Dick Johnson, His Early Years

- Dick Johnson's Path to Becoming a Successful Innovator

His Life Long Passion for Aviation Started Early

1937 California State Hand-Launched Glider Champion. Age 14.

Northrop primary glider at what became Moffett Naval Air Station. Age 15. No instructor.

1940 Sailplane Nationals at Elmira, NY

- Dick and his brother Dave built a Baby Bowlus glider from a kit.
- Trailered it from California to Elmira, NY.
- Completed his pilot's license exam, finished 3rd. Age 17.

World War II Years

WWII Begins: Civilian Flight Instructor, Age 19

- Twenty Nine Palms Air Academy. Flying was 24x7, 6 hour shifts
- Obtained power license working a 2nd shift as a tow pilot.

Pan American Airlines/MATS, Age 20-24

- Co-Pilot for Boeing 314s and Constellations flying the Pacific.

- Left Pan-Am to pursue Aeronautical Engineering degrees

Mississippi State 1949-1952

The Influence of Dr August (Gus) Raspet

Dr August Raspet

- Believed devoutly in the scientific method, just show him the data.
- Flight test data trumped wind tunnel data or performance calculations.
- When the state of the art is insufficient to get the data, then seek new methods and instruments.
- Enthusiastically sought the big break through even at great risk of failure.
- Was impatient for the results.

Alice Johnson said "Dr Raspet's special genius was to inspire people to have confidence in their ideas, and to try them out."

Lessons from the RJ-5:
The Innovative Idea is (Only) the Start

•Received partially built sailplane at Mississippi State in 1949, the RJ-5

•The RJ-5 was the first sailplane designed with laminar flow airfoils. Laminar flow air foils were developed during WWII for high speed propeller driven fighter planes.

•Consensus of other sailplane designers was “That won’t work here .” Others believed sailplanes flew too slow, and could not meet the wing profile and smoothness requirements.

First test results were a disappointing 30-1 Glide Ratio

Lessons from the RJ-5 : Let the Data Decide What Works

- Began a series of improvements followed by careful performance measurements under Dr Raspet's direction.
- 7 major changes in 5 rounds of testing between June 1950 to July 1952.
- Some improvements were successful (but not all). Glide ratio improved to 40-1; 20% better than previous state-of-the-art

Finally, The “Game Changer”

- Won his first 4 National Championships with the RJ-5. Eventually 11 total.
- Broke 2 World Records. Straight Line Distance Record held for 12 years.
- All new competitive designs began using laminar flow

Conclusions:

Have confidence in your ideas, try them out and measure the results in real-world conditions.

Let data decide if an idea is correct.

There is no substitute for a good teachers and mentors. Search out and support the individuals, schools and institutions that teach people to be truly innovative.

Thank You

RJ-5 at National Soaring Museum
Elmira, NY