

# Chino Valley Flyers Official Club Newsletter



## July 30, 2024

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www. chinovalleyflyers.org

## "To create an interest in, further the image of, and promote the hobby/sport of model aviation"

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## Quote For this Month:

"The Crisis Today is the Joke of Tomorrow."

H.G. Wells

Build Your Dream Machine For Our Club's Annual

**Build & Fly Contest** 

Scheduled for <u>October 19th, 2024</u>



Note the full up elevator as Bill was putting his Sky Wing plane through some wild aerobatics.

## **June Pylon Races a Success**



Our Pylon Races were a huge success. <u>A big</u> thank you to all who assisted. This is a big job and required lots of member support. <u>See page four</u>.

#### Page 2



## Bill Gilbert: CVMA President's Message

I read that our RC hobby is shrinking. RC airplane pilots are next door will cover for us, we in a supposed decline, but "drones" are on the increase. If true, our collective strength may be on the decline. We need to be forward-looking and proactive to protect what we have today.

Change is for certain; we need moves in closer to us. to be prepared to address it. One of the things the club is doing is to pursue a Gold Level Leader Club award from the AMA.

Besides helping us further the mission of the AMA, this will get us more recognition from the AMA if we ever need support turbances and division from in the future. Additionally, it will cause us in the process of submitting the Gold Leader Club and halt these disturbing forces application to the AMA, to generate a noise study. Instead of simply assuming that being

next to a noisy shooting range will have actual noise data and noise projections at varying distances from the field. We should be able to predict whether we have noise concerns with our closest neighbors today and in the future if development

We will measure actual noise levels at our field boundary and out near our closest neighbors. In order to be prepared for any future complaints coming at us from the outside.

We must also remain vigilant for any threats from within. Diswithin can tear the club apart. We have to be able to identify before they gain traction. Like a disease, they must be quickly addressed and eradicated.

In the coming weeks and months, we will discuss further plans to address potential internal disturbances and division.

Bylaws are merely a set of internal rules that guide an organization's operations and the actions of its board of directors. They can help prevent or resolve conflicts, protect the organization from potential problems, and establish operational guidelines. These bylaws should be reviewed on a regular basis to help prevent errors. New board members

should also be aware of all bylaws when they are installed.

Bill



## Flight Instructors

Randy Meathrell: **Control Line Flying** 

Bill Gilbert: Helicopters

Jeff Moser **Gliders, Multi Rotors** 

Our Club really needs good overall flight Instructors so members if you have that skill please step up, we have many new members.

President — Bill Gilbert



Vice President — Jeff Moser



Treasurer — Don Crowe



WHAT AIRCRAFT HAS THIS COCKPIT?



Safety Officer — Tyler Johnson

At Large Member — Dan Avilla



At Large Member— Gary Cosentino

Newsletter Editor — Bob Shanks







## MARK YOUR CALENDARS Chino Valley Flyers Events for 2024

August 31	Combat Event	
September 21	Steve Crowe Fun Fly	
October 19	Annual Build & Fly Challenge	
November 16	Fall Swap Meet Fun Fly	
December 3	Annual Christmas Party	



## SAFETY SHOULD ALWAYS COME FIRST

## From the Editor:

Members, the following is taken from the AMA Safety Code handbook and should be read and reviewed by all members whether you have been flying for "a coons age" or are new to the hobby.

## AS AN AMA MEMBER I AGREE:

- \* I will not fly a model aircraft in a careless or reckless manner.
- I will not interfere with and will yield the right of way to all human-carrying aircraft using AMA's <u>See and Avoid</u> <u>Guidance</u> and a spotter whenever it is appropriate.
- I will not operate any model aircraft while I am under the influence of alcohol or any drug that could adversely affect my ability to safely control the model.
- I will avoid flying directly over unprotected people, moving vehicles, and occupied structures.
- I will fly Free Flight (FF) and Control

Line (CL) models in compliance with AMA's safety programming.

- I will maintain visual contact of an RC model aircraft without enhancement other than corrective lenses prescribed to me. When using an advanced flight system, such as an autopilot, or flying First -Person View (FPV), I will comply with AMA's Advanced Flight System programming.
- I will only fly models weighing more than 55 pounds, including fuel, <u>if certified through AMA's</u> <u>Large Model Airplane Program</u>.
- I will only fly a turbine-powered model aircraft in compliance with AMA's Gas Turbine Program.
- I will not fly a powered model outdoors closer than 25 feet to any individual, except for myself or my helper(s) located at the flightline, unless I am taking off and landing, or as otherwise provided in AMA's Competition Regulations.

 I will use an established safety line to separate all model aircraft operations from spectators and by standers.

I would assume that many of our new members and even a large portion of our long time members, have not been totally aware of all of these guidelines.

While these are really just common sense logic, there will always be a few who will be unaware or not even interested or have forgotten these guidelines even exist.

However, all members should occasionally review our club rules that are clearly posted at the field as well as reviewing these AMA guidelines.

We have a premiere flying field and all of us should do all that we can to insure we keep it a safe place to practice our great RC and Control Line flying hobby.





## **GENERAL PYLON RACE DISCUSSION: AN "AFTER ACTION REPORT"**

## **Pylon Racing Discussion and Recommendations**

A short meeting was held after the regular club meeting on June 22, 2024, to discuss how the pylon/T-28 races could be improved. This meeting was attended by around ten people. More discussions will occur between now and the race next year (probably to be held in June) and some of the points below might be modified. Anyone with comments should contact *Mark Lipp, jflipp@aol.com*.

## The major discussion points and decisions are as follows and are in no order:

- A) Everyone enjoyed the races and agreed they should be continued.
- B) Several people thought we should have more than one race per year. This requires more discussion because of closing the airfield and the load put on volunteers.
- C) The current course layout and location of the pylons are good.
- D) Pilots would like to fly four heats rather than three.
- E) More time should be allowed between heats. The pilots felt a bit rushed this year.
- F) The current penalties for infractions (pylon cutting, early start) are too severe. Everyone agreed that each pylon cut should reduce the pilot's score by one point and an early start should cause a two-point ding.
- G) Total flight time should be included in breaking ties. A fly-off should be used to break any remaining ties.
- H) After much discussion, all agreed that the flying start is probably the best.
- I) Four distinct colors should be used to mark airplanes rather than two colors on different wings.
- J) Race start announcements should be louder.
- K) A "practice" time the day before the races would be good, with the pylons set up. This would not close the airfield, so pilots would have to coordinate with any other flyers.
- L) Posting of intermediate race results (between heats) would be very helpful.
- M) Most attendees wanted to have two classes; one like this year with all planes being the same, and one "open" class with fewer rules. There was not general agreement on what these rules should be. This will require further discussion.

## **MEMBER'S FLYING MACHINES AS SEEN AT THE FIELD**





Terry Steiner built his "Candy Bomber" at left, for last year's Build & Fly contest. This July, instead of dropping candy, he brought it out and dropped two very small gliders from his bomb bay as captured in the photo at left.

They didn't seem to glide very well, just dropped straight down. He dropped them at the edge of the runway so they were easier to find.





Photo by Terry Steine



This was *Rick's* Build & Fly club contest entry from last year.

At right is *Bob Vaught* flying his "Mean-eyed" blade 230 helicopter on the club's heli pad.







is *Rick Nichols'* red Stick shot in November of 2016. Hard to realize it was that long ago!

Here's a photo from the past, this



## The Many Problems with Batteries \*

by Iddo Wernick

As a source of energy information for many global and U.S. policymakers, International Energy Agency (IEA) reports speak with great authority. In its report released in April, Batteries and Secure Energy Transitions, the agency charts out a path for massive growth in battery energy storage consistent with the goal of 'Net Zero' by 2050.

Batteries provide an essential lynchpin in plans to reduce global carbon dioxide emissions in the Net Zero vision. The dramatic global expansion of in-battery energy \storage over the coming decades is deemed necessary to facilitate the growth of wind and solar power and electrified transportation, all essential elements in the 'Energy Transition.'

Projections anticipate sharp and sustained increases in global battery energy storage capacity over the next decades. The unpredictable timing of sun and wind will force humanity to reckon with the need for batteries to compensate for the intermittent renewable energy resources of the future.



Like fuels, batteries store their energy chemically. In practice, however, batteries store energy less efficiently than hydrocarbon fuels and release that energy far more slowly than fuels do during combustion. Absent major breakthroughs, the technologies for storing energy and providing power using electrochemical batteries require far more mass and volume than technologies that do the same using fuels. <u>The energy density of a storage 'technology is defined by its ability</u> to store energy in a given volume or with a given mass. It is relevant and more than ironic that the energy density of biomass fuels like straw and animal dung is twenty times greater than the today's best lithium-ion batteries, and gasoline has an energy density over 50 times greater. The slower release of energy from batteries is evident in the long charging times of electric vehicles and the need for ultra-high voltages to speed up charging.

The mass and volume of battery energy storage only expands when one includes the power conditioning equipment, such as inverters and transformers, and the transmission lines required to integrate distributed energy resources with these facilities and with the grid. These system features will profoundly affect the technical performance, and the economics, of battery energy storage in the future.

Any mention of waste from batteries comes in connection with downstream wastes and the need for future recycling with little attention paid to the upstream wastes generated prior to battery manufacture. The flammability of lithium-ion batteries, already a safety factor in aviation and maritime trade and in crowded urban areas, only merits mention in the context of new battery chemistries - Lithium Iron Phosphate (LFP) and Sodium-ion - that pose reduced fire risks are also far less energy dense.

For residential power grids, the volume of batteries needed to keep a city going for a full day is staggering. Consider the greater Seattle area. Powering the Seattle grid for 24 hours using batteries would require a cylinder over sixty meters in diameter at the height of the Space Needle (184 meters), filled with manufactured battery packs. Today, at the Kapolei Energy Storage outside Honolulu, over 6,000 tons of LFP batteries (enough to fill a pole one meter in diameter and the height of Mauna Loa (4170 meters)) can supply the electricity demanded by a sixth of the million residents of Oahu for only three to six hours.

Consider the fact that increasing power production from natural gas and nuclear energy could reduce carbon emissions more effectively than building and maintaining the elaborate physical infrastructure necessary for solar and wind and <u>batteries</u>. Hybrid electric vehicles require much smaller battery packs with less consumer familiarity. Most experts realize vehicular emissions are critical in the long run. However, batteries cannot replace the reliability of liquid fuel at this time.

Climate ideology is now so pervasive that its assumptions are taken as global policy imperatives without reservation. It is evident that most policymakers ignore the sheer magnitude of industrial (and polluting) activity needed to support the market growth for battery technologies at the scale imagined, as well as the dis-economies of scale that result from the inherent limits of batteries as an energy storage technology.

What about the waste streams that would accompany enormous increases in battery manufacturing? There are easier ways for humanity to avoid the problems that batteries are intended to solve.

## Could Quantum Physics Open the Gateway to Another Dimension?

In the children's classic, "Alice's Adventures in Wonderland," the young character finds herself going through the looking-glass and into a world that's not unlike our own and not much like it, either. With this inspiration in mind, researchers have discovered monopole-based, ring-like vortexes and dubbed them "Alice rings." These phenomena could offer a tantalizing glimpse of a world that may be the topsy-turvy equivalent of ours.

If this sounds complicated, that's because it is — quantum physics has a knack for being a bit more confusing than its nuclear, electric and 'thermodynamic counterparts. But we're not throwing in the towel just because the concept isn't crystal clear. Here's a rundown on monopole mechanics, Alice rings and the chances of opening a gateway to another dimension. Ready or not here we go through the looking-glass!



### What Are Monopoles?

Monopoles have a negative charge on one end and a positive charge on the other. Monopoles are what happens if one of the poles is removed entirely, leaving only its opposite counterpart. Chopping a magnet in half won't do it; you'd just end up with two smaller dipole magnets. In fact, Gauss's law for magnetism states that monopoles aren't possible. Work by Pierre Curie, however, suggested that these one-pole particles could exist, even though one had never been observed. Until recently, this status quo remained, with the existence of monopoles as theoretical rather than actual. While we still haven't seen (and probably won't ever see) magnetic monopoles in the wild, work by the Monopole Collaboration found quantum analogs to magnetic monopoles, also called Dirac monopoles, in 2014. In 2015, they observed isolated quantum monopoles, and in 2017, the Collaboration saw isolated monopoles decaying into their Dirac counterparts.

Achieving this goal was no easy task — observing a monopole in isolation required the use of ultra-cold rubidium atoms in what's known as a Bose-Einstein condensate (BEC). Sometimes called the fifth state of matter, this super-cold c ondensate (around -460 degrees Fahrenheit) prevents particles' quantum identities from colliding, in turn creating a single "super particle" that shares the same quantum identity and plays by its own rules. This is the best-case scenario for solving monopole mysteries since there's virtually no chance of a stray particle party.

Even under ideal conditions, monopoles don't stick around for long. Often, they exist for only a few thousandths of a second before they decay into something else. "Think of the monopole as an egg teetering on the top of a hill," says Aalto University Professor Mikko Möttönen, who co-authored the new study. "The slightest perturbations can send it crashing down. In the same way, monopoles are subject to noise that triggers their decay."

In some cases, that decay gives rise to Dirac monopoles. In others, it creates something more interesting: an Alice ring. These rings occur when decaying monopoles twist into loops. They're also longer-lived than typical monopoles. Instead of just 4 or 5 milliseconds, these rings can last 80 milliseconds or more. But time isn't the only thing that sets Alice rings apart.

## Down the Rabbit Hole

When Alice heads through the looking-glass and down the rabbit hole, the world changes. The usual rules are thrown out the window as she encounters strange tea parties, talking rabbits and the mad queen of hearts. Alice rings take their name from the famed Lewis Carroll work because they might just offer a gateway to another dimension. Why? Because the observed structure of Alice rings comes with a very peculiar property: If another monopole were to pass through the ring, it would be transformed into an anti-monopole with the opposite charge. The charge of the Alice ring would also change in response.

Looking through the ring, then, could provide a glimpse into a flip-side version of our reality. "It is from this perspective that everything seems to be mirrored," says Möttönen, "as if the ring were a gateway into a world of antimatter instead of matter." While this monopole magic hasn't been observed yet, all signs point to the production of antimatter if monopoles make the move. With quantum physics now zeroing in on questions about the matter/antimatter asymmetry in our universe, these rings may offer a way to see what lies beyond the looking-glass and finally offer some answers about why matter makes up most of what we see and why antimatter doesn't.

Monopole research is at the forefront of quantum queries and may help us better understand how the universe works. While much of this magnetic mystery solving remains theoretical, ongoing efforts by the Monopole Collaboration have yielded consistent results — who knows what's next down the quantum rabbit hole?

## Name the Plane Cockpit: F-16 Fighting Falcon (Viper)\*

The F-16 is a lightweight, multirole fighter capable of air-to-air, CAS, SEAD, interdiction, FAC-A, tactical nuclear delivery and all-weather strike missions.

The "Viper" makes up roughly half the fighter inventory, carries the majority of Precision Guided Missiles (PGMs) in service, and is one of the most maneuverable fighters



ever built. The prototype YF-16 first flew Feb. 2, 1974, competing in the USAF Lightweight Fighter competition. After selection, F-16A flew on Dec. 8, 1976, followed by the two-seat F-16B on Aug. 8, 1977.

Deliveries began in August 1978, and USAF declared F-16A IOC in October 1980. F16C/D deliveries began at Block 25 in 1984, adding the APG-68 radar and AMRAAM missile as well as cockpit, airframe, and avionics improvements. Block 30/32 added the HARM missile and more powerful engines, and Block 40/42 introduced the terrain-following LANTIRN pod and wide-angle HUD for high-speed night/all-weather penetration. These airframes boasted higher take-off weight and G-limits and an expanded flight envelope starting in 1988.

Block 50/52 was introduced to replace the F-4G in the "Wild Weasel" Suppression of Enemy Air Defenses (SEAD)-role armed with the HARM missile, longer-range radar, and even higher-performance engines. The F-16 entered combat during Desert Storm in 1991 and scored its first USAF air-to-air kill during Southern Watch on Dec. 27, 1992. The fleet is now cockpit-standardized with color MFD, modular mission computer, Helmet Mounted Integrated Targeting (HMIT), and Link 16. The Operational Flight Program (OFP) continuously updates the F-16's software and most recently added Joint Air-to-Surface Standoff Missile (JASSM) and enhanced Advanced Medium-Range Air-to-Air Missile (*AMRAAM*).

Most upgrades are managed in Pre-Block (Blocks 25-32) and Post-Block (Blocks 40-52) tranches. USAF retired the final Block 25 aircraft from Luke in September 2022, and will continue retiring 76 Pre-Block aircraft through FY24. Late-block aircraft are undergoing modernization and a total of 450 are also undergoing SLEP to stretch beyond 8,000 flying hours. Modernization centers on the new AN/APG-83 Active Electronically Scanned Array (AESA) radar, specifically aimed at countering cruise missile threats to the homeland. An initial 72 AESA-equipped aircraft were fielded under an emergent operational need and a further 444 will be upgraded.

USAF aims to expand digital RWR upgrades into a future, fully integrated, internal EW suite for active jamming as well as self-defense. The rapidly developed Integrated Viper Electronic Warfare Suite (IVEWS) will leverage



AESA and will be rapidly upgradable against new threats. An IVEWSequipped F-16 will undergo operational assessment this year, followed by potential fleet mods starting in FY25.

Communication suite upgrades integrate Mobile User Objective System (MUOS) secure, jam-resistant BLOS and NATO-interoperable LOS SATURN, while MIDS/JTRS will provide higher capacity, jamresistant Link 16.

Other efforts include modernizing mission computer and cockpit displays in conjunction with offensive/defensive upgrades, Mode 5 IFF, navigation improvements, and Auto Ground Collision Avoidance System (AGCAS).



## I Was Lost in a Time Slip!

A Short Story Bob Shanks, Editor

#### Editor's Note:

Last month your editor ran a story on "What are Time Slips?" In this issue we have a story on possible inter-dimensional travel. So here's a short Sci Fi story to keep our members intrigued. Time anomalies or slips in time to another era have been reported by many over the years, the Internet is filled with these stories whether one believes them or not. While time travel is not really possible some interstellar space jockeys have reported strange "time slips" or time anomalies. They have been characterized as paranormal episodes by

some psychologists. Over a 100 years ago Albert Einstein's theory was that time and space are linked together and that nothing can travel faster than the speed of light. However, there are countless stories about people experiencing strange encounters with strange shifts in time. There was supposedly an account that occurred in the 1970's in Oklahoma when three cattlemen were herding some cattle on a ranch when they noticed a strange white house on a hill. Since they had never seen it there before so they came back the next day to investigate and while the hill was still there, the house was now gone. All three ranch hands said they saw it. Did it really exist in a different moment in time just to be briefly seen by the ranchers? Was this a time slip?

Captain Caspian Vale had heard many stories about "Time Slips" before and even though traveling close to the speed of light was now a reality the actual speed of light was not thought to be attainable by many scientists even though the Hyper Drive's maximum speed was not far from the speed of light (186,000 miles per second). He thought these stories of people slipping into another realm of time to be possible fantasies, or nightmares people had experienced. He always tried to keep an open mind, but he also understood that there are unknown anomalies in the understanding of time. Even in Captain Vales' era the concept of time and space and how they were linked together was still not fully understood by science.

So, when he engaged his Hyper Drive, it gave him a start as the ship jumped into interstellar flight. Flying close to the speed of light was indeed frightening and few were allowed to even use this drive due to strict Space Federation rules and guidelines because it was strictly regulated and highly classified. The amount of energy theorized to reach the speed of light was also unattainable. So, flying close to the speed of light was indeed frightening and many space pilots never really got used to engaging the Hyper Drive, even if allowed by the Orwellian controlled Space Federation. Coming out of Hyper Drive was just as scary, one always had the fear of being somewhere unintended and now stranded forever. What if Captain Vale was accidentally caught in a Time Slip and didn't realize it?

According to the Captain, this is apparently what happened to him on a recent flight from Earth to the distant planet of Pluto. As he was engaging his ship's Hyper Drive there was a flash of light and he suddenly found himself still in stationary orbit around the Earth instead. However, something was amiss, there were no satellites, no space station at all in orbit and the Earth looked almost too pristine. He tried to access the known Space Federation communications networks but there was nothing but silence. In fact, there were no communication networks of any kind detected. Was this the Earth he had just left? Was this another Earth in a parallel dimension?

He decided to take his small exploration saucer shaped ship used to access in-orbit supplies from the International Space station to investigate. The little ship was easy to fly, and this seemed like a very much needed low level surveillance flight. What he was able to see was simply astonishing. He was flying over what appeared to be a medieval village in what should have been the large bustling village of Kersey, England located in Suffolk County. There were no people, no TV aerials, no telephone, or light wires. The houses looked extremely ancient. At the stream were ducks but they looked lifeless almost like decoys. He was able to



beam onto his ship the remnants of an old Morning London newspaper, the Standard, lying in the street, it had the date of 1857 on it. There seemed to be no sign of any habitation. It seemed like a ghost city.

After returning to the main ship there was another flash of light and Captain Vale was back in his stationary Earth orbit above modern-day England. He had just engaged his Hyper Drive to leave on his trip to the outer edge of the solar system only what seemed like minutes before. He reported the strange malfunction of his Hyper Drive to the Operations Center. They reported he had disappeared from radar and then suddenly reappeared having been gone for less than five minutes. He said his ship's chronometer indicated he was gone for over two hours!

His operations commander was simply astonished at the digital recording that was on his small operational craft of what appeared to be an old medieval village. No one could explain what had happened and besides the short visual recording, Captain Vale's physical proof, the remnant of the ancient 1857 Standard London newspaper just suddenly disappeared as he returned to his normal time frame. He suddenly became a believer in "Time Slips". In his mind that was the only logical conclusion he could reach about this unexplained event in time.

## July 2024: Regular Club Meeting Held at the Flying Field

Minutes for the June 22 2024 meeting were approved by the majority of members.

## Treasurer's Report

Don Crowe presented his monthly report. The Treasurer's report was unanimously approved by members.

President *Bill Gilbert* stated that we are pursuing the Gold Leader status with the AMA. Achieving this mile stone will help with grant approvals in the future. As a part of this we will do a sound study with a recently purchase sound meter at different points surrounding the field.

We have received donations of over \$1500 dollars from sales of *Lee Dugan's* aircraft and kits. The money will go to the runway fund. A big thank you is in order for Lee's contribution to the club.

### Safety Report

*Tyler Johnson* has been appointed Safety Officer by President *Bill Gilbert. Tyler* could not be here today due to a family commitment.

### Red Zone

Do not fly over, land, take off or crash in the red zone...you are endangering members, facilities and member vehicles. Please familiarize yourself with this zone on that field map posted at the field for all to see and study.

### Club Events

An update on the T-28 Warbird Pylon racing: we are proposing an "open class" *i.e.* whatever modifications you want to make to either the old white or the new yellow 1.1m T-28 is okay for this class. EM *Mark Lipp* will have an update on this class in the near future.

The July 20<sup>th</sup> Glider Endurance Event was a success. Some have suggested additional glider events... remember requests for sanction and 1200 ft. ceiling requires a 3month lead time.

The STOL event scheduled for August 17<sup>th</sup> has been canceled due to lack of participation. The Combat event is August 31<sup>st</sup> so get your combat aircraft ready and practice. Proceed with your airplane construction for the Oct 19<sup>th</sup> Annual Build and Fly Contest. Have not declared yet? Contact *Bill Gilbert.* 

The next Fun Fly and Swap will be November 16<sup>th</sup>. Our annual Christmas get together will be Tuesday December 3<sup>rd</sup>, set the date.

### Maintenance

Although the field looks good, we still need to have a work day Saturday, September 14<sup>th</sup> to prepare for the <u>Steve</u> <u>Crowe Event</u>, for which the CV area public is invited to attend. Come and help out with weeding and other clean up. Work will begin at 7am.

#### Member Input

*Gary Consentino* said that today's raffle for the Kaos 60 is a great flyer, however, assembly has some quirks. The winner of the raffle should discuss with him.

We broke about 10:20am for cake slices provided by *Mark Cotter* Thanks Mark!

Show & Tell: Planes and Projects None shown today.

## **Door Prize and Raffle**

*Chris Padham* won the door prize consisting of a triangle sanding block, and the proverbial glue. *James Cowley* had the winning ticket for the KAOS 60 in today's raffle.

A motion to adjourn the meeting was offered and unanimously approved by members about 10:35am.

Respectfully, Bob Steffensen Club Secretary

Aircraft Weight	GLOW	ELECTRIC
	Engine Displacement	Watts
24 oz.	.09	300
40 oz.	.25	450
64 oz.	.40	600
75 oz.	.75	750

#### Door Prize & Raffle Winners





Door Prize Winner Chris Padham <u>Raffle Prize Winner</u> James Cowley



