## Ode to E Pluribus Unum for Sunday June 9 2024



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# Manicouagan Impact Crater from Space



Manicouagan Impact Crater from Space Image Credit: NASA, International Space Station Expedition 59

Orbiting 400 kilometers above Quebec, Canada, planet Earth, the International Space Station Expedition 59 crew captured this snapshot of the broad St. Lawrence River and curiously circular Lake Manicouagan on April 11.

Right of center, the ring-shaped lake is a modern reservoir within the eroded remnant of an ancient 100 kilometer diameter impact crater. The ancient crater is very conspicuous from orbit, a visible reminder that Earth is vulnerable to rocks from space. Over 200 million years old, the Manicouagan crater was likely caused by the impact of a rocky body about 5 kilometers in diameter.

Currently, there is no known asteroid with a significant probability of impacting Earth in the next century. Each month, NASA's Planetary Defense Coordination Office releases an update featuring the most recent figures on near-Earth object close approaches, and other facts about comets and asteroids that could pose a potential impact hazard with Earth.

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## Air Force Museum's Mighty XB-70 Mach 3 Test Bed

Three drag chutes were needed to slow down the landing roll of the XB-70. (Image credit: Reddit edit The Aviationist)

The North American XB-70 Valkyrie was the most ambitious super-bomber project of the Cold War. This enormous six-engine bomber was intended to be the ultimate American high-altitude, high-speed, deep-penetration manned nuclear bomber, designed to fly high and fast enough to evade Soviet interceptors.

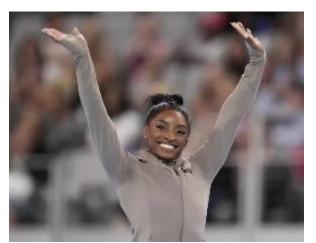
The XB-70 was the world's largest experimental aircraft, capable of flying at speeds up to Mach 3 (approximately 2,000 miles per hour) at altitudes of 70,000 feet. The XB-70 measured about 186 feet in length, stood 33 feet high, and had a wingspan of 105 feet.

#### https://bit.ly/4e01PY9

Two things: If you want to see the XB-70 you have to go to the Airforce Museum at Dayton, Ohio's Wright Patterson AFB; the second thing, go there.

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### Simone Biles Wins 9th All-Around Title at U.S. Championships



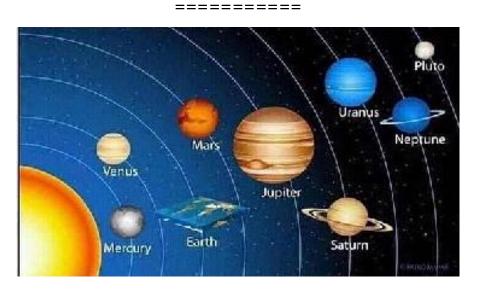
Simone Biles waves during introductions for the U.S. Gymnastics Championships Sunday, June 2, 2024, in Fort Worth, Texas. (AP Photo/Julio Cortez)

The win came after Simone Biles cruised through the U.S. Classic last month

In front of an audience that included her husband, Chicago Bears safety Jonathan Owens, Biles put on a four-rotation clinic that featured all the trademarks of a typical Biles performance. There was jaw-dropping athleticism mixed with precision and more than a splash of swagger.

Biles finished with the highest two-day score on all four events, something she'd done only once before at nationals (2018).





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## **Employee Honorees Celebrate New Team USA Aircraft**



Delta

The Team USA-inspired A350 celebrates Delta's eight-year partnership with the United States Olympic and Paralympic Committee, which runs through the Los Angeles 2028 Olympic and Paralympic Games.

https://bit.ly/3y65TFy

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## **Break Dancers Ready to Show Off a Paris Games**



Leila Register / NBC News; Getty Images

The athletes are excited to showcase their unique moves on the world's biggest stage. One longtime breaker hopes the Olympic spotlight also leads to more opportunities for the sport.

> https://bit.ly/458RNzK Oh lordy...I hope not.

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## **Inside The Short-Lived Fallout Shelter Bubble**



A backyard fallout shelter in San Francisco. (Bettmann/Getty Images)

When you think about fallout shelters, you might imagine public buildings adorned with a faded gold nuclear sign. You might think of doomsday preppers or the intricate vault in the popular Amazon series "Fallout" where protagonist Lucy spends her life underground.

But for about six months in 1961 fallout shelters were a massive bubble, a consumer sensation displayed at the local mall and advertised in the pages of Life magazine. Hundreds of shelter companies entered the industry, marketing their product like any household need. The difference was that shelter companies wanted to convince Americans that if they didn't have one their families would perish.

#### https://bit.ly/3VerAv8

I heard of these of course but never knew of one. Ditto the "duck and pray" silliness of East Coast schoolroom. But tucked way away on the left coast, I and my classmates were happily ignorant of such shenanigans.

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#### **New Entry Permit Requirements for 6 National Parks**



Arches National Park Anthony Heflin // Shutterstock

According to reports from the National Park Service, destinations like Arches and Rocky Mountain National Parks have seen record visitation numbers in recent years, resulting in unprecedented overcrowding.

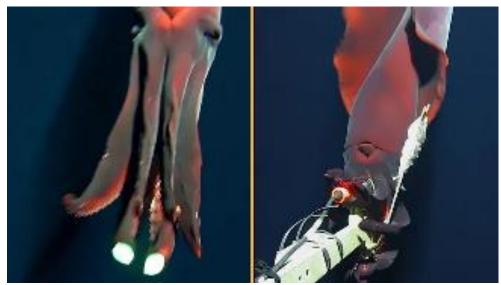
Fortunately, the National Park Service is already taking steps to save our national parks from being visited to death. Most notably, several of the nation's most-visited parks have implemented permit systems, which require visitors to make advance reservations

to enter. This helps park officials manage traffic flow and prevents parks from becoming overwhelmed by numbers they can't accommodate.

https://bit.ly/458IcJb

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## Watch as Biological Light 'Octopus Squid' Attacks Camera



The elusive squid species use their large photophores to stun and disorientate prey during an attack.

(Image credit: UWA/Inkfish)

Watch rare footage of deep sea "octopus squid" reveal its bioluminescent photophores as it attacks an underwater camera.

https://bit.ly/4e6jE7W

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## **Blood Test That Can Detect Colorectal Cancer Nears FDA Approval**



Guardant Health

When you think of colorectal cancer screenings, a colonoscopy is likely the first thing that comes to mind. However, that could soon change, as a straightforward blood test that can detect the disease is getting closer to gaining approval by the Food and Drug Administration.

Developed by Guardant Health, the screening method detected 83.1% of colorectal cancer cases in a <u>clinical trial</u>. And unlike other, more invasive tests, the procedure is done via a simple blood draw with no preparation on the patient end required.

Last week, the majority of independent advisors at an FDA panel meeting concluded that the tool is safe and its benefits outweigh any risks, an important milestone at a time when colorectal cancer rates are rising among young people and early detection is essential. A decision on the tool is expected later this year — in the meantime, <u>learn</u> <u>more about how it works</u>.

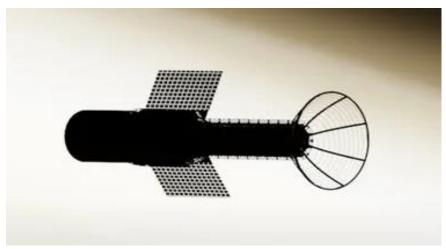
Does this mean the demise of the "bend over and say ahh," regimen?



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## Can a Pulsed Plasma Rocket Cut Mars Transit Time to 2 Months?

If so the PPR enables a whole new era in space exploration.

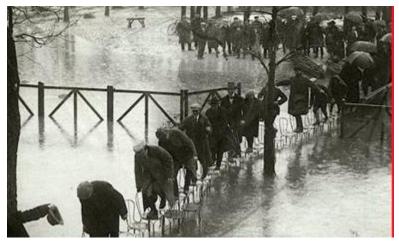


An illustration of Howe Industries' Pulsed Plasma Rocket (PPR) concept. (Image credit: Howe Industries via YouTube)

The Pulsed Plasma Rocket (PPR), under development by Howe Industries, is a propulsion system designed to be far more efficient than current methods of deep space propulsion, enabling the trip between Earth and the Red Planet to be made in just two months. Specifically, the rocket will have a high specific impulse or Isp, a measure of how efficiently an engine generates thrust. This technology could therefore enable astronauts and cargo to travel to and from Mars more efficiently and rapidly than existing spacecraft, according to a statement from NASA.

https://bit.ly/3yov5rc

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### **102 Rare Historical Photos**

youtube

https://youtu.be/VhB4xcq4A7U

## United's Safety Video Hopes to Capture Your Attention.



On the set of United Airlines' new onboard safety video in Montreal, Canada. Courtesy of United Airlines https://youtu.be/Jep3RR2yEXA

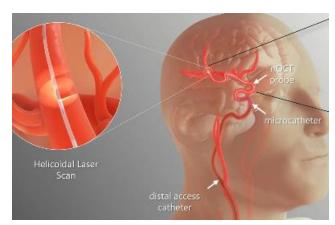
United is hoping that some very long days on set will be worth it. Airlines are constantly fighting for the attention of their passengers who are distracted by screens of their own. It's a constant challenge to make those passengers focus on the safety briefing that's required before every commercial flight — thousands of times a day, every single day of the year.



Do you think the people they're worried about can read?

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## "Snake-like" Probe Images Arteries from Within



The new fiber-optic probe is flexible enough to snake through the body's arteries and provide previously unavailable information to surgeons.

Pereira Et Al./Science Translational Medicine

The new fiber-optic probe could transform aneurysm and brain clot treatments

Whereas before, with technologies such as CT scans, MRIs, ultrasounds, and x-

rays, clinicians had a satellite-like view of the brain's vascular network, now they have a Google Street View-like perspective, complete with in-depth views of artery walls, plaques, immune cell aggregates, implanted device positions, and more.

https://spectrum.ieee.org/fiber-optic-probe

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## Scallions vs. Green Onions: What's the Difference?

When a recipe calls for scallions, you can safely substitute the ingredient for green onions ... because they're the same thing. J Uanmonino / Getty Images

Scallions and green onions belong to the same family of plants. Specifically, they belong to the Allium genus. Other alliums include spring onions, the Welsh onion (Allium fistulosum), the common onion (Allium cepa), shallots, leeks and garlic.

Spring onions are slightly different. People often confuse them with green onions, but they're actually a less mature version of the same plant.

You can easily tell a spring onion apart from an immature onion because a spring onion has a bulb and a stronger flavor than a scallion, although chefs and home cooks use them similarly in cooking.

https://bit.ly/4dIPyak

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#### **Dolly Parton Doughnuts at Krispy Kreme**



Free for those who dress the part or sing her music. Kryspy Kream

"Krispy Kreme and Dolly Parton have a special thing in common -- we both love to share joy," said Dave Skena, global Chief Brand Officer for Krispy Kreme. "It was a joy -- and an honor -- to collaborate with Dolly to create her signature doughnut collection. These doughnuts are going to dazzle and delight fans just like Dolly herself."





#### What Is Exascale Computing?

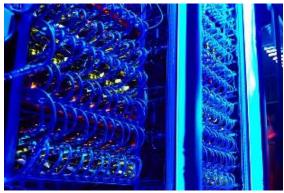


Image: Shutterstock

These warehouse-sized supercomputers may lead the way to more personalized medicine and sustainable climate action.

Exascale computing is a type of high-performance supercomputing that can solve one exaflop — or one quintillion operations — per second. In terms of processing power, exascale computers are the most powerful machines in the world.

Using advanced modeling and simulations, these hefty hardware systems crunch vast data volumes to provide predictive analysis about national security, precision medicine and climate research that unlock new competition in the realms of science and computer engineering.

https://builtin.com/articles/exascale-computing

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### New Exascale Supercomputer



Aurora and the upgraded Advanced Photon Source to power discovery at Argonne Argonne

The world's fastest supercomputer remains Oak Ridge National Laboratory's Frontier system in Tennessee, ranking No. 1 in the semiannual list of the 500 most powerful systems. However, it is no longer the only exascale machine on the list, with the Argonne Leadership Computing Facility's Aurora system in Illinois taking the No. 2 spot and becoming the second-ever to break the computing barrier.

Both the Frontier and Aurora supercomputers are supported by the Department of Energy and can measure over a quintillion calculations per second, reaching the threshold for exascale computing (see 101). Among other applications, the massive computing power of both Frontier and Aurora are expected to help uncover insights into complex systems, including climate, artificial intelligence, and molecular-level medicine. The computing power is believed to be comparable to that of the human brain.

The US accounts for roughly one-third of the top 500 supercomputers, including the fastest cloud system, Eagle, which runs on the Microsoft Azure cloud. China accounts for 16% of the list.

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#### Why Does Tesla Want to Build Its Own \$1 Billion Supercomputer?

Tesla's Dojo supercomputer will handle petabytes of data generated by its cars' Autopilot and Full Self-Driving modes

Photo: Annegret Hilse (Reuters)



While the trillion-dollar club of Google, Microsoft, and Meta plan to be the first users of Nvidia's supercomputer, Tesla has decided to build its own. The EV manufacturer has announced an ambitious project to build a powerful computer to store and manage the petabytes of real-time data generated by millions of Teslas worldwide, as its car sales keep rising.

https://gz.com/elon-musk-tesla-supercomputer-evs-data-project-dojo-1850658578

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2024 Milky Way Photographer of the Year Contest



(Image credit: Julien Looten)

From dangerous lion reserves to high mountain peaks, photographers go all out to capture the most spectacular images of our galaxy in this year's Milky Way Photographer of the Year competition.

https://bit.ly/3wXgaUB

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## 12-Year-Old Is First Patient to Start New Sickle Cell Gene Therapy



Brendan Smialowski/AFP via Getty Images

At just 12 years old, Kendric Cromer is making medical history. He's the first person with sickle cell disease to undergo commercially licensed gene therapy, a newly approved treatment that could help cure the condition.

The preteen's medical journey comes less than six months after the Food and Drug Administration authorized two companies to

sell gene therapy to those with the genetic blood disorder, which can cause extreme pain, inflammation, infections, and other medical issues.

"Sickle cell always steals my dreams and interrupts all the things I want to do," Cromer, who's being treated at Washington, D.C.'s Children's National Hospital, told The New York Times. The hope is that gene therapy, which proved successful in clinical trials, will change not only his life but also those of the estimated 20,000 people with the disease who qualify for the treatment in the U.S.

Cromer, who qualified due to the severity of his sickness and his insurance coverage, is already thinking about a future without sickle cell — the A student said he wants to play basketball and then go on to become a geneticist. "I want to be cured," he shared. Read more about his medical journey.

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### **Unique Museums Around the World**



The Lindt Home of Chocolate

Everything from chocolate to cat art and broken relationships

In a world with approximately 55,000 museums, there's bound to be an exhibit for every type of interest and no such thing as too niche.

https://bit.ly/44BgILU

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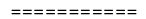
## Why Americans Stopped Buying Convertibles



davidsclassiccars

We've traded the open-air dream for climate-controlled isolation.

https://thehustle.co/originals/why-americans-stopped-buying-convertibles



## **DNA Study Reveals Mating Customs of Magyars**

Analysis of hundreds of burials in Hungary traces longest known family tree—and absent daughters



Dozens of Avar people buried at the Rákóczifalva site in Hungary, which was excavated in the early 2000s, were biologically related to each other Institute of Archaeological Sciences/Eötvös Loránd University Museum

The strict patrilineal system and marriages to nonlocal women seem to have helped the Avar avoid inbreeding: After analyzing the DNA of hundreds of people, the team found no examples of children born to close relatives or even to people separated by up to five degrees. Oral tradition likely helped the Avar keep bloodlines straight over the course of centuries, preventing marriages to distant cousins. "We don't know much about the Avar language, but it seems we know one of the things they communicated about," Hofmanová says.

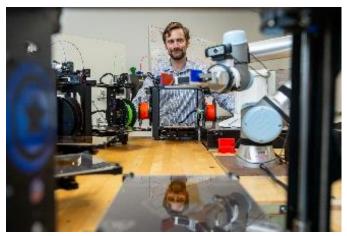
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### A Robot on a Mission



*Keith Brown, an ENG associate professor of mechanical engineering, stands with autonomous researching robot, MAMA BEAR, in his lab at BU. Boston University* 

See how an autonomous robot created a shock—absorbing shape no human ever could—and what it means for designing safer helmets, packaging, car bumpers, and more

To do this, the robot creates a small plastic structure with a 3D printer, records its shape and size, moves it to a flat metal surface—and then crushes it. The robot then measures how much energy the structure absorbed, how its shape changed after being compressed, and records every detail in a vast database. Then, it drops the crushed object into the box and wipes the metal plate clean, ready to print and test the next piece.

It will be ever-so-slightly different from its predecessor, its design and dimensions tweaked by the robot's computer algorithm based on all past experiments—the basis of what's called Bayesian optimization. Experiment after experiment, the 3D structures get better at absorbing the impact from getting crushed.

https://bit.ly/4ccp3s2

Can you sense the fractal-based helmet just waiting to be born?

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## When Pilots Miss the Arrestor Cables During Carrier Landings



fighterjetword.com

https://youtu.be/TRc-J0rwFUw

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## Ford's New Tech Campus, a Century-Old Detroit Train Station



The restored grand waiting room inside Ford's Michigan Central Station in Detroit. Michael Wayland / CNBC

Ford officials went to great lengths to restore the station to its original glory after decades of vandalism and decay. The project involved 3D-scanning the rooms, matching materials and referencing historical photos to recreate parts of the building.

https://bit.ly/4aVhIBM

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## **Mother Goose**



youtube

Mother Goose is often cited as the author of hundreds of children's stories that have been passed down through oral tradition and published over centuries. Various chants, songs, and even games have been attributed to her, but she is most recognized for her nursery rhymes, which have been familiar with readers of all generations. Her work is often published as Mother Goose Rhymes.

Despite her celebrated place in children's literature, the exact identity and origin of Mother Goose herself is still unknown. Some believe that the original Mother Goose was a real woman who lived in Boston during the latter half of the 17th century. After being widowed by Isaac Goose, a woman named either Elizabeth Foster Goose or Mary Goose (depending on sources) moved in with her eldest daughter, entertaining her grandchildren with amusing jingles which quickly gained popularity with the neighborhood children. According to the legend, her son-in-law, a publisher, printed her rhymes, and thus the reputation of Mother Goose was born.

Regardless of Mother Goose's origins, Charles Perrault was the first to actually publish a Mother Goose collection of rhymes and other folk tales in 1697, essentially initiating the fairy tale genre. With the subtitle Les Contes de ma Mère l'Oie (Tales of my Mother Goose), the collection quickly gained popularity all over France. By 1729, Perrault's collection had been translated into English, in the form of Robert Samber's Histories or Tales of Past Times, Told by Mother Goose. Samber's volume was eventually republished in 1786 and brought to the U.S.

English publisher of children's literature John Newbery later focused on the nursery rhymes, publishing Mother Goose's Melody, or, Sonnets for the Cradle, which helped Mother Goose become further associated with children's poetry.

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#### Baa, Baa, Black Sheep

Baa, baa, black sheep Have you any wool? Yes sir, yes sir, three bags full. One for the master, And one for the dame, And one for the little boy Who lives down the lane.

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### Humpty Dumpty sat on a wall,

Humpty Dumpty sat on a wall, Humpty Dumpty had a great fall; All the king's horses and all the king's men Couldn't put Humpty together again.

## Jack and Jill

Jack and Jill went up the hill To fetch a pail of water; Jack fell down and broke his crown, and Jill came tumbling after.

Up Jack got, and home did trot, As fast as he could caper, To old Dame Dob, who patched his nob With vinegar and brown paper.

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## Leap Year Poem

Thirty days hath September, April, June and November. All the rest have thirty-one, Excepting February alone, And that has twenty-eight days clear And twenty-nine in each leap year.

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### Hot-cross buns!

Hot-cross buns! Hot-cross buns! One a penny, two a penny, Hot-cross buns! If you have no daughters, Give them to your sons; One a penny, two a penny, Hot-cross buns!

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## **Chords & Riffs**

### Maurice Ravel's Suite Ma mère l'oye / Mother Goose Suite



Youtube

Maurice Ravel's Mother Goose Suite, originally written as a piano duet and later orchestrated, is a delightful and enchanting work that brings to life the magical world of fairy tales.

The suite opens with "Pavane of the Sleeping Beauty," that captures the charm and innocence of the tale.

The second movement, "Tom Thumb," is a lively and playful piece that captures the mischievous spirit of the story.

In "Laideronnette, Empress of the Pagodas," Ravel draws upon Eastern musical influences to portray a magical world of exotic beauty.

The fourth movement, "Conversations of Beauty and the Beast," explores the poignant and transformative nature of love. Ravel's sensitive and expressive writing captures the tender interactions between the two characters.

The suite concludes with the exuberant and joyful "The Fairy Garden." The music transports the listener to a magical realm where all the fairy tales converge. Ravel's lush orchestrations and brilliant use of the full orchestra create a sense of grandeur and celebration. The movement is a musical kaleidoscope of melodies and rhythms, bringing the suite to a magnificent and triumphant close.

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Piano Four Hands - ChamberFest Cleveland https://youtu.be/78Q1fPlraKw

London Philharmonic Orchestra Sian Edwards <u>https://youtu.be/z3YGf7\_8RWA?t=1</u> \*\*\*

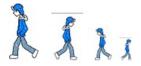
A curious thing happens when I hear this: I find tears pouring effortlessly.

Statue of David returns to Italy after 3 years in the USA



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**My Walking Thoughts** 



For Sunday June 9 2024

## Mounting the Mighty T-28 Trojan: Monday, June 27, 1960

After stopping by the VT-2's ready room to find we'd have to wait until Monday for our first flights, Lieutenant Winans led Tom Williams and me to NAS Whiting's North Field flight line where he introduced us to the bird.

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airliners.net

As we approached bureau number 138242 (No, not a terrific memory. I wrote it in my little notepad) I felt an ominous warning tingle near the base of my spine. To my very limited experience, the bird was huge--I mean humongous—standing so tall I couldn't see the top of the wing standing on my tiptoes, and that wasn't half the story. Face it, the T-34 had been a tinkertoy compared to this throwback to the behemoths that slugged it out over the Pacific during WWII. No frills, just oil streaks, gristle, and calloused knuckles…hard-assed reminders of what Naval Aviation was really about.

After a half-hour checkout of features Lt. Winans thought we should take careful note in our preflight inspections, he dismissed us with the happy thought that on Monday we would get to the fun stuff.

"*But still,*" I thought, "*the damn bird is huge...and it's got more pieces in it than a flightline full of T-34s,*" thoughts that pestered me throughout the rest of the weekend, a condition well understood by Chief Petty Officer Ramirez, who advised me to run down to Panama City, get a six-pack and chat up some girls that frequented the beach.

"It'll help untangle your mind," he pronounced and while he was pretty much right, the visage of the monstrous T-28 still worried me as I struggled to sleep on Sunday night.

At precisely 0730 on Monday, the VT-2 Skipper welcomed us to the fold, then turned us over to the squadron safety officer who regaled us as to the importance of following 'The Rules,' not that I had any idea what these might be other than not to crash or do anything else that was in his estimation stupid.

"*But the damn aircraft is so huge,*" my worry wart-self kept after me so I missed a lot of the pantheon of stupid actions I should avoid. Before I carried my concerns into dangerous waters, however, Lt. Winans signaled me that it was time to 'kick the tires' reminding me that as in all military organizations Trottis came before Williamses.

As we emerged from the hangar garbed for flight with g-suit and parachute, we were greeted by the tortured whine of starter motors prodding reluctant Wright 9-cylindar radial engines into life, all of which gave way to the gorgeous melodies that poured forth as birds settled into their soothed and soothing 1200 rpm cadence. If that wasn't enough to make a heart go pitty-pat, then the smell of burning 115/145 avgas along with plumes of exhaust smoke took care of the job.

After Lt. Winan's Friday's demonstration, the walkaround inspection seemed logically simple except for the little matter of the rear cowling that he reminded me was particularly important since if it broke off in flight it could tear the canopy off...not good. It was an inauspicious start, but the day was young.

Then it was time to clamber up footholds on the lefthand flap, put my left foot carefully on the small step beneath the front cockpit and enter gingerly without disturbing any of its handles and switches . Waiting for me was a wizened plane captain who giggled at my efforts to cinch the seat and parachute belts and plug in the radio and oxygen lines. It seemed to take forever, but finally after I went through the lengthy prestart checklist I was truly and properly strapped in and ready to go.

"Ok, get your mind in gear before you fire up and don't get in a rush to go from idle cutoff to rich," Winans suggested over the intercom, reminding me of the 1820's tendency to foul spark plugs if you added too much fuel.

"*Yeah, I know*," I thought, having tried this at least a hundred times in ground school, but at the same time his wake-up call helped me focus on the tasks ahead. "

"Crack the throttle about two inches (I could feel is hand on the rear cockpit throttle just in case I went too far) and signal the plane captain you're ready to start."

After receiving an 'all clear' signal and taking a couple of deep breaths I engaged the starter and began counting blades. "One...two...three...four...five...six...seven...eight," I chanted aloud, then switched magnetos to *Both*, depressed the Primer, and prayed.

With a short series of chuff...chuff... chuffs followed by a solid bang, the engine caught, stumbled, then found its footing as the tachometer climbed to 1200 rpm where it established a steady idle. After releasing the primer and moving the fuel control slowly to *Full Rich* it was time to breathe again and check all the gauges.

"*Oil pressure coming into the green,"* I told myself. "*Generator 28 volts...blah blah blah...and no fire. That's good. Time now for the Pre-Taxi checklist."* 

"Ok, Trotti," Winans said with just a touch of anxiety, "So far so good. When you're ready, signal the ground crew to pull the chocks and call for taxi."

"*What the hell is my call sign*," I wrestled a pang of terror, then remembered, "Whiting Ground, 2 Whiskey 242 ready for taxi."

"242. You're cleared to taxi Runway 21. Wind 230 at 7 knots. Altimeter 29.96. Caution construction at the parking ramp throat."

"Throttle forward...not too much...there...tap the brakes to check them...right brake to line up on the corridor centerline strip...scootch the power back a bit. Just listen to that beautiful carrump...carrump...carrump coming from that slumbering giant."

The fat was now on the fire, so next week we'll see of what stuff the bird, Lieutenant Winans, and I are made.

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