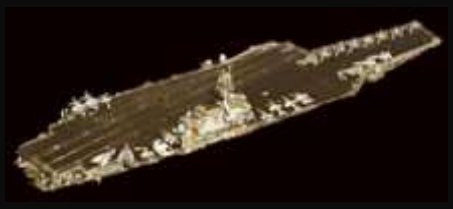
THE WRIGHT STUFF



Vol XXXV ◆ No 04 The Official Newsletter of the USS Kitty Hawk ◆ NCC-1659 Oct / Nov / Dec 2024

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THE WRIGHT STUFF

Volume 35 - Number 4

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Publisher ..... J.R. Fisher
Editor..... John Troan

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Wright Flyer from NASA/Ames PAO photo archive; *USS Kitty Hawk* (USN CV-63) from navicp.navy.mil; *Constitution* class cruiser from gwu.edu/~rljones/khawk.

IMAGE - Featured Front Page
Three of the delta shield cookies from the *U.S.S. Kitty Hawk*'s December 2024 potluck. Photo Credit: John Troan. Cookie Credit: Marissa J.

The Center Seat
By John Troan

In what is normally a time of fun, I lead off with very sad news. Larry Pischke, our former XO, has passed away. I've known Larry since I first joined the *USS Kitty Hawk* in late 1990. I remember my (many) visits to Hobby Masters -- and always chatting when I stopped by. (In the days before Amazon, Hobby Masters was my go-to place to get gaming supplies.

Within the *'Hawk*, he has been constant presence for our various service activities, meetings, and social gatherings – including (co)hosting many a *Kitty Hawk* party at his & Elaine's home.

Larry rose through the ranks to eventually become our Executive Officer, continuing in that role during the 2015 change in command.

Larry, you will be deeply missed by all of us on board the *USS Kitty Hawk*.

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In ship's business, the biggest news is the announcement that Kelly McDermott will be our next Commanding Officer. He has been promoted to O-5 / Lt. Colonel and has already assumed the role of XO & CO-elect during the transition period. A Change of Command ceremony will be held at the 8 March meeting. In addition to Kelly's promotion, a few other crewmembers have been promoted:

- Chris M, Jay L, Les S, and Reid S to E-2 / Crewman Apprentice
- John R to E-2 / Private First Class
- Keith C to E-3 / Crewman
- Mary W to E-4 / Petty Officer 3rd Class
- Will A to O-3 / Lieutenant
- Lucille M to O-3 / SFMC Captain

CONGRATULATIONS to all of you!

Some of this is from a change in the point plateaus for the enlisted ranks, something that Kelly and I have been working through. A promotion track has also been put together for Warrant Officers, along with transition paths between the Enlisted, Warrant Officer, and Officer tracks. A Cadet track is still being developed, but points *are* being recorded for when the Cadet track is finalized.

Our newsletter production has been catching up on issues, but it's also now been jumbled up as I decided to get this issue out (almost) on time, setting us up to maintain a (much) more consistent schedule for 2025. The 2022 Q4 through 2024 Q3 issues are at various stages in the pipeline and will be coming out to fill the publishing holes – satisfying my (ASD-driven?) need to not have any gaps.

Region One has had A Call to Action for Charity running from late September through the end of December. ALL donations and forms of service have been submitted to the Region One offices for tabulation and comparison with other chapters in the region. I've also been tracking every donation and volunteer shift with the Food Bank to submit the *Kitty Hawk* for a year-long award.

Looking back at 2024, I'm extremely happy that one of my post-Covid goals is starting to bear fruit – an increase in our service activities. My thanks to Brian G and Jenna W for their help in getting us to this point. I can't wait to see what 2025 will bring!

Esse Quam Videri

Remembering Larry
By Brad McDonald

Photo courtesy of Elaine Pischke.

When John called me about Larry's accident, I could not believe it and I immediately put some words to paper. Although I will probably not do complete justice to Larry's memory, I never-the-less wish to try.

I met Larry and Elaine at my first Kitty Hawk meeting at J.R.'s house. If memory serves, that was sometime in 1991. Beside our obvious Trek connection, we also discovered our mutual interest in history, along with aircraft, spacecraft and hobbies. This tied in well with his family's business at the time, Hobby Masters. There were other commonalities and we continued, as well as expanded, our friendship over the years.

I suppose the most outstanding way we observed our interest in history, and everything that flies, involved the caravans to Washington D.C. The Kitty Hawk crew took trips to the many museums in the nation's capital, particularly the Air and Space Museum. Our caravans usually began in Raleigh about 5:00 am. All interested parties showed up at a mutual meeting place and we would consolidate the 'away team' into two or three vehicles. On the way, we shared many stories, ideas, plans for the future as well as other topics.

In those days, we could park in the basement of the Air and Space Museum! Our travel was timed to arrive just as the various museums were opening. We could spend all day in that facility or take a short walk to many other points of interest on the mall. This was not the highlight of our trips – that distinction belonged to the Paul Garber facility in Silver Hill, Maryland. Before the Udvar-Hazy Museum opened, all the exhibits, aircraft and spacecraft that wouldn't fit in the main museum on the mall, were stored and restored at Silver Hill.

The facility was a very crude collection of buildings, hangers and sheds, filled with many items of interest and all aircraft were disassembled and not restored. Generally, an aircraft fuselage was on the floor with wings and tails hung on the walls. Sometimes engines, propellers and support equipment were stored in a separate location. Even so, they were treasures and Larry and I would "ooh" and "aah" through each building. We were always given a personal tour, usually by our favorite docent, Mr. Wiley. As Larry and related what we knew about history and the various aircraft, Mr. Wiley became impressed and he allowed us to see items not on the regular tours. During one such trip, we were given a look at

the B-29 *Enola Gay*, which had dropped the first atomic bomb. He even let us look inside the plane! Our visits to Silver Hill were always great and highlighted by a review of restoration projects and a close inspection of each one.

A special visit of another type was seeing Larry at Hobby Masters. My closets and shelves still hold evidence of how 'my resistance is truly futile' when it comes to my model building hobby. I also remember visiting Larry at the hospital once, though I can't remember why he was there. While he was happy to see me, I think he was a little embarrassed as he was a private person.

Larry and I frequently discussed historical events and even current events as they related to history. We both lamented how the History Channel was featuring ancient aliens, conspiracy theories, reality shows and other 'questionable history,' when there were so many more legitimate and interesting topics to cover. Our conversations occurred mostly at *Kitty Hawk* meetings and related social events, including numerous conventions in various locations. On three separate occasions, I hosted 4th of July potluck gatherings at my house. It was then I was able to show Larry my model collection and fairly extensive history library.

Conversations also included those regarding our both being fathers and family men. He had two sons and I had two daughters. We were both kept very busy and we spoke of the many responsibilities as well as the rewards. Of course, we both had lots of help, as he had Elaine and I had Trina, at least for 32 years.

Overall, Larry was always friendly, easy going, soft spoken and quick to offer assistance when needed. After our *Kitty Hawk* meetings, Larry proved his generosity as he was first to order chips and dips to share with the entire table. He was also gracious, willing to listen to my proposed or upcoming projects, whether or not they were related to *Kitty Hawk*.

Original members of the *Kitty Hawk*, Larry and Elaine sometimes made up a 'majority' of those who attended meetings which consisted of only four to six people. The two were not only there from the beginning they even had a *Trek* wedding! Now that's a true *Trek* fan!

I liked Larry a lot and I believe he felt the same about me. However, he was not very vocal regarding his feelings, unless he was prompted or encouraged to do so. Regardless, he always enjoyed a good laugh.

After hearing the news about Larry, I immediately thought about a line of dialog from an original series episode, “Assignment Earth.” When Gary Seven learns about the death of his two colleagues, he comments. “It doesn't make sense... to die in something as useless as an automobile accident.” I feel much the same but I would add that it was also quite tragic.

I'll miss Larry. His easy-going nature and ready smile were among the reasons I tried to attend *Kitty Hawk* meetings as often as possible. I also made an effort to sit at the same table as he did, and not for the chips, but the conversations.

My deepest sympathy to the entire Pischke family. I can't say I know exactly how they feel, but after losing my wife, I have a reasonable idea.

Computer Operations Report
By John Troan

As has been the case for most of the last couple of years, I’ve been building a pile of updates for the website. My intention is to start tackling this in 2025, after (or while?) the newsletter backlog is worked on.

In *Trek* News –

- *Lower Decks* season five has wrapped up. (I've seen some things on-line to try to get it extended, but we'll see.)
- The *Section 31* movie is scheduled for release on 24 January 2025. It’ll be streaming only on Paramount+ and have no theatrical release. The one trailer I’ve seen so far looks *really* good.
- *Academy* season one should be out in 2025. My best guess is sometime in the first half of the year.
- *Strange New Worlds* is heading toward season three's release in 2025. The trailers I've seen look gooooooood. Season four has already been approved and might start principle photography in 2025, but I've heard no dates yet.
- No word yet on a possible season three for *Prodigy*. I hope there is.
- Also no word yet on any new *Trek* projects, mainly due to everything going on at the CBS/Paramount corporate level.

Vulcan Humor
By Babs Freeman

What do you call somebody who is afraid of Santa?

Clauso-phobic.

Why was Santa's little helper depressed?

He had low elf esteem.

Where does Santa surf on the off season?

On a yule tide.

Star Trek vs *Star Wars* Debate Report from GalaxyCon 2024

By Brad McDonald and Ruth & Darrin Sutherland

Overview and Preparation

During GalaxyCon 2024, several members of the *USS Kitty Hawk* participated in a debate with members of the local Carolina Garrison of the 501st Legion for a fun and friendly panel about *Star Trek* vs *Star Wars*.

The initial idea for the debate originated during GalaxyCon the previous year when *Kitty Hawk* CO John Troan and Shanda Haddock of the 501st discussed the idea of having the debate the following year.

Brad McDonald from the *Kitty Hawk* took up the challenge and coordinated with Shanda and they agreed on a format and rules for the debate along with time limits for each section.

Ruth and Darrin Sutherland agreed to join Brad to represent the *U.S.S. Kitty Hawk* for the debate and, during the two months prior to GalaxyCon, the trio researched a variety of topics and met multiple times to discuss which items they felt would make the most impact during the debate.

Each group was allotted six minutes for opening arguments and the *Kitty Hawk* group chose to divide that time among the three participants with each choosing two topics to cover during their two-minute part of the opening remarks.

During the weeks of preparation, the group revised and refined multiple drafts of their talking points to make the most impact during the brief allotted time.

The debate was held on the first day of the convention and was moderated by a Doctor Who fan who could be completely independent. In addition to the prepared opening remarks, each group had a chance for rebuttal of the opposing group's points and there would then be a time for Q&A from the audience.

At the end of the panel, the audience was given a chance to vote for the side they believed won the debate by making a charitable donation. The charities were the local Food Bank for the *Kitty Hawk* and Toys4Tots for the 501st. However, the names of the charities were withheld from the audience so the voting would be purely about the merits of the debate and not an individual's preferred charity.

The team from the *Kitty Hawk* was thrilled to win the debate and the trophy was proudly displayed during the remainder of the convention weekend.

These were the debate talking points chosen by Brad, Ruth, and Darrin who felt these were the topics that most clearly illustrated why *Star Trek* is better than *Star Wars*.

The Titles and The Premise - Brad McDonald

Star Wars is an action story about battles while *Star Trek* is a journey story about exploration and discovery where fighting is a last resort.

Star Wars is in the past a long time ago in a galaxy far far away while *Star Trek* is about our potential future.

Star Trek is science fiction inspired by the potential of science fact while *Star Wars* is science fantasy inspired by sword and sorcery stories.

Exploration and Science - Darrin Sutherland

Star Trek is about exploration and the pursuit of knowledge through intellectually stimulating stories.

Star Trek focuses on science and technology and the good they can do and uses scientific advisors for accuracy.

By including scientific advisors, *Star Trek* has introduced many technological ideas that have subsequently become reality.

Optimism and Diversity - Ruth Sutherland

Star Trek presents a utopian vision of the future through cooperation and tolerance where humanity has overcome its differences and united for the common good.

Star Trek has always been ahead of the curve by promoting diversity and inclusion including the Vulcan philosophy of IDIC (Infinite Diversity in Infinite Combinations).

Martin Luther King Jr convinced Nichelle Nichols to stay on the show because of the importance of her character being portrayed with dignity and knowledge.

Nichelle Nichols transformed her acting career into a real-life science career when she embarked on a campaign to bring diversity to NASA recruiting thousands of African American, Asian, and Latino women and men for the agency.

Summary and Conclusion

In summary, while *Star Trek* is an entertaining Sci-Fi series filled with action and adventure, it is so much more. It is inspired by the potential of scientific fact. It focuses on the pursuit of knowledge, finding the answers to questions and resolving the mysteries of the unknown.

Its stories are designed to be intellectually stimulating, focusing on science and technology and the good they can do. Along the way, *Star Trek* has inspired technological advances that we use today and scientists have respected the series from the beginning.

Star Trek presents a vision of a possible future where humanity has overcome its differences and united for the common good. It promotes ideals such as cooperation, tolerance, and compassion, suggesting the future will be better if we embrace these values.

Star Trek also focuses on moral and ethical questions. Gene Roddenberry once said, "Every episode is a morality play." The series offers thought-provoking stories that encourage introspection and reflection while addressing the complexities of humanity and not just the simplicity of good vs. evil.

Star Trek has better technology in the form of transporters, universal translators, the Borg, and more – and *Star Trek* has 930 episodes and 13 movies while *Star Wars* has only a fraction of that.

In conclusion, we want to mention that George Lucas himself credited *Star Trek* with creating a strong Sci-Fi fan base that set the stage for other franchises to follow, including *Star Wars*.

We, the crew of the *U.S.S. Kitty Hawk*, NCC-1659, thank you. Live Long and Prosper!

Engineering Report
By Brad McDonald

In the past few months, I have accumulated a number of stories concerning EVs. There are several issues which continue to be vocalized and, to a certain extent, addressed. In order to concentrate on these, I'm going to devote this part of my report solely to EVs. I hope to cover as many of the issues as possible, but please excuse me if I missed a few.

First, I wish to cover the cost of owning and operating an electric vehicle:

1. The initial investment is generally $12,000 or more than for internal combustion vehicles.
2. Public charging costs can actually be more than gasoline per mile traveled, depending on the vehicles being compared.
3. Home charging installations can cost from $700 to $2200 depending on the type of service required by the vehicle and the type of charging (standard or quick) and may be even more expensive if the home service needs upgrading. Installation may not be permitted, or even practical, in some apartments and other structures. A garage or private drive may be required.
4. Some states are adding road taxes to EVs to make up for the lost revenue from gas tax, used for road repairs and construction projects. There are no set rates and they differ from state to state.
5. Maintenance and repairs are considerably higher due to cost of parts and labor. EVs may have fewer moving parts, but the higher tech means higher costs. There are also higher insurance rates due to the higher costs of repair work from accidents.
6. Charging rates vary considerably due to cost per KW hour across the country. This ranges from $22.50 to $45. Also, range greatly effects how many charges are needed, generally 250-350 miles.
7. Range issues abound as 'estimated range' is tested under ideal circumstances. That does not take into effect use of air conditioning, heater, and, worst of all, towing/trailer use. Winter driving/cold temperatures reduce battery efficiency and can cut ranges in half.
8. Differences in government policies and the realities of daily use will require more thorough approaches to make EVs part of the norm. This has been prompted, and highlighted by, owner revelations concerning shortcomings of EV use. A realistic conversation needs to be conducted by all concerned parties.
9. Environmental issues need to be addressed. While EVs don't produce CO2 and other harmful gasses and products, their batteries and other parts rely on extraction and refinement of critical metals, such as lithium, cobalt, and even copper, which are very harmful.
10. Misrepresentation of affordability, ease of use, short term, and long term goals concerning the eventual elimination of gas powered vehicles need a much closer look.
11. Replacing batteries is very expensive, ranging from $13,000 to more than $20,000 for Tesla cars, more than the entire drive train of an average gasoline vehicle.
12. Public charging networks are limited and charging times can be limited to thirty minutes which only delivers an 80% charge which reduces range even more and creates a need for even more charging stops on longer trips.
13. Lack of service centers and qualified technicians is a major problem and, in some states, Tesla has only one service center.
14. Buyer's regret concerning owning/operating an EV was evaluated in a 2024 study by McKinsey & Co. Mobility Consumer Global Survey. The most telling result concerns buyer regret as 46% wanted to return to gas powered cars. The reasons ranged from lack of charging stations, high maintenance costs, and poor resale values. Other reasons cited included stress issues concerning being able to find and get charging when needed; not enjoying the driving experience; inability to charge at home; and the fact that about a quarter stated they will never own an electric car again.
15. Bottom line concerns sales, as they seemed to bottom out in 2023 and GM, Ford, and VW have reduced or delayed EV sales goals. Also, growth of EV sales is projected to be only 1-2% for 2024 through 2026.
16. EVs are expensive to buy and operate; essentially, they are a luxury vehicle.
17. Tires wear out 30% faster due to the heavier weight of the car due to the huge lithium ion batteries.

Moving on to other EV issues, ENELX, maker of Juicebox EV chargers, is closing down as of October 2023. In addition, it will no longer support its home charging systems and its public charging units will be inoperative.

Gieco Insurance is canceling coverage for Tesla's Cybertruck. The company cited numerous issues which “do not meet underwriting standards.” While some issues have been resolved through recalls, many operational issues remain such as faulty rear cameras, accelerator pedals, rusting, loose trim, and more.

The cost of EV fueling is not $1.21 per gallon, but $17.33 if you add costs of subsidies including tax write-offs; the supply chain for making EV batteries; and regulatory mandates for increased power grid capacity and electrical infrastructure. Hybrids are much better at reducing emissions and improving fuel economy and are not dependent on electrical infrastructure. Also, ninety hybrid batteries can be made from the same materials needed for only one EV. Surprisingly, hybrids reduce overall emissions 37 times more than EV's. Unfortunately, hybrids don't qualify for as many subsidies or regulation favors.

There is another problem concerning the production of EVs: copper mining. A standard car uses 40 pounds while an EV uses 200 pounds. That's more than four times, just for cars, but EV charging stations need copper, too. As an example, 50 pounds of copper are needed per Tesla charging station. Cars combined with charging stations makes Tesla and other EVs some of the biggest consumers of copper in the world.

Add to that, solar power systems use 5.5 tons, on shore wind turbines use 10 tons and off shore turbines use 20 tons. Altogether, this amount of copper mining is not only hazardous to the environment, but may not be achievable over the course of time. The world would need 115% more copper than has been mined in all previous human history. Six more copper mines will be needed in a decade, but opening new mines, and processing facilities, can take up to 20 years. Basically, the amount of copper needed cannot be mined any time soon to meet the needs of all the sustainable energy programs.

Again, hybrids are much better as no charging stations are needed and they use less than half the copper of EVs. An additional problem which concerns charging stations is they are being vandalized repeatedly for their copper and need replacing frequently. Theft of the copper indicates that it is now looked at as a very valuable commodity.

There is a new issue facing hybrids and EVs: the lack of a spare tire! The reason given for the lack of spares is the space is needed for electrical systems and safety. The safety issue concerns tires damaging batteries and electrical systems. Other reasons given for not including a spare are: increased weight (which means decreased range) and added cost of $100 to $300. As an example, the Prius hasn't had a spare since 2016.

Some general charging issues have been noted and I will list them here. Please excuse me if there are duplicated items in other sections of my report, but I want to be sure that I don't leave anything out.

1. Charging an EV can take a long time as some regulate how fast they can deliver a charge or the car charging rate must be compatible with the charging station.
2. Charging time can vary due to temperature or the battery settings built-in to the car.
3. Cars can regulate chargers to promote longevity of the battery and limit quick or complete charges.
4. Even though a car may be rated to maximize a charge, it may use only a fraction of the charging rate which can take hours.
5. Range can be affected by higher speeds, inclines, and environmental settings inside the car.
6. Some chargers have time limits and have a maximum of one hour or even thirty minutes of charging.
7. Charging stations are not durable and require replacing approximately every five years.
8. Chargers put a strain on grid systems, especially in very hot or cold weather.
9. Batteries degrade, reducing range and efficiency.
10. Infrastructure is not everywhere, especially in rural areas.
11. Range anxiety is real. You can run out of power before finding a charging station. Also, more than 50% of EVs fail to meet EPA estimates of ranges.
12. Even a fast charge averages 30 minutes to an hour for an 80% charge.

There are Tesla-specific issues which have been raised over the years:

1. Higher insurance rates as their cars are more expensive with lack of certified shops to perform repairs, resulting in $42,000 'fender benders.' Some cars are totaled rather than repaired.
2. Tesla service centers have long wait times with poor repairs and sky-high prices.
3. Tesla service centers are unresponsive; lack of spare parts; and cars are sometimes returned in worse shape than when they went in, which prompted a class action suit.
4. Tesla has about 200 service centers while there are thousands for other companies like GM and Ford, and even independents.
5. Tesla has quality control issues such as lack of attention to detail, paint, trim, panel fits, body hardware, and the Model 3 had serious production flaws which Musk admitted.
6. They have received 750 complaints regarding phantom, or random, braking which is being investigated by NHTSA.
7. Owners say it is most important to read the instruction manual as the Tesla is a computer on wheels and not just a car with computer features.
8. The range of their cars is influenced by internal software which give unrealistic ranges and shifts ranges after 50% usage.

The self-driving feature of the Tesla is a major issue in itself, but unrelated to the car being an EV. I'll cover these issues in another report.

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Warp drive may be available after all, even without matter/antimatter power! A team at the University of Alabama in Huntsville are working with The Advanced Propulsion Laboratory at Applied Physics in New York. Together, they have conceived of a new warp drive that does not require anti-matter. Outlined in a recent journal paper, the new drive system outlines ways of creating a warp bubble which does not need an exotic energy. Instead, a stable matter shell closely resembles the Alcubierre Metric, first proposed in 1994. It's been called the first in the warp age. It's still beyond current available technology, but now it's not so very far away. We may not have to wait until the 23rd century after all!

Before you answer your next phone call, check first. It may be illicit. North Carolina has been ranked in the top ten of states for robocalling. Interestingly, all of the top ten states are in the south. In order of rank they are Louisiana, Georgia, South Carolina, Alabama, Arkansas, Tennessee, Texas, Mississippi, North Carolina, and Florida.

Jet Zero has a new aircraft, a blended wing type which was recently certified by the FAA for air worthiness. It makes the airplane eligible for test flights. Blended wing aircraft is an integrated body-and-wing design, giving the appearance of a flying wing. It's more fuel efficient at about 50% better than conventional configurations. The design also makes for more passenger and cargo room. The company is working with the U.S. Air Force, NASA, and the FAA to have flyable aircraft by 2027.

Think twice about what you plug into a power strip. They are notorious fire starters, but only when not used correctly. To avoid a problem, do not use a power strip in conjunction with the following:

1. Another power strip: no daisy chaining as it violates most safety codes and can overload your house system. Also, don't plug a power strip into an extension cord.
2. Portable air conditioners: their on-and-off cycling can surge and either trip a breaker or fry the circuit. Plug it into an outlet directly, but check the amperage rating. Most houses have a 15 amp rating and if the AC unit is rated higher, you're asking for trouble. Even if it's less than 15 amps, it can overpower other items on the same circuit.
3. Slow cookers: they use a steady low heat but may cause power strips to overheat regardless.
4. Sump pumps: should be plugged directly into outlets, preferably a GFCI or a GFI that is moisture-protected.
5. Blenders: typically they pull 300 to 1000 watts and that can tax a power strip.
6. Washing machines: like any other major appliance, it should be plugged directly into an outlet as they use 400 to 1300 watts.

7. Toasters: they can draw 1200 watts in just 15 to 20 minutes. That's a lot, so plug it directly into an outlet.
8. Microwaves: they also pull a lot of power, about 1200 watts, and needed a direct plug. In some houses, they get a separate circuit, like a conventional oven.
9. Portable or space heaters: they are a notorious source of trouble as the draw 1500 watts or more. They are so troublesome that they have been banned in many areas.
10. Coffee makers: they use about 800 watts and are too much for a power strip. They need a direct plug.
11. Refrigerators: one of the biggest appliances, usually the biggest. Its off-and-on cycling causes power spikes and surges. Again, many houses use a dedicated circuit.
12. Blow dryer: yup, the hand-held unit pulls an astounding 1500 to 2000 watts and therefore should not be used in a power strip.

Another issue I would like to address is the practice of running appliances unattended. Yes, appliances come with timers so you can set them and run them while you are doing something else. However, as we have learned, just because you can do something doesn't mean you should do it. As I have learned from practical experience, it isn't very smart and can lead to a disaster in many ways. I recently had to replace a dishwasher as it began leaking. I was able to avert a disaster as I was there and turned the unit off before things got too bad. Had I started it remotely or, just as I was leaving the house, it would have been far worse. Yes, refrigerators run unattended but failure means you only loose food. Washers, dryers, dishwashers, ovens, microwaves, and such can cause major damage when they fail. During my work as a building manager, one of my biggest disasters centered on an unsupervised appliance. A dishwasher was set to run as people left for the day, Friday around 6:00 pm. The insurance investigator estimated the unit failed shortly after janitorial services left. It then ran all weekend until I arrived early Monday morning. The result was $250,000 in damages. Even short periods of unsupervised appliances can result in problems such as cooking in microwaves. Fires can result from wrong settings, longer than needed cook times and even failure of the oven. We had a very 'smoky' problem when one person set the timer incorrectly. He left to work on his computer and there was no one in the kitchen. The food in oven became overdone quickly and started a fire. Do yourself a favor, do not leave appliances unattended! By the way, my new dishwasher has an internet connection and can be run from anywhere. Any bets on whether I will use that particularly stupid piece of technology? Its inclusion is simply a way to charge another $200 or so for the appliance, not because it's practical or wise. Point of fact, it's very risky.

Venus Aerospace has started work on a new supersonic jet. The heart of the aircraft is a new ramjet engine, the VDR2, which is capable of speeds reaching 3600 mph. That translates to traveling from London to New York in one hour! A test flight is scheduled for 2025. It will take off (and land) using standard jet engines then transition to rockets at cruising altitudes. If this sounds too good to be true, there are two more companies working on similar projects: Sierra Space and Hermeus.

Private aviation is responsible for an immense increase in emissions by a stunning 46% (2019-2023), even though they transport only 256,000 people (.0003% of the world's population). To illustrate, each flight is responsible for 500 times the CO2 than any person on earth generates in all uses. A report on the subject noted private flights, usually associated with major events such as the Super Bowl, World Cup, Cannes Film Festival, and others. A major contributor to the problem was noted: the Falcon 900B jet, which uses 1300 liters of fuel per hour creating two tons of CO2. About 50% of the flights only travel 500 km or less and generally during the weekends. One more statistic, this situation means that 10% of the people create 50% of CO2 emissions. Wow!

The EPA is cracking down on aftermarket performance products particularly Cobb Tuning. The EPA has levied a $3 million fine, charging the company with selling emission disabling devices. It's another step to ensure cars will not pollute. Cobb has sold 90,000 devices also called exhaust cheat units, which supposedly boost a car's performance. The company has been given an order to destroy all remaining devices and notify customers. EPA's fight began with a 2015 criminal penalty fine against Volkswagen for $2.8 million for selling emission cheating software. The EPA's crackdown includes devices used by drivers 'rolling coal,' or putting out large clouds of black smoke. An estimated 550,000 trucks on the road bypass normal emission controls and pollute the same as nine million trucks with emission controls intact! Other companies under fire are Diesel Truck Products, Inc.; DPF Delete Shop, Inc.; Fulfillment Solutions; and others. Some companies have earned as much as $22 million per year selling defeat devices, so any fine shouldn't be unreasonable.

Here is an interesting statistical analysis I found. Read it and you'll see why it is... fascinating.

Human drivers avoid accidents 99.99819% of the time while self-driving cars are 99.9% accurate. Given the number of cars, that number is unacceptable as U.S. drivers travel three trillion miles per year. U.S drivers had accidents 5,250,837 times in 2021 or, once every 552,983 miles traveled. That translates to the following: average Americans drive 14,263 miles/year, so at 99.9%, accidents occur every 14.3 miles. At 99.99819%, accidents occurs every .03 miles. That's quite a difference. I'll trust myself before a computer.

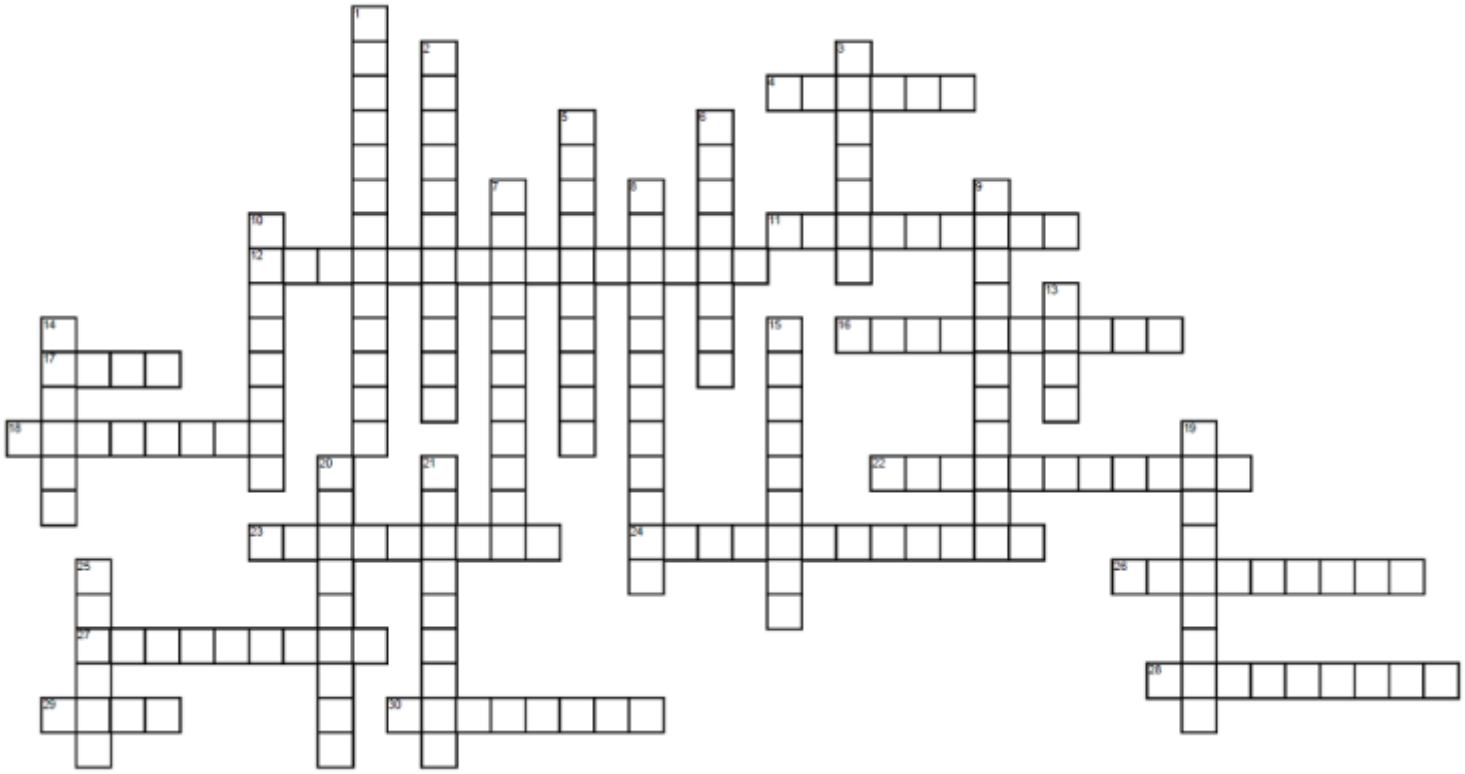
Okay, here is proof that Yankee engineering is to be admired. The following is a list of firsts in the automotive industry, all invented in the U.S.:

1. Cruise control: invented in the 1940s, appeared first in the 1958 Chrysler Imperial.
2. Self-dimming headlights: GM's Autronic Eye and Twilight Sentinel, introduced in mid-50s in the U.S., just recently introduced in 'Eurocars.'
3. Electric starter: first used in the 1912 Cadillac. (Also produced power for the lights.)
4. Air conditioning: first used in the 1939 Packard and, by 1969, half of all U.S. cars had A/C. Until the 1990s, only luxury vehicles where equipped with A/C in Europe.
5. Turbocharging: introduced in the mid-60s in the Corvair Monza and Oldsmobile. Turbocharging in Porsche, BMW, and Saab didn't appear until the mid-70s.
6. Sequential Taillights: '65 Thunderbird; '67 Cougar and Mustang; just recently appeared in 'Eurocars.'
7. Power (assisted) steering: Chrysler Imperial 1951 and Cadillac 1952.
8. Anti-lock brakes: Chrysler Imperial 1971; Mercedes Benz 1978 (ABS)
9. Deforming bumpers: Pontiac GTO 1968.
10. Clean exhaust emissions: California 1961; all U.S. cars 1968, twenty years before Europe
11. Automatic transmissions: Cadillac invented them in 1928; first mass produced 1940-1941

Okay, here's a <u>real</u> surprise. Google will become owner and operator of seven nuclear power plants to provide energy for their AI technology. Google is working with Kairos Power, who will be building the units. The plan is to have the first unit on line by 2030 and all seven by 2035. This will give Google 500 megawatts of power. The reactors are smaller

Star Trek: The Wrath of Khan Crossword Puzzle

By Diane Ripollone



ACROSS

4 Nebula where the final battle occurs
11 Type of circuitry used in Starfleet
12 Human-centered perspective challenged in the film
16 State of suspended animation
17 Parasitic creatures used for mind control
18 Communication channel across vast distances
22 Result of Genesis device misfire
23 Vessel holding Spock's consciousness
24 Security keys to control ship functions
26 Planet where Khan was exiled
27 Describes the unexpected effects of Genesis
28 Scale affected by Genesis wave
29 Control station for steering the ship
30 Vulcan telepathic technique

DOWN

1 Infamous no-win simulation test
2 Device for tracking ship locations
3 Captain's record of ship events
5 Life-creating process behind the Genesis device
6 Hypothetical particle involved in warp fields
7 Unstable material speculated in Genesis creation
8 Ship's self-destruct sequence
9 Hidden location created with Genesis technology
10 Khan's fate on Ceti Alpha V
13 Method of faster-than-light travel
14 Space station central to the Genesis project
15 Secondary systems on a starship
19 Crystals powering warp drive
20 Level of transformation in Genesis device
21 Problem-solving method referenced in Starfleet systems
25 Energy weapon used by Starfleet

Engineering Report (continued)

than a typical unit and use a molten salt cooling system. This announcement follows Microsoft's plan to resume operation of the Three Mile Island reactor (the undamaged one) by partnering with Constellation Energy. This is aimed at providing power for Microsoft AI data centers. All this is intended to reduce the impact on the nation's power grid. Projections of power use is 38 gigawatts in five years or, enough power for 12.7 million houses. However, those numbers do not reflect any further impact by EVs.

Astronomers at NASA and MIT have located a trinary star system in the Cygnus constellation. Named TIC 290061484, the three stars are rotating at a phenomenal rate. Two stars orbit each other in less than 48 hours, while the third orbits the pair in 25 days. But that is literally only half as impressive as a sextuple system named TYC 7037-89-1. This one is really impressive! 'A' system consists of two stars orbiting each other every 1.3 days. 'C' system is made up of two more stars which orbit in 1.6 days. 'B' system has two more stars orbiting each other in 8.2 days. Then, 'A' and 'C' orbit each other, every four years and finally 'A' and 'C' orbit 'B' every 2,000 years. I suppose if there are any inhabitable planets in the area, they don't really have much of a night.

There's a new version of the Boeing 777, the X. The longer wings of the jet restricts the airports it can operate out of. So an invention used by the military, has been recycled, folding wings. Actually, just the wingtips will fold, to save space, just like carrier based aircraft. The 777X was supposed to go into full production, and shipping new planes, in 2025. However delays have postponed deliveries until 2026 due to testing problems and strikes. The strikes have recently been settled, so production can resume. Already, many orders have been placed by more than ten airlines.

Upcoming Events

2025

Jan	**4**	**Meeting, Texas Steakhouse and Google Meet**	**4 p.m.**
Feb	**1**	**Meeting, Texas Steakhouse and Google Meet**	**4 p.m.**
	15	**Articles Due for 2025 Q1 Newsletter**	
	23	**Anniversary Dinner, Kanki Crabtree**	**6 p.m.**
Mar	**8**	**Meeting and Change of Command Ceremony Brian G's House and Google Meet**	**4 p.m.**
Apr	**1**	**Articles Due for 2025 Q2 Newsletter**	
	5	**Meeting, Texas Steakhouse and Google Meet**	**4 p.m.**
May	**2-4**	**Region One Summit (Gatlinburg, TN)**	
	TBD	**Meeting, Texas Steakhouse and Google Meet**	**4 p.m.**

DON'T FORGET TO CHECK YOUR STARFLEET STATUS

THE WRIGHT STUFF
USS KITTY HAWK
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RALEIGH NC 27612