



The Flightline



Volume 50, Issue 4 Newsletter of the Propstoppers RC Club AMA 1042 November 2020



President's Message

Fellow Propstoppers

With the fiscal year and flying season quickly coming to an end, I find the state of our club very good and improving. Our budget is stable, our fields are in good order, our membership has grown, and we have accomplished much through a very tough year. At the November ZOOM Meeting, we will elect officers, pass a budget and dues structure for the coming year. Please plan to attend on Tuesday, November 10th at 7 PM. Your attendance and participation is needed.

While attending meetings and going to both fields, I have experienced a good camaraderie among our members. Someone is always ready and willing to assist a member in need. I see that we are flying a wide variety of aircraft: Drones, quadcopters, helicopters (both fueled and electric, gliders (both fueled and electric), planes (both fueled and electric), EDF jets of various sizes from 64mm to 90mm, flying wings, free flight, and rubber powered, etc... I have also seen excellent flight demonstrations of all of the above. This includes scale flight, 3D, sport flying, and tandems. This demonstrates our commitment and dedication to our hobby. For you hardy gents let's try to keep flying right through the winter. It is a shame that the AMA stopped giving out all season flyer patches.

Thanks to all of you who have attended meetings, offered suggestions, and assisted when asked. You have contributed funds, provided Zoom Meeting Service, assisted and mentored new pilots, and volunteered to help.

For those who could not make it out because of Covid, or physical problems, here's hoping that 2021 will be much better. It will be nice to get back to breakfasts and indoor flying when possible.

Thanks for being a part of this great group of gentlemen. It has been a pleasure to be an officer and work with the Executive Committee and Board members.

Mike

INSIDE THIS ISSUE

1	President's Message
2	November Meeting Agenda
3	July and September Meeting Minutes
4	Editor's Notes
5	BILL TOMASCO By Dave Harding
6	PROPPSTOPPERS on FACEBOOK By Ryan Shurman
7	LIFT Aircraft's HEXA Gets a Boost By Dave Harding
8	CIA Reveals Details Of Bird-Like 1970s Stealth Drone By Murray Wilson
9	Grumman TBF Avenger, World War 2 Torpedo Bomber By Eric Hofberg
10	Historic Warbirds Arrive in Hawaii By Eric Hofberg
11	"Rosie the Rocketeer" Restored By Eric Hofberg
12	The Battle of Palmdale By Andy Peterson
13	A Moment in Flight: Flight Video by Pedro Navarro

Agenda
Tuesday November 10th 2020 General Membership
Meeting
7:00 pm (Via Zoom)

Call to Order 7:00 pm
Minutes of the last meeting - Dick
Treasurer's Report – Pete
Membership Report – Ken
Website – Mike

Old Business –

- Field Maintenance - rolling, mowing, insect spraying, and weed prevention?
- Field Preservation - Middletown and Elwyn discussions/contacts?

New Business –

- 2020 Executive Officer Elections
- Dues for 2021

Reminders: – Please pick up all refuse and trash. Please use the Trash can at Elwyn and carry out at CA.

**Propstoppers RC Club of
Delaware County,
Pennsylvania.**

Club Officers

President:
Mike Black

Vice President:
Pedro Navarro

Secretary:
Richard Bartkowski

Treasurer:
Pete Oetinger

Membership Chairman:
Ken Merlino

Safety Officers:
Eric Hofberg
Ryan Schurman

Newsletter Editor:
Larry Woodward

Facebook Editor:
Ryan Schurman

Webmaster:
Michael Black

Propstoppers Web Site;
www.propstoppers.org

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**Indoor Flying at the
Brookhaven Gym**

Indoor flying is suspended due to the Covid-19 related closing of the Brookhaven Community Gym

Minutes of the Propstoppers Model Airplane Club

General Membership Meeting 7/20/2020 CA Field

Call to Order: 10:01 by President Mike Black – 12 members present.

Minutes: Al Tamburro motioned to accept the minutes as printed in the newsletter.

Treasurer's Report: Pete Oetinger reported that there was \$2,900 in the Treasury and said that was par for this time of year.

Membership: Ken Merlino reported that we have 2 new members since the last meeting.

Old Business:

CA Field – FAA Restrictions were discussed as outlined in the newsletter agenda.

Brush Cutting, – Jeff Frazier moved that we cut the brush again at CA Field. Seconded by Fran Misantone. The cost was discussed and Pete felt that the additional expense would not be a problem. The vote was unanimous in favor. Mike will follow-up with Chuck Seiwel

New Business:

T-Shirt bulk order – The members voted for shirt #2 Gray with orange and our logo to be embroidered rather than silk screened. Mike will follow-up with AMPRO

E-mail/communications – a discussion ensued.

Only 2 individuals use What's App. The majority felt a dedicated Facebook account for members only was the way to go. Ryan Schurman volunteered to set up the site for testing.

Field Search – Elwyn was discussed. A discussion about CA ensued. It was noted that the property is for sale for \$1.2 Million.

A suggestion was made to look into the AMA Flying Site Assistance and contact Christian Academy about a long-term lease, a lease with option to purchase or purchase just the portion of the property from our gate. Mike agreed to talk to AMA and then Christian Academy.

Spraying for bugs at CA was discussed – Executive Committee will look into a sprayer and some way to house it.

Tom Schurman moved that we have another meeting at the field in September. A date will be chosen by the officers for the latter half of September. Seconded by Al Tamburro. Passed unanimously. Adjourned 11:20 pm.

Calendar of Events

2020 CLUB MEETINGS:

The Fall General Membership Meeting (including 2021 Officer Nominations) is currently scheduled for Tuesday November 10th 2020.

This will be a "ZOOM" meeting.

Members participating in meetings, and using the fields at any time, must wear face covering and maintain 6' distancing at all times.

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All activities and events are subject to change or modification in compliance with state and local directives related to the Covid-19 pandemic.

All members are advised to closely monitor timely and responsible sources of public information as the situation develops and to make decisions regarding participation in light of their individual needs and concerns.

As of the time of this publication, members are allowed to use the fields if operating in compliance with any and all current directives regarding public activities such as Personal Protective Equipment (masks and gloves) Social Distancing (6 feet) and/or other designated group dynamics.

General Membership Meeting 9/27/2020 CA Field

Call to Order: 12:15 by President Mike Black - 8 members present.

Minutes: The minutes were approved as printed in the newsletter.

Treasurer's Report: No Report.

Membership: No Report

OLD BUSINESS:

The club had 2 brush cuts done at the CA field to improve the flying for members.

We will be purchasing an insect sprayer for CA to try to control the insect problem there.



The club will also work on having crabgrass prevention done for both fields at a cost of approx. \$160

No action has yet been taken on rolling both fields for next season. We will speak with Chuck about equipment availability and cost.

Thanks for the donations to CA field repairs from Ryan, Tom, Fran and Matt. Thanks also to Pedro for donating a new club shirt for past President Chuck Kime. Ken also gave a short update on Chuck Kime's health

The club is still looking for club members who live in Middletown to work with the town officials regarding the

clubs activities.

It has been noticed that trash has been left behind at Elwyn. Propellers, plane parts, and covering. While it is possible that this trash may have been left by unauthorized nonmembers, we hope that our membership is not responsible for this. Let's all please be courteous and cleans-up after ourselves.



NEW BUSINESS:

Elwyn has entered into an agreement with Granite Run Buick to allow them to park their cars at the parking area around the flying field. After conversations with Granite Run employees they have agreed to leave 7 spaces open in front of the picnic tables. Thanks to Mike for working to resolve this situation.

Nov 10th the club will be having a Zoom meeting. In accordance with the Bylaws, Nominations for the 2021 term will be taken for all elected Officer positions. We hope that all members will participate.

Meeting was adjourned at 12:45 with flying to follow.



Respectfully submitted by Ken Merlino for Dick Bartkowski



Editor's Notes:

By Larry Woodward



I've always been a fan of James Bond movies. However, I've never been much interested in science fiction. So, the super cool high tech "toys" that Bond got to use, albeit very entertaining, usually prompted me to make snide remarks about how this or that was "physically impossible." I was a real pain-in-the-@## that way in my early college years.

The first Bond film was *From Russia With Love*. Fifty-seven years later I'll tell you it's still the best of the series. (What did I say about those college years?) The fight scene on the train alone, set the bar forever regarding *mano a mano* combat.

Bond's Aston Martin had a neat tracking gadget that was planted on the bad guy's car. There was a small round CRT screen behind an elegant wood panel on the dash that would display the subject vehicle on a map of the area in real time. Well, after I saw that I would spout off for weeks later about what a completely impossible thing that would be to actually do. I would patiently (condescendingly) explain that it would require a "global system" able to "position" the device in real time and relay that information to the Aston Martin. HOW COULD THAT BE POSSIBLE? Of course not that many decades later, I would eat my words as I enjoyed the benefits of GPS technology in myriad ways.

The thing I did not know was that there were a lot of my contemporaries at that very moment working diligently, and often secretly, at the business of expanding our technical abilities far beyond what I could even imagine, even if Ian Fleming could.

Many of them worked in the aerospace industry for companies like Lockheed Martin and Boeing Vertol. No small number were, and still are, members of Propstoppers. What I look forward to most when we eventually put this cursed virus behind us, will be the joy of spending time with all of our members, new and veteran alike, sharing stories, teaching and learning new ideas and just expanding our minds and hearts through time spent together.

As for my attitude toward science fiction, I've mellowed over the last fifty years and really can get excited about imagining the impossible. The pace of technological advancement is so much faster today than in my youth. I don't think there is any time to be skeptical. If you snooze, you lose. I ponder the fact that my father lived to witness the development of modern aviation from the Wright Brothers era of "motorized kites" to the space age Moon Landing. If aviation could advance that far in one person's life, think how far we will go in the next era.

To keep your focus forward and your interest high I try, with the help of contributions from many of you, to include articles and information documenting our incredible progress and pointing the way forward. Thank you all for the help. Everyone, please let me know what your interests are and I'll try to keep you current.

In this issue I refer you to the article about Propstopper Bill Tomasco for a look into the life and contribution of one of the "Boeing guys" that was there when it was all happening. President Mike Black has been working with Bill's wife recently and reports the following:

"As some of you are aware, former member Bill Tomasco is in a Memory Unit. His wife, Thelma, donated Bill's trove of RC kits, transmitters, etc. to the club for distribution to the members and for sale to benefit the club and in particular youth activities. I disbursed various items to members that could not be sold. I am sure they will be put to good use.

Dave Harding arranged for SAM to take Bill's vast collections of plans and magazines. I placed a few tools, 2 transmitters, and 14 kits on Facebook Marketplace. To date 7 items have sold. I will be using the funds to donate to the AMA's Youth Camp, which runs yearly, and to our club for field improvement and maintenance. Once the sale is complete, we will send an acknowledgement to Thelma thanking her for her thoughtfulness. Please keep Bill in your prayers."

Mike

Dave Harding sent in a piece from the electric VTOL News about the latest progress in the LIFT Aircraft eVTOL. It is an amazing aircraft that could have been easily featured in any science fiction of my youth, but I delight in the notion that the design looks more suited to a Dr. Seuss story than a James Bond Movie.

More Bond inspired is a piece submitted by Murray Wilson about a real life spy aircraft from the seventies that would easily have fitted into the movie scripts of the day.

You see, we really had no idea what was going on while we were busy living out our ordinary lives watching James Bond movies.

All that notwithstanding, we can also appreciate the skill and accomplishments of those previous era scientists and engineers who paved the way with astonishing progress of their own. Eric Hofberg contributed three interesting stories, from a WW II perspective, that make us proud.



PROPSTOPPERS MAC the recipient of members' largesse.

A special thank you to Ryan and Tom Schurman, Fran Misantone, and Matt Borden for their generous \$200 donation, which covered the cost of the second brush cutting at CA Field.

Another goes out to Pedro Navaro for donating a club shirt and cap to Chuck Kime in the name of the club.

From all of us, thank you for your generosity!

BILL TOMASCO

Archiving a lifetime of Contribution to Aeromodelling

Submitted by

Dave Harding

Bill Tomasco has been a long time Propstopper member and, probably, a lifetime aero modeler. Unfortunately Bill has now reached that time of life when he is in poor shape and in a care home. Recently his wife reached out to us to ask if we could help in finding opportunities to pass his aeromodelling collection along to interested members, as she is moving to a new house.

So, Mike Black has done the honors and collected a great deal of material, mostly plans and specialty magazines and we are in the process of finding a home for them.

Fortunately I have a friend, Roland Friestadt, who in his retirement has built a business based on preserving the history of model airplanes through archiving plans and magazines. So, together we are exploring how they might be preserved and made available to future generations.





Bill and I started working for Boeing Helicopters in the early 1960s. Bill was a draftsman. For you younger folks; in those days all designs were drawn accurately to scale in pencil or pen on paper. A Draftsman was really a craftsman (or woman), and Bill certainly filled that requirement, indeed he is also quite an artist.

At that time a group of aeromodelling Boeing employees decided to organize a club which we called The Balsa Choppers. I was the President and Bill the Treasurer. We held a number of contests both indoor, outdoor free flight and U Control in the parking lot.

One contest in the parking lot was an AMA event attracting top flyers from all over the region, so we wrote an article for the Boeing Newsletter.

In this picture Bill is on the right and next to him is Herb Whahl. Herb was a Boeing engineer who also started a business to make replicas of the first really successful model airplane engine, the Brown Jr. In this picture Herb is pointing to the Brown in the model.

Of course our club flew together with others in the area including a group of very good RC flyers from Wilmington. One of these members was Bill Northrop. And if you have been in the hobby for a few decades, you will know something of Bills involvement. At the time he was the RC editor for Model Airplane News, one of the top magazines of the era.



In that role Bill, published designs of models and the magazine sold the plans. Typically what would happen is the intrepid modeler would make a design and sketch it on bits of paper from which the parts were built. Usually these bits of paper, or a crude plan, would be provided. But the magazine required a properly drawn plan for their subscribers so one day Bill asked me if I knew a good draftsman who could translate the builders materials into a proper quality plan. I suggested Bill Tomasco and he agreed. This then began Bill's journey into the world of Aeromodelling plans.

Other magazines would contact him so he had quite a production line. But he didn't stop there. As his fascination with plans grew it led him to start collecting them too.

A few years ago when I took over the club website, Bill asked if I would like to list his plans online so members knew what he had available. This page is still active at:

<http://www.propstoppers.org/plans.htm>

Later, Bill casually told me that he had been getting requests for his plans from all over the World. He seemed a bit concerned so I asked him if he wanted me to take the page down. But he allowed that, well perhaps, as it was "kinda nice and easy to do" he would continue with it.



BOEING - VERTOL 'BALSA CHOPPERS' NEWS

April 1969

Issue #7

President, Dave Harding; Secretary, Bert Keller; Treasurer, Bill Tomasco; Contest Director, Harry Morrow; Newsletter Editor, Milt Sheppard (X3629, M/S: P32-29)

Old "Biz"

Results of March 26th Rubber Scale "Mooney Meet"

Six contestants were involved but none of us were burning up the rafters. As is usually "par for the course", most models had their maiden flight that night and future times should improve with trimming.

PLACE	NAME	MODEL	TOTAL OF THREE FLTS.
1	Bert Keller	Piper Super Cruiser	36.7 sec.
2	Jim Kutkuhn	Siemens-Schuckert E.I.	28.7 sec.
3	Harry Morrow	Piper Super Cruiser	26.4 sec.
4	Bill Tomasco	Piper Super Cruiser	22.9 sec.
5	Marty Zeller	Sperry Messenger	(No officials)
6	Milt Sheppard	Siemens-Schuckert E.I.	(No officials)

The editor won the "Road Runner" event and Harry actually had the longest single "flight". Would you believe that you can imbed the winding loop of a prop shaft into an acoustical tile ceiling? I think we have pictures to prove it can be done. Haven't heard from the Seattle "Hawks" as to any contest of the same types. Maybe when they see our fantastic times they will accept the challenge!

Results of April 9th Easy "B" Contest

PLACE	NAME	BEST FLIGHT OF THREE
1	Jim Kutkuhn	4.53 min.
2	Walt Kasker	4.41 min.
3	Mike Harris	4.21 min.
4	Harry Morrow	3.08 min.

Did I hear someone say "Wow!" - The reason for the long flights was that the contest was held in the school auditorium with a nice, clean ceiling.

As an active Propstopper for many years Bill was a regular at our club get together and usually offered to do something in support, like bringing the drinks. He also brought a model to fly, usually a small scale or cute design and always meticulously built and finished.

In parallel with his aeromodelling activities Bill was also into Hot Rods, building a triple car garage being his commitment to that hobby too. Sadly I have no pictures of his cars.

Dave Harding

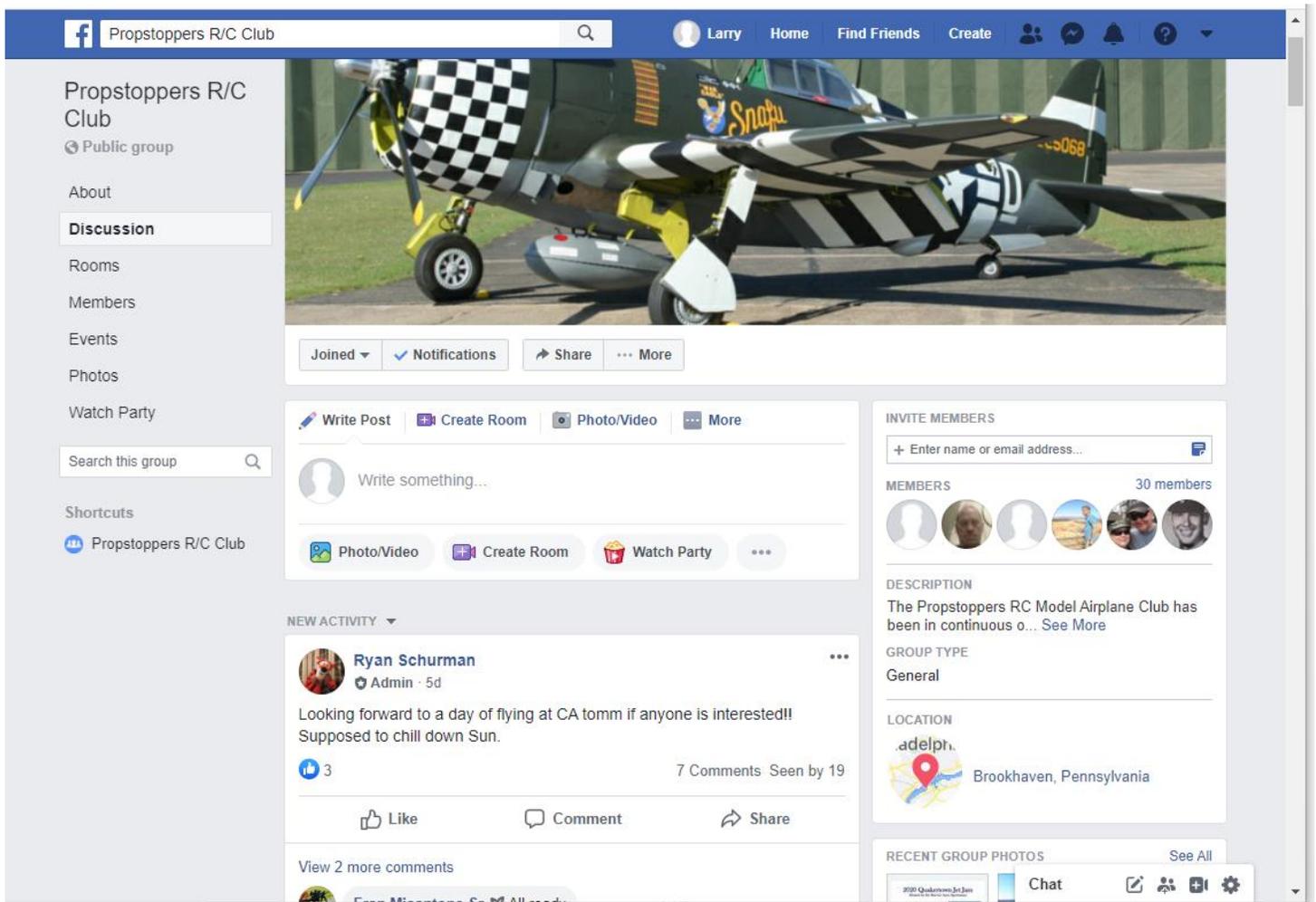
PROPPSTOPPERS on FACEBOOK?

Member support and Covid isolation take Proppstoppers, onto Social Media

By Ryan Schurman

Hello Everyone!!

I just wanted to take a moment and thank everyone who has participated in the new Facebook Group page!! I feel as though it's a great platform to communicate, share thoughts, and exchange flying experiences.



Members who are hesitant to experience Facebook should know that participation can be limited solely to our Facebook group, if they so choose. There is no requirement to maintain a full public profile or Information. Your entire account can be deleted by you at any time. Any and all data stored with your account will be permanently deleted from the Facebook servers.

To begin participation go to Facebook.com. You will need to create an account log-on. All that is required by way of personal information is your name and one means of contact, either a phone number or email address. You will create your own password to secure access to your account. You can leave all other "Profile" information blank.

After you create the account, click on "Groups", and search for Propstoppers R/C. Click the "+Join Group" box. I will verify your name with the membership list and add you to the group. I will also add you to the Messenger portion once I see the name. You will then be able to post to the Facebook page as well as communicate directly with other members through Messages. The entire sign-up process shouldn't take longer than 10 minutes.

If anyone has questions, feel free to contact me at [484-802-2319](tel:484-802-2319).

Thanks,

Ryan Schurman

 **Lamarr Lboogie Williams** shared a link.
Founding Members · October 16

Pretty cool.



Vimeo.com
Mephisto
Fun with the GoPro Max 360

5 1 Comment Seen by 19

 **Jeff Frazier**
Founding Members · September 22

I took these pics of the CA field a couple years ago with my Parot drone. Thought you guys may like them - fall is a great time of year. 🙌😊



5 Seen by 20

Like Comment Share

Write a comment...
Press Enter to post.

LIFT Aircraft's HEXA Gets a Boost

Submitted by Dave Harding



By Kenneth I. Swartz, Vertiflite Senior Contributor

The senior leadership of the United States Air Force witnessed their first flight of an electric powered VTOL aircraft on Thursday, Aug. 20, 2020, when [LIFT Aircraft gave a demonstration of its single-seat HEXA aircraft](#) on the parade ground of Camp Mabry near downtown Austin, Texas. The “Electric VTOL Revolution” has been underway for a decade, but very few members of the US military have even seen a manned eVTOL aircraft fly.



For this special occasion, the VIP audience included Secretary of the Air Force Barbara Barrett, Chief of Staff Charles Q. Brown, Jr., Chief Master Sgt. JoAnne S. Bass and leadership from the Texas National Guard.

The senior leadership were in town visiting the local branch of AFWERX, the Air Force's innovation hub, which officially launched the Agility Prime initiative on April 28, "to accelerate the commercial market for advanced air mobility vehicles," which members of the service like to call "flying cars" or "orbs."



Matt Chasen, founder and CEO of LIFT Aircraft, said he received a call about a week earlier inviting him to perform a demo flight at Camp Mabry. The aircraft arrived at the base a few days early to make some practice flights.

The entourage watched the four-minute flight demo from the parade ground viewing stands in close to 100 °F (37 °C) temperatures and were then invited to inspect the aircraft. "The Secretary of the Air Force [who is an instrument-rated

pilot] and the Chief of Staff [an F-16 pilot] both sat in the aircraft and I gave them a little bit of an overview and they congratulated us on our progress and the work with the Air Force," said Chasen.

"This was the first flight demonstration that we've had with Agility Prime," explained Col. Nathan Diller, Director of AFWERX and the leader of the [Agility Prime initiative](#), which now has established business relations with 15 different companies across three different eVTOL aircraft categories: 1-2 seats; 3-8 seats and/or cargo; and large unmanned cargo greater than 1,320 lb (603 kg) gross takeoff weight. More can be read about the demonstration at [\(evtol.news/news/usaf-leadership-gets-evtol-demo\)](#).



CIA Reveals Details Of Bird-Like 1970s Stealth Drone — With Planned Nuclear Propulsion

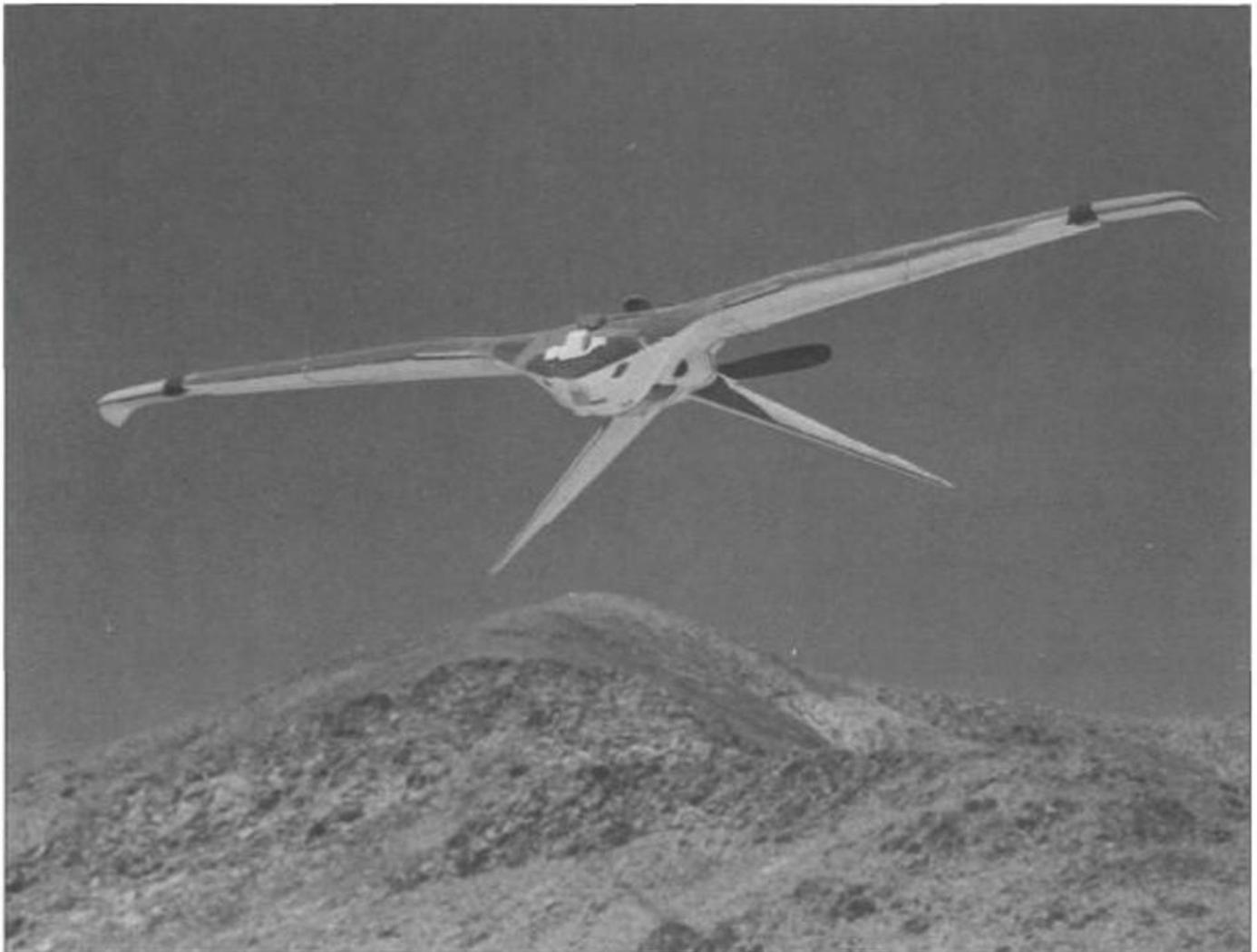
Submitted by Murray Wilson

[David Hambling](#) Contributor

[Aerospace & Defense](#)

I'm a South London-based technology journalist, consultant and author

The CIA's Project Aquiline was a drone with a ten-foot wingspan which would carry out spy missions deep into the Soviet Union. The CIA has [declassified a new stash of documents](#) about the project from the early 1970s, revealing among other things, plans to fit nuclear propulsion and have it operating out of the celebrated [Area 51](#).



The CIA's Project Aquiline strategic spy drone
CIA ARCHIVE

Project Aquiline never became operational, for reasons which we will explore. But, as the CIA notes in a preface to the new release, “the concept proved invaluable as a forerunner to today’s multi-capability UAVs [Unmanned Aerial Vehicles].”

The project originated in the 1960s. After the [shooting down of Gary Powers U-2 spy plane](#) over the Soviet Union, manned flights were becoming politically too risky. Satellites could peer over the Iron Curtain, but only provided grainy long-range photographs. What was needed was a small, unmanned aircraft for strategic reconnaissance from close-up.

The solution was a propeller-driven drone disguised as a soaring bird. From a distance, it was



indistinguishable from an ordinary vulture or buzzard.

Bird-like Aquiline drone prototype by McDonnell Douglas
CIA ARCHIVE

“It is small, flies low and slow, having small visual, acoustic, and radar observables; can outfox defenses rather than overpower them,” [according to a 1968 CIA briefing](#) included in the latest trove. The hardware was built by McDonnell Douglas, with at least five prototype drones being built and tested.

Being inexpensive, ‘inoffensive’ and unmanned, Aquiline was seen as being more politically palatable than manned aircraft and would not provoke the same reaction as a potentially armed warplane flying over another country. Its stealthy approach means it “would penetrate with relative impunity thousands of miles into denied areas such as the Soviet Union, Red China, Cuba, etc.”

Project Aquiline was intended to carry a variety of payloads for up-close reconnaissance of sensitive sites. As well as photographic and infra-red cameras, it could be fitted with gear for electronic intelligence – picking up details of radio and radar emissions, for example locating air-defense radar – and communications intelligence, eavesdropping on Russian radio traffic. Data would be sent back to a central controller via a relay aircraft, now [revealed to be a C-47](#). The drone would be [recovered mid-air by helicopter](#), a technique already in use by then in Firebee drone operations over Vietnam.

Intriguingly, the [documents also reveal](#) Aquiline drop off payloads or 'emplace devices' for intelligence gathering, returning later to pick up information, and support 'in -place agents.' This suggests an 007-like operation in which an operative arrives in the country as an ordinary traveler carrying nothing suspicious, and the drone covertly drops off a cache of espionage gear and lethal gadgets. Sean Connery's Bond would have loved it.

The technical specifications of the Aquiline drone are largely redacted or not included in the documents supplied. [One document indicates](#) that it would carry out operations at ranges of up to 1200 miles. Navigation would be an issue in pre-GPS days; one suggestion was that Aquiline would follow roads, rails, or power lines to find remote spots.

A detailed [Concept of Operations](#) shows how an Aquiline mission would be executed. The drone unit would be based at Area 51, with mobile teams with the drones and radio control units flown out to operating locations, USAF bases or Navy aircraft carriers, as needed. Each mission would be carried out along a pre-planned and rehearsed route. Special measures were taken to provide weather information along the planned route from the Air Force's [Global Weather Central](#) and to provide physical security for the classified equipment and personnel.

CONCEPT - OPERATIONAL PERIOD (1 January 71 -)

a. A total of eighteen (18) AQUILINE vehicles will be required to support planned operations. All vehicles will be located at Area-51, which will be used as the permanent training and support base for forward stagings as required. Following is the anticipated disposition of the assigned vehicles:

(1) Six engineering development vehicles are to be used as test vehicles under ORD management and control until Research and Development Engineering is complete. Remaining vehicles, after flight tests by ORD, will be retrofitted and made available to the AQUILINE Field Program Director as replacement vehicles.

'Concept of Operations' document from the CIA
CIA ARCHIVE

The biggest bombshell in the new documents is the [revelation of plans](#) to upgrade it with an atomic power plant. The original had a [3.5 horsepower engine originally developed for a chainsaw](#), which the CIA planned to replace with something more futuristic: "It is anticipated that the first R&D flight tests of a vehicle system combining a radioisotope propulsion system will begin in fiscal year 1973. On paper this vehicle system would have an altitude capability of [redacted] and **a flight endurance of 50 days** or approximately [redacted]." (My emphasis)

[Another briefing statement](#) claims that "in its advanced form" Aquiline will be able to operate over targets for 120 days, strongly suggesting a nuclear power source.

The atomic-powered drone was expected to be in operational use in 1974. While NASA still uses radioisotope power sources to [power space probes and planetary rovers](#), they are generally considered too hazardous for use on Earth. The report glosses this over: "It will have vast utility for over-water applications; its radiation hazards will be so low as to permit consideration of its use for over—land missions."

Exactly what the Soviets would have made of a crashed CIA drone leaking radioactive material over the Motherland is something we fortunately will never know. The Aquiline project was terminated before it became operational.

According to Lt Col John H. "Hank" Meierdierck, who headed the project, the issue was with contractors McDonnell Douglas. Meierdierck [claims in his autobiography](#) that, given an \$11m budget, the contractors quoted a price of \$110m. Rather than negotiating, McDonnell Douglas argued it out. [Meierdierck says he complained about](#) "exaggerations, padded costs for items and... brazen lies," and recommended that rather than paying the extortionate cost, the project be terminated. Which it duly was.

Project Aquiline may have been ahead of its time. It certainly was not the end of bird-like drones. The [Prioria Maveric](#) used by U.S. Special Forces has the silhouette of a soaring bird. And a [bird-like spy drone](#), widely assumed to be American, was recovered in Pakistan in 2011. Russia recently unveiled a [spy drone disguised as an owl](#) and Chinese security forces [reportedly use pigeon-like drones](#) with flapping wings to spy on its citizens.

As for the CIA – who also developed [a prototype, laser-guided dragonfly](#) drone at the same time as Aquiline – it is unlikely that they abandoned the idea entirely. A "miniature surreptitious aircraft vehicle system" is too useful a tool, and too cool a concept, to ignore. But we may will not find out about the CIA's current spy drone technology until they declassify it in another fifty years.

Follow me on [Twitter](#). Check out my [website](#) or some of my other work [here](#).

David Hambling

Grumman TBF Avenger, World War 2 Torpedo Bomber

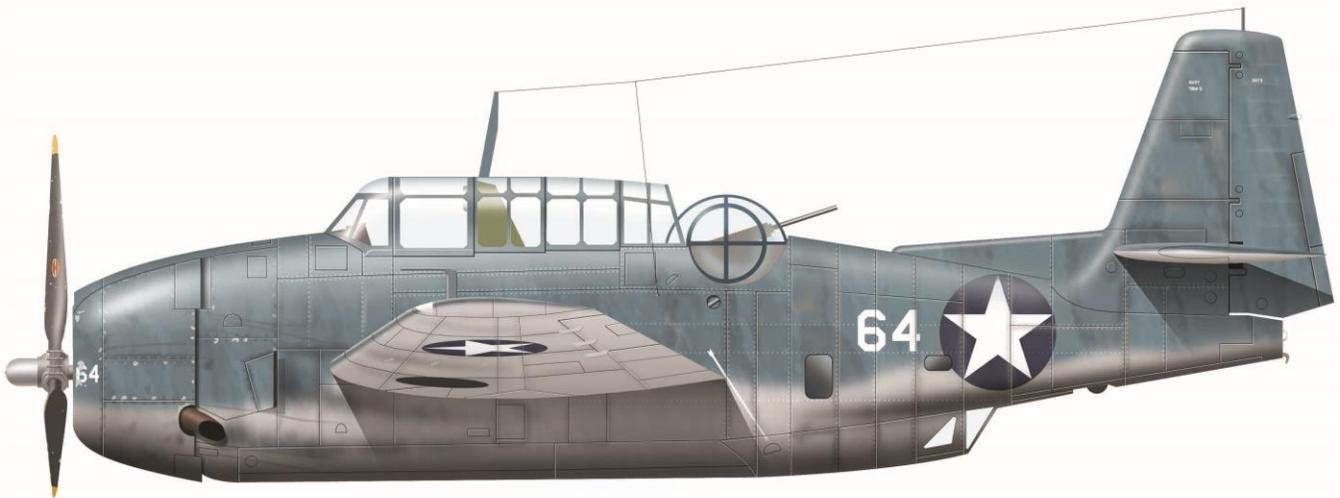
Submitted by Eric Hofberg

Flight Journal

Gerry Yarrish



Entering service in 1942, the Grumman TBF Avenger first saw action during the Battle of Midway. Developed by Grumman for the US Navy and Marine Corp, the torpedo bomber, was also used by several allied air and naval services.





The Avenger's crew members included the pilot, a turret gunner and a radioman/bombardier/ventral gunner. For armament, the Avenger was originally equipped with one forward-firing .30 caliber machine gun in the nose, (later replaced by two wing-mounted .50 caliber guns), an offset .30 caliber gun in a rear-facing gun turret (later replaced with a .50 caliber gun), and a single .30 caliber hand-fired machine gun mounted under the tail, which was manned by the radio operator/bombardier.

With its large, single bomb/torpedo bay, the TBF was able to carry one Mark 13 torpedo, a single 2,000 pound bomb, or up to four 500 pound bombs. With a range of 1,000 miles and a 30,000 ft. ceiling, the Avenger had superior performance than any other previous US Navy torpedo bomber. Powered by a 1,700HP Wright R-2600-8 engine, 14-cylinder double row radial engine, the Avenger was Grumman's first torpedo bomber and was also the heaviest single-engine aircraft of World War II. The first prototype (XTBF-1) first flown on 7 August 1941, the Avenger remained in use until the 1960s, primarily being operated by the U.S. Navy, in anti-submarine, Electronic Counter-Measures and for training roles. Many Avengers were exported to Canada, France, Japan and the



Netherlands and some were even converted for use as civilian fire-fighter aircraft.

Pilots who flew it said the Avenger flew like a truck for better or worse; it was extremely rugged and could absorb a lot of damage holding together to return its crew safe aboard their aircraft carrier. In total more than 9,800 Avengers were produced 7,500 of which were produced by General Motors carrying the TBM designation.

Avenger pilot George H. W. Bush

Perhaps the most famous naval aviator to fly the Avenger was George H.W. Bush, (later to become the 41st President of the United States). Bush joined the Navy in 1942, and became the youngest naval aviator ever in June, 1943.

He flew Avengers with VT-51, from USS San Jacinto. On September 2, 1944 he was shot



down over Chichi Jima. While Bush parachuted safely and was rescued at sea by the submarine USS Finback (SS-230), neither of his crewmen survived. Bush earned a Distinguished Flying Cross for completing his mission after his TBF had been hit.

Bush piloted one of four Grumman TBM Avenger aircraft from VT-51 that attacked the Japanese installations on Chichijima. His crew for the mission, which occurred on September 2, 1944, included Radioman Second Class John Delaney and Lieutenant Junior Grade William White. During their attack, the Avengers encountered intense anti-aircraft fire; Bush's aircraft was hit by flak and his engine caught on fire. Despite his plane being on fire, Bush completed his attack and released bombs over his target, scoring several damaging hits. With his engine afire, Bush flew several miles from the island, where he and one other crew member on the TBM Avenger bailed out of the aircraft; the other man's parachute did not open.

It has not been determined which man bailed out with Bush as both Delaney and White were killed as a result of the battle. Bush waited for four hours in an inflated raft, while several fighters circled protectively overhead until he was rescued by the lifeguard submarine USS Finback. For the next month he remained on the Finback, and participated in the rescue of other pilots.

Historic Warbirds Arrive in Hawaii

Submitted by Eric Hofberg

Flight Journal

Gerry Yarrish



On August 10, the U.S. Navy's Wasp class amphibious assault ship, the USS Essex recently served as an aviation transport, bringing a deck full of World War II-era warbirds to Hawaii.

The aircraft, which include examples of the iconic P-51 Mustang fighter and B-25 Mitchell bomber, among others, will take part in events commemorating the 75th anniversary of the end of World War II.





The USS Essex arrived at Hawaii's Pearl Harbor, the site of the infamous Japanese attack on Dec. 7, 1941, with her unusual cargo to celebrate the final victory over Japan on Aug. 14, 1945, though Japanese officials would not formally surrender until Sept. 2.

In addition to the P-51 Mustang and the twin engine B-25 Mitchell medium bomber, the full shipment of privately owned warbirds also included two Catalina flying boats, an F8F Bearcat fighter, an FM-2 Wildcat fighter, two AT-6 Texans and a Boeing-Stearman PT-17 biplane.

Personnel at Naval Air Station North Island in San Diego, California had loaded the aircraft onto Essex for the journey to Hawaii at the end of July.

In some ways, the USS Essex reprised the role that some smaller Navy aircraft carriers fulfilled during World War II, helping to deliver combat aircraft from the United States to faraway destinations, including in the Pacific theater.

The celebration/flight demonstration is set for September 2nd over Pearl Harbor.



Up Close!

Set for September 2, the culmination of this historic event is to be performed over Pearl Harbor. Of special note, David Prescott's B-25 Ol Glory was transported to Hawaii via the carrier Essex to participate in the flyover with a dozen other warbirds. KT Budde-Jones, Syd Jones and crew delivered the B-25 from Florida to San Diego and will be part of the crew flying the bomber for the events.

“Rosie the Rocketeer” Restored

Submitted by Eric Hofberg

Flight Journal

Debra Cleghorn
Military, Restoration/Reproduction



“Rosie the Rocketeer” has a new lease on life after Colin Powers spent a year and a half restoring the Piper L-4H in his garage. “It’s been an honor to do this airplane for the family of Major Carpenter,” Powers, 84, said. “I’m very happy the way it turned out.”

The WW II recon aircraft was flown by Major Charles Carpenter of the 4th Armored Division of the 3rd Army under General Patton. Carpenter’s job was to fly over the enemy lines in France and report back on the location of enemy tanks.

Bazooka tubes bolted to his Piper L-4H allowed Carpenter to blow up enemy tanks. Not content with simply reporting tank locations, Carpenter sometimes landed his plane and joined the fighting. When he strapped three bazookas under each wing so he could blow up enemy tanks instead of simply spotting them, he got in trouble with his superiors but General Patton praised his courage and “Bazooka Charlie” was never punished.





“Bazooka” Charlie and his steed. Note the three bazookas on the underwing struts of the Piper L-4H .

After the war, small planes like the L-4 were sold as surplus., and “Rosie the Rocketeer” was used for civilian purposes and eventually showcased in an Austrian museum.

The [Collings Foundation](#) bought the plane and asked Powers to restore it. The L-4 had been modified with an updated engine and instrument panels with German lettering, so Powers installed a WWII-era engine and replaced the instrument panels with WW II era panels. He left a bullet hole from when Carpenter flew too close to enemy lines.

“Rosie the Rocketeer” will be on display at the Collings Foundation museum in Massachusetts.

Carpenter and “Rosie the Rocketeer” circa September 1944 in France.



Click [HERE](#) to link to a short animated video of Rosie’s famous battle with six German Panzas.

The Battle of Palmdale

Where the U.S. Military was Embarrassed by a Single, Unarmed Opponent

Submitted by Andy Peterson

Los Angeles Times

September 11, 2005

Cecilia Rasmussen, Staff Writer

The United States military does not like to talk about the Battle of Palmdale. It is undoubtedly one of the most embarrassing American military defeats in history – and it happened right over U.S. soil.

Although not a single soul was lost, over 1,000 acres of American land was destroyed, the military was left embarrassed, and several Americans nearly perished in their own homes and vehicles. All of this from a single enemy who could not even shoot back. This formidable foe was never defeated, or even damaged, by the American military.

Who was this foe, and why did the United States military so thoroughly fail to defeat it?

Figure 1 US Navy Grumman F6F-5K Hellcat Drones (The Foe)



Cold War and Arms Race

The Cold War arms race between the United States and the Soviet Union requires little introduction: the two superpowers of the world constantly wanted to ensure they had a military advantage over the other in the case of conflict. One element of this race was the development of guided air-to-air missiles in the 1950s.



Figure 2 F89D-70 Scorpion (The Attackers)

The United States seemingly won this race, with the Air Force and Navy introducing missiles on their fighters in 1956, a year before the Soviets. However, these missiles needed extensive testing and were severely flawed.

By 1956, in the late stages of testing, live fire tests became necessary. These were conducted against remote-controlled planes (“drones”), including the Grumman F6F-5K Hellcat. Although the Hellcats were well-regarded during World War 2, they were obsolete by 1956, and this made them great practice targets.

On August 16, 1956, one of the Hellcat drones was launched from Naval Air Station Point Mugu in California. It was painted bright red to make it an easier target for the Navy which was to take it down with their new air-to-air missiles.

The Planned Mission

However, the drone had other plans. The Hellcat broke from its course early in the mission. Instead of heading over the ocean, it took a turn towards Los Angeles and continued to climb in altitude. For some reason, the drone was no longer responding to its controls. In response, the Air Force scrambled two fighters (F-89’s) to take it down using unguided air-to-air rockets.

The relative strength of forces seemed firmly in the Air Force’s favor. The Air Force selected two Northrop F-89 Scorpions from nearby Oxnard (Now Vandenberg) Air Base for the task. The Scorpions were early jet-powered fighters (Known as the Widow-Makers) – more than a match for a propeller plane.

Between them, the Scorpions had 208 rockets. On the other side stood an unarmed, unmanned, bright red, outdated drone.

The Battle of Palmdale

Although the Scorpions' rockets were not guided, they made use of a brand-new computerized fire control system.

The Air Force obviously did not want to shoot down the drone over a populated area, so they waited for it to pass over Los Angeles. It continued to turn until it approached the sparsely populated Antelope Valley, at which point the Scorpions engaged.

Or at least they tried to. It turned out that the new fire control system was not all it was cracked up to be, and the rockets failed even to fire. However, the fighters were able to revert to a manual control mode not using the computerized system.

Unfortunately, the planes' gun sights had been removed due to their supposed obsolescence after the computerized system was added. In addition, the rockets in question, the MK 4 "Mighty Mouse," were notoriously inaccurate.

When the drone continued turning, back towards Los Angeles, the pilots knew they needed to act quickly. With 208 rockets, the odds still seemed in their favor. They each launched a volley of 42 rockets, several of which connected.

However, the rockets only glanced against the drone's fuselage, failing to detonate.

With 124 remaining rockets, the fighters made another pass, and each launched 32 rockets. This time none even made contact.

With only 60 rockets remaining, the pilots decided to recalibrate their intervalometer, hoping to increase the effectiveness of their rockets. This would be their last chance to take down the drone as they were running out of fuel as well as ammunition.

The pilots made one final pass, each launching their remaining 30 rockets as the drone approached the city of Palmdale. The last of the Scorpions' 208 rockets again failed to make contact... at least, with the drone.

What *Did* They Hit?

As the pilots returned to base, it became clear that their rockets had made contact, just not with the drone. Although the Mk. 4 rockets, if they missed their target, were supposed to disarm as their speed decreased, something went wrong with this system.

The vast majority, possibly as many as 193, of the rockets detonated. These rockets caused several major fires and nearly caused several fatalities. Although the area around the battle was sparsely populated, the destruction was widespread.

The first fire was around Castaic and destroyed 150 acres. Another rocket fell near Placerita Canyon, where it set a number of oil sumps on fire. That fire nearly reached the Bermite Powder explosives plant, but fortunately was contained around 300 feet away.

At Soledad Canyon, an additional 350 acres went up in smoke, and several smaller fires added to the destruction. All-in-all, over 1,000 acres were destroyed by the fire.

A number of the rockets hit houses, nearly causing several fatalities. One piece of shrapnel flew through a woman's window, bounced off her roof, and eventually smashed into a kitchen cabinet, where it came to rest.

Another house was hit with several fragments, which sliced through the garage and living-room, nearly hitting the woman who lived there.

Another rocket detonated right in front of a man and his mother who were driving along the road, destroying the front of the vehicle. Miraculously, neither was seriously injured.

Finally, a rocket scored a direct hit on another truck, totally destroying it. Fortunately, its occupants had just gotten out.

The drone itself caused only minor damage when it finally ran out of fuel and crashed. Although within sight of the Palmdale Airport, it crashed near an unpaved road, destroying several power lines in the process.

Its remains were eventually recovered in 1997, although it largely disintegrated upon impact.

Aftermath

One thousand acres of land was consumed by fires that took two days and 500 firefighters to extinguish.

Although there were no fatalities, the incident was certainly embarrassing for the U.S. military. Not only had they accidentally inflicted significant damage on American soil and failed to shoot down their target but also many of the brand-new technologies they had developed had proven faulty.

The fact that the remote controls for the Hellcat stopped working in the first place was unfortunate, but the Scorpions' computer failure was another concern altogether. All of this technology, created to keep ahead in the Cold War arms race, had utterly failed.

However, the United States government learned from these failures. Fire control systems continued to advance, guided air-to-air missile technology became more practicable, and eventually, fail-safes were added to unmanned vehicles.

It would be nearly impossible for another "Battle of Palmdale" to happen today, as modern drones are equipped with fail-safes that will either return them to base if they are not destroyed quickly or cause them to self-destruct at a high altitude.

A Moment in Flight:

Flight Video by Pedro Navarro

This month I could not make up my mind which of these videos to post for Pedro. The Maestro has really captured my attention with three recent flights of his newly trimmed Corsair. All feature his usual masterly orchestration of flight and music to set a mood and delight our senses. One, however, captured my attention particularly with the extraordinary patterns, “landscapes” really, of clouds and light in the evening sky. The other is shot in a sky more heavily clouded and dark. The gray palette and stark silhouette of the Corsair paired with a lively piano concerto by Mozart remind me of an old time silent movie. The third is a nod to Disney pairing *A Dream is a Wish Your Heart Makes* with precisely matched flight patterns that can only be described “dance.”



Bravo Maestro! (Editor).

Click below to see this month’s Moments in Flight.

[The Corsair and a Mozart Aria from The Magic Flute](#)

[The Corsair and El Amor Brujo](#)

[The Corsair and a Dream Is a Wish Your Heart Makes](#)