2 seat side-by-side with a stick-and-rudder designed for backcountry adventures and short field takeoffs. The wings included a unique feature of being retractable so that the plane could be put onto a car trailer or stored in a garage. It was classified as an Experimental Aircraft because it was built by an individual and not in a factory.



When it came to us, the aircraft was roughly 90% complete. Much to our excitement, by the spring session we had the engine up and running. This allowed the Build a Plane students to start the Kitfox and taxi it around the airport.

The Kitfox took roughly an additional year and a half to complete. John and Duane took the time to collect all the necessary paperwork and inspections. Eventually it was decided to sell the aircraft in 2017 because we could not use it in our Flying Club Program. It had a very low weight limit and we needed a certified aircraft. A certification for an aircraft shows that its design and all component parts (including propellers, engines, control stations, etc.) are in compliance with airworthiness regulations. Proceeds from the sale of the Kitfox were then used to purchase our certified Cessna 150 that we use in our Flying Club still to this day.



As we look back, we want to extend the deepest gratitude to all of our many supporters that have helped us in any way.

Without your generosity, Flight Expo would not be able to accomplish its mission of promoting aviation through education and preservation.

*Making Dreams Become a Reality!*



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**S2F Tours**

Starting in April 2024, we will be hosting tours of the  
S2F Stoof.

United We Shiver was a huge success!  
We had 6 jumpers participate for Flight Expo. Dona-  
tions can still be made at Sherburne United Way  
through 2/17/24.

Spring Build a Plane begins in April  
2nd and runs through May. Clas-  
ses take place every Tuesday from  
5:30pm -8:00pm and every other  
Saturday from 9am—12pm. Youth  
ages 12-18 are encouraged to par-  
ticipate. Students will have the  
unique, hands-on opportunity to  
build real airplanes.

Class size is limited.

For more information or to register  
for Build a Plane or Flying Club,  
contact Sharon at  
[flightexpoinc@aol.com](mailto:flightexpoinc@aol.com)

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**Making Dreams  
Become A  
Reality!**