



*Missions for America  
Semper vigilans!  
Semper volans!*

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- 01 APR-ELT Training
- 04 APR-TRCS Staff Meeting
- 08 APR-ELT Training
- 11 APR-TRCS Commander's Call
- 15 APR-SAREX
- 18 April-TRCS Meeting
- 25 April-TRCS Meeting
- 02 May-TRCS Meeting Staff Meeting
- 09 May-TRCS Meeting Commander's Call
- 29 JUL-06 Aug-CTWG Encampment
- 19 AUG-Connecticut Aviation Day-GON
- 27 SEP-Scarecrow Festival-Preston

## SENIOR MEETINGS

28 March, 2023

*submitted by Lt Joanne Richards*

Maj Paul Noniewicz briefed the membership on engine-out scenarios.

Maj Scott Farley reported that a SAREX will be held April 15<sup>th</sup> with the focus on Communications, Air Crew, Ground Team and Incident Command.

## CADET MEETING

28 March, 2023

*submitted by C/SrA Adam Balfour*

C/LtCol Bosse led a seminar on leadership

First Sergeant Nicholas Buchko led the cadets in a STEM activity involving construction, observation and data recording of paper helicopters.



*Cadet Isenberg launches the whirly-bird, Trotochaud times it and Goodman records the datum.*

## PROMOTIONS AND ACHIEVEMENTS

The following TRCS members have been promoted and awarded service ribbons. Wing Commander Col Matthew Valleau and Deputy Commander James Whitesell presided.



*Cadet Grogan was promoted to Cadet Airman*

*Cadet Stahl was promoted to Cadet Senior Airman*





*Cadets Ryan and Stefanelli were promoted to Airmen First Class.*



*Cadet Knets was promoted to Cadet Chief Master Sergeant.*



*Captain Kopycienski was awarded a five year service ribbon and Cadet Schaeffer received his two year service ribbon.*



*Lts Steven Schmidt and Thornell were promoted to Captain.*

*Bosse Earns Private Pilot Certificate*



*C/Lt Col Noah Bosse receives his temporary certificate from his instructor, SM Micah Person*



*C/2d Lt Matthew Fago is awarded his NRA Distinguished Rifleman Badge.*

## ACTIVITIES



*Our honor guard presented the colors at the Marine Sciences Magnet School student-faculty basketball game.*



*C/CMSgt Knets and Captain Schmidt records the passage of runners at the O'Niantic Road Race.*

## *Rifle Training and Marksmanship Seminar*

On the 25<sup>th</sup> of March, 14 members of the Royal Charter Composite Squadron received training at the Quaker Hill Rod and Gun Club. Lts Col Rocketto was Chief Instructor and C/2d Lt Matthew Fago served as a line instructor.

## FEATURE ARTICLE

### ***Boom-Boom***

#### *Twin Boom Aircraft*

#### *Part 7*

#### *General Aviation, and Ag Aircraft.*

Beauty is not everything. Part 7 features a trio of aircraft, the Adams 500, an elegant design which went nowhere and two aircraft contesting for the distinction of being the ugliest airframes conceived by aeronautical engineers.

The Adams 500 was the development of Burt Rutan's Scaled Composites Model 309 technology demonstrator. The aircraft was powered by two Continental 350 hp engines mounted in a push-pull configuration of the twin boom fuselage. The aircraft is carbon-fiber epoxy construction, pressurized and demonstrated moderately good performance.



Only seven were built. The company went bankrupt, was acquired by a Russian firm and then a U.S. company which planned to reduce its weight and manufacture it in China. Nothing came of these efforts and the A500 is an orphan.

The Tranavia PL-12 Airtruk was designed in New Zealand but built in Australia and used as a crop sprayer and utility aircraft. She is an all-metal sesquiplane powered by a 300 hp Continental engine and can lift a one ton payload on an agricultural mission.



The Polish firm PZL produced the turbo-powered doppelganger of the Airtruk, the M-15 Belphegor (Noisy Demon). It is also a sesquiplane but sports a Ivchenko AI-25 turboprop producing 3,300 pounds of thrust. It claims the titles of the world's only jet biplane and world's slowest jet airplane

with a maximum speed of 120 mph.



*The Belphegor* (Credit: Japonik)

Reports indicate that Soviet agricultural officials pushed PZL into manufacturing the Belphegor with promises of huge orders but only 175 were ever built. Although it had a 3 ton payload, high maintenance demands, poor handling, a very short range and the Soviets who welshed on their commitment led to the closing of the production line.

### AEROSPACE CHRONOLOGY FOR THE WEEK

March 22, 1989 – The sole Antonov An-225 *Mriya* (Dream) sets a total of 106 world and class records during a 3 h 30 min flight carrying a Buran orbiter. The gross total weight at take-off was 1,120,400 lb.

The *Mriya* was destroyed on February 27, 2022 when the Russian forces attacked Homestel Airport northeast of Kyiv. Plans have been announced to rebuild the aircraft using parts from an unfinished An-255. One might think that the Ukrainians have enough on their plate at the present time and that the reconstruction, like the aircraft's name, “Dream” is more likely “pie in the sky.”

*Buran* (Blizzard) is the class name of Soviet orbiters which, like NASA's orbiters were designed to shuttle crews and cargos between earth and low orbit. The lead ship, *Buran*, was the only flightworthy article completed and it flew a successful unmanned flight in November of 1988. She was destroyed in 2002 when the roof of the

building in which she was stored collapsed.



*Mriya & Buran (Credit: Paul Manteufel)*

NASA used two “Space Carrier Aircraft (SCA)” converted Boeing 747s. The empty weight of an SCA is 318,000 pounds about half of that of the An-225's 628,000 pounds. The all-up weight of both aircraft are in a similar ratio. 710,000 pounds compared to 1,411,000.

The empty weight of an Orbiter is 172,000 pounds, almost twice that of Buran's 93,000 pounds, curious reversal of the weight ratio's of the carrier aircraft.

March 23, 1965 – Scandal in low earth orbit. Virgil Grissom and John Young complete three orbits in the initial flight of NASA's two-man space vehicle, Gemini 3. But another first is recorded, the first corned beef sandwich to orbit the earth.



*What! No pickle! (Credit: NASA)*

Wally Schirra, the back-up pilot for Gemini 3 and an inveterate prankster gave Young a corned beef on rye sandwich which had been purchased two days earlier from Wolfie's Restaurant and Sandwich Shop in Cocoa Beach. During the flight,

Young produced the sandwich from a pocket of his flight suit and offered it to Grissom who looked at the crumbly nosh.



*Grissom: What is it?*

*Young: Corn beef sandwich.*

*Grissom: Where did that come from?*

*Young: I brought it with me. Let's see how it tastes. Smells, doesn't it?*

*Grissom: Yes, it's breaking up. I'm going to stick it in my pocket.*

*Young: Is it?*

*Young: It was a thought, anyways.*

*Grissom: Yep.*

*Young: Not a very good one.*

*Grissom: Pretty good, though, if it would just hold together.*

When the word got out, some Congressman went ballistic. The “space food” aboard was not tested an “millions of dollars” was wasted. Imagine! The House Appropriations Committee convened to investigate the incident.

NASA officialdom were stewing because weightless crumbs from the smuggled treat could drift around inside the capsule and gum up circuitry or foul the air system. But the astronauts noted this issue and took due care, a conclusion supported by their dialogue mentioned above.

Young was reprimanded but he went on to fly six space missions, walk on the moon become Chief

of the Astronaut Office and retired after 42 years of service with NASA.

March 24, 1960 A jet airliner exceeded Mach 1 for the first time in history, when a DC-8-43 hit 667 mph in a shallow dive.

The aircraft was on a test flight at Edwards AFB. Chuck Yeager was flying chase in an F-104. The DC-8 was crewed pilot William Magruder, copilot Paul Patten, flight engineer Joseph Tomich, and flight test engineer Richard H. Edwards.



At 52,000 feet, Magruder pushed over and the DC-8 hit Mach 1.01 for about 16 seconds around 43,000 feet. Recovery was not easy and forces on the elevator and stabilizer prevented recovery until the aircraft reached 35,000 feet.

The aircraft, N9604Z, was delivered to Canadian Pacific Air Lines and flew for 19 years before being scrapped.

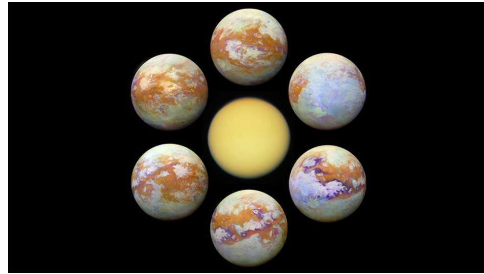
March 25, 1655 – Dutch astronomer Christian Huygens discovered Titan, the largest of Saturn's 83 moons, 20 more are awaiting confirmation.



*Caspar Netscher painting of Christian Huygens*

Huygens not only discovered Titan but was the first to explain the strange appearance of Saturn as its rings. He also made numerous contributions to physics, most importantly, the application of mathematics to mechanics and optics. As an inventor, he is credited with the pendulum clock and the Huygenian eyepiece for telescopes.

Huygens was regarded as the greatest scientist in Europe during the pre-Newtonian era.



*NASA/JPL imagery in visual light and infra-red.*

Titan is, after Jupiter's Ganymede, the second largest natural satellite in the solar system. It has an atmosphere composed of 97% nitrogen with trace hydrocarbons and somewhat denser than the atmosphere of the earth. A probe which landed on the surface shows evidence of water ice and a rocky plain with some evidence of erosion.

March 26, 1940 – First flight of the Curtiss C-46 Commando. The Commando was derived from the Curtiss CW-20 pressurized airliner. Less well known than the C-47 Skytrain, it had numerous design deficiencies and was a maintenance nightmare during its service life. However, it could lift twice as much as the C-47 and fly twice as far so it was tolerated but not enjoyed as a “trash hauler.”



Three times more Skytrains were produced than Commandos but under the exigencies of war, the C-46 found a place flying “the Hump.” In Europe its lack of self-sealing fuel tanks made it an easy victim for experienced German anti-aircraft crews as it flew low and slow to drop paratroopers.

Post war the Commando was adopted by both legacy and start-up airlines but its 2,000 hp P&W Double Wasps consumed prodigious amounts of fuel and the costs caused its abandonment except on specialized cargo routes.

Eddie Allen was one of the earliest professional test pilots with solid academic credentials and a vast experience flying as a contact pilot for Douglas, Boeing, Northrop and Sikorsky. Among the aircraft which he flew before 1940 are the Boeing 307 and 314, the Northrop Alpha, Beta and Gamma, the Sikorsky S-43 and VS-44.



Eddie Allen

After Boeing hired him to head its research division, he flew all of the B-17 marks. During the war Allen flew the first flight of the B-29 but was killed in 1943 when the second prototype caught fire and crashed.

March 27, 1927 – Charles A. Lindbergh, an airmail pilot for Robertson Aircraft Corporation out of St. Louis files an entry for the \$25,000 Raymond Orteig prize to be awarded for the first solo crossing of the Atlantic Ocean. Previously, Lindbergh kicked in his \$2,000 savings, Robertson provided a thousand more and some St. Louis business men backed a \$15,000 bank loan. Failing to arrive at terms with a series of aircraft manufacturers, Lindy contracted with San Diego's Ryan Aircraft Company to build the unique Ryan NYP (New York to Paris).

On February 23, Lindy met with Ryan owner Benjamin Franklin Mahoney, factory manager Hawley Bolus and chief engineer Donald Hall. Mahoney offered to build the NYP based upon their Ryan M-1 for \$10,580 and deliver it in 60 days.

**RYAN AIRLINES, INC.**  
BUILDERS OF AIRCRAFT  
OPERATORS  
LOS ANGELES-SAN DIEGO AIRLINE  
SAN DIEGO, CALIF. April 4 1927.

SOLD TO Capt. Chas. Lindbergh, San Diego, Calif.		
1 Air Speed Indicator type 170, C-140	50.00	
Less 20 %	10.00	
	40.00	
P ostage	.37	40 37
1 Earth Conductor Compass	750.00	
Less 20 %	150.00	600 00
1 Speed & Drift Meter, #54, base plate, carrying case	75.00	
1 Speed Timer type #93	18.00	
1 8-day Waltham Clock, with mount #314	38.00	
1 Compass, type 145, flush mounting completely illuminated	65.50	
1 Lateral & Longitudinal Inclinometer, liquid type	35.00	
	225.50	
Less 20%	45.10	180.40
1 Type 103C Bank and Turn Indicator, with Venturi Tube V74	125.00	
Less 20%	25.00	
	100.00	
Plus delivery from L.A. Stock	2.50	
	102.50	102.50
		\$925.27

*Recd Payment 4-4-27  
J. Edwards*

Any airplane after purchase is still a bottomless money pit.

Feb 26, 1927

**The Raymond Orteig \$25,000 Prize**  
PARIS-NEW YORK — NEW YORK-PARIS  
Trans-Atlantic Flight

(Under the rules of the Fédération Aéronautique Internationale of Paris, France, and National Aeronautic Association of the United States of America of Washington, D. C.)

**ENTRY FORM**

Name of Aviator (insert in full) Charles A. Lindbergh  
Address 2830 E. W. Washburn, St. Louis, Mo.  
Aviator's F. A. I. Certificate No. 5886 Issued by National Aeronautic Ass'n.  
Aviator's Annual License No. 13971 Issued by National Aeronautic Ass'n.

PARTICULARS RELATING TO THE AIRCRAFT INTENDED TO BE USED:

Type, (Monoplane, Biplane, Hydroplane, Flying Boat, etc.) NYP Ryan Monoplane  
Wing area in sq. ft. 220  
Make and type of engine V8 Pratt & Whitney 185 hp  
Approximate capacity of Fuel Tanks 425 gal

I, the undersigned, Charles A. Lindbergh, of St. Louis, Mo., hereby enter for the Raymond Orteig "New York-Paris" \$25,000 Prize upon the following conditions:

1. I agree to observe and abide by the Rules and Regulations for the race being in issue and governing the contest, and to accept in all respects and in all times with the complete instructions regarding the contest, which may be given to me by any of the Officers of the National Aeronautic Association of the United States of America.

2. In addition to, and not in lieu of, limitations of the liabilities assumed by me by this entry under the said Rules and Regulations, I agree also to indemnify the National Aeronautic Association of the United States of America and the "Trans-Atlantic Prize" and the "Raymond Orteig" fund, the donor of the New York-Paris Flight Prize, or their representatives or servants, or any other competent parties all claims and damages arising out of or caused by any accident, flight or descent made by me whether or not such claims and damages shall arise directly out of or from actions or out of the race, actions or proceedings of any person proceeding by tortious or by present or such action or default.

3. I declare my certified check for \$25,000 to the order of the Treasurer of the Raymond Orteig \$25,000 Prize, being Interest Free, and request to be entered on the Conqueror's Register of the National Aeronautic Association of the United States of America.

Signed Charles A. Lindbergh  
Address To be Harry H. Knight  
401 Olive St.  
St. Louis, Mo.

(Notary Seal)  
Subscribed and sworn to before me this 26th day of Feb, 1927.  
Date Feb. 26, 1927  
This check is to be presented and deposited with certified check to The Contest Committee of the National Aeronautic Association at No. 1623 H Street, Washington, D. C., and unless there is directly communicated to

The Secretary of the  
Raymond Orteig, Twenty-Five Thousand Dollar Prize  
in Air and River Mail of America  
31 West 40th Street, New York City



The Ryan crew which built the Spirit of St. Louis poses for a picture just before its departure. Lindy is 7th from left and Mahoney and Bolus are the two "suits" on the far right. Douglas Corrigan who had his own dream of flying the Atlantic is 6th from the right.

Three months after contracting for the Ryan NYP and two month after filing his entry Lindbergh departed Roosevelt Field on May 20th and flew east into history.

March 28, 1948 –The newly formed USAF seeking global reach initiates aerial refueling experiments using a Boeing KB-29M tanker and a B-29MR receiver. The system developed by Flight Refueling Ltd. Prewar was adopted.



*KB-29M in an early test refueling a B-29.*  
(Credit: USAF)

The first experiments used the “looped hose” method. The KB-29M tanker flies above and to the left of the receiver and unroll a fuel hose with a 55 lb weight attached to make it hang vertically. KB-29MR receiver would trail a hose with a grapnel, held horizontal by a sea anchor-like cone. The tanker would then fly over the receiver and grapple the tanker line, haul it aboard, attach it to the fueling system and start pumping. After the fueling was completed, the process was reversed and both aircraft recovered their respective lines

*Lucky Lady II refueling from a looped hose on its circumnavigation of the globe.* (Credit: USAF)



In 1949, the “looped hose” method was used to refuel a B-50 Superfortress which circumnavigated the world in a 94 hour flight. Four refuelings were required. The flight won Congressional support for the Air Force argument that they should be awarded funding for the global mission The new Strategic Air Force gobbled up a large part of the defense budget and the Navy's super-carrier, to be named *USS United States*, was broken up on the stocks. They Navy lost their chance for the first

true “flat-top” since their first aircraft carrier, the *USS Langley*.



*The aborted 1950 “super-carrier” and the Langley, 22 years of service before being sunk by the Japanese in 1942.*



*The Langley was a converted collier and ended up as an aircraft tender transporting P-40s to Java when she was sunk by Japanese bombers.*  
(Credit: US Navy)

The system was unusable by fighter aircraft with no crews to do the heavy work. Flight Refueling Ltd offered the probe and drogue system. A cone is fitted to the end of the refueling line trailed by the tanker and the fighter pilot maneuvers his aircraft to fit a probe on his aircraft into the drogue trailed by the tanker.



*Modified Lancaster refueling Meteor with the probe and drogue.* (Credit: Flight Refueling Ltd.)