



AMS CHRONICLE

**IPMS DENVER ROB WOLF CHAPTER
JULY 2019**

	<u>2019 OFFICERS</u>	<u>2019 OFFICERS EMAILS</u>
	<p><u>NEXT MEETING:</u></p> <p><u>14 AUGUST</u> <u>2019</u> 1900</p>	<p style="text-align: center;">In Memoriam</p> <p style="text-align: center;">Remembering the departed through kits or subjects from departed members / friends / family</p>

EDITOR RAMBLINGS FROM THE BUNKER AND ASSISTANT SECRETARY

Privet vse

High Plains Con XXX

September 28th, 2019 at the 4-H Building, Larimer County Fairgrounds.

Also

**30 YEARS IN THE HOBBY INDUSTRY
THE RETIREMENT
OF**



MIKE SMITH

**COME CELEBRATE- SATURDAY-JULY 27- 11 A.M.
COLPAR HOBBIES- DOWNSTAIRS**

Nothing new here. I am teaching myself some Russian as you will see in my emails and the newsletter. I do not think my Mahjongg players are interested in calling out discarded tiles in Russian but repetition is a quick way to learn basics. I suppose I could try it first auf Deutsch. Yes it is weird but consider the source.

I continue to look for military vehicle conversions to civilian. I did the 1/35 UNIMOG which took a first at Chili-fest a few years back and the Holt tractor recently. I have a 537L and a URAL in progress to convert and possibly a JGSDF 4x4 Hummer type vehicle (I have 3 of them)

I just picked up the Revel 1/24 Unimog snowplow which goes in the stack with the Unimog THW emergency vehicle, fire apparatus, and off-road rally truck. I also have the 1/35 6x6 Russian Typhoon MRAP and Kevin D.says there are Policii decals sooooo...

When is somebody going to do a 1/35 M-114 POS recon vehicle with 20mm cannon?

Minutes from last meeting

There were 22 folks present.

Voting was held for officers no changes. I would like to thank everyone who voted for me for the newsletter editor. There was only 1 nay vote. </s>.

We sponsored 2 awards packages for HIGH PLAINS, armor and targets (aircraft).

Mark presented the discussion IPMS-USA is having about changing awards from FIRST, SECOND THIRD to GOLD, SILVER, BRONZE. Details are in the latest IPMS as well as ballots. Take the time to respond. If you have questions, contact Mark Perschetti. If you want a detailed description, come to breakfast on Saturday at Denny's between Colpar and Mississippi. Someone will be glad to enlighten you and everyone will offer personal opinions.

Bpb Pridemore presented the masochist side of his personality while discussing a damaged model repair.

John Taylor showed an Iphone app (should be an android app as well) to project pictures from your phone for showing WIP pics and discussions. very interesting (to quote the late Arte Johnson)

Nikto ne Zabyt

Nichto ne Zabyto

A NOTE FROM THE PRESIDENT

Hi Everyone, this is just a note to let you know that the date for our next club meeting has been changed. The meeting for August has been changed from the 7th to the 14th. This change was requested by members with conflicts with the IPMS Annual Meeting held during the week of the 7th. So please adjust your calendar accordingly.

Those that are IPMS members and have received this quarters journal remember to either return the paper ballot or vote online for officers at the national level. Also, there is a preference survey concerning changing judging system. This was discussed at length during the club meeting, with the general feeling that changes to the current system were not necessary. However, please vote for either to change or not change the current system. Remember this is a survey only to see if there is any interest in changing the current judging system.

Hope everyone is having a great summer and look forward to seeing you at your next meeting.

Bob Pridemore

...2019 MONTHLY CONTEST THEMES

Month	Theme	Description
January	Uncharted Waters	Subjects representing the first use of a design concept or technology
February	<u>At Least a Dozen</u>	<u>Any subject with engine(s) of 12 or more cylinders. 2 engines with 6 cylinders does not count.</u>
March	Twins	Any subject with 2 major design elements. Examples: F-82 Twin Mustang, ZU-23 twin gun anti-aircraft.
April	Club Kit Auction	Get rid of your trash and buy my treasure!
May	Club contest: Special Theme: NAFTA Special Category: Grab Bag	Theme: Any Canadian or Mexican subject. May be manufactured in either country or in national markings. Category: Entries from the December Grab Bag Exchange
June	Recon	Any subject specifically designed or used for reconnaissance
July	The Eagle Has Landed	In honor of the 50 year anniversary of the moon landings, any real space subject
August	In Memoriam	Remembering the departed through kits or subjects from departed members / friends / family
September	Worst Kit Ever!	The worst kit you have tried to build, finished or not. Must be at least 50% built + must explain reason why it's the worst kit
October	Tank Killers	Any subject with the primary role of destroying tanks, but not a tank itself . A/C designed with a primary anti-tank mission.
November	Monochrome	Any subject where the majority of the color scheme is black and/or white.
December	Cut Throat Gift Exchange	It's better to give than receive, but even better to steal what someone was given!

JULY 2019 CONTEST

Dave Bathke won this month's "Real Space" theme contest with his 1/144th Airfix Space Shuttle & Booster.



THE EAGLE HAS LANDED
In honor of the 50 year anniversary of the moon landings, any real space subject

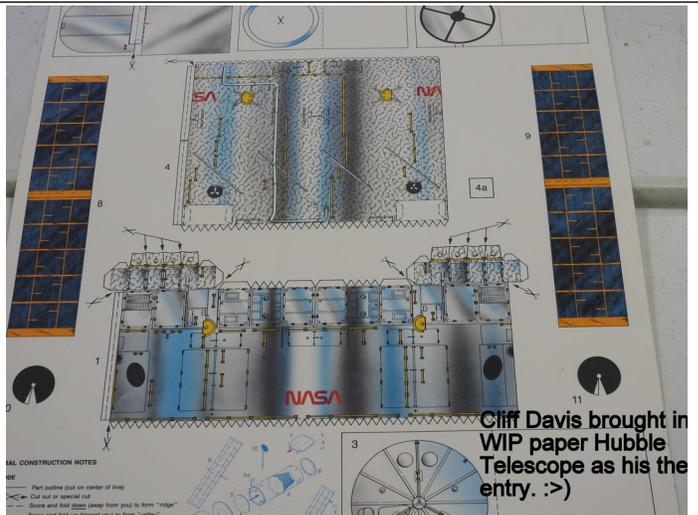


Dave B. also showed this Monogram 1/72nd scale Shuttle.





Eric's Mercury Atlas.



Cliff Davis brought in WIP paper Hubble Telescope as his the entry. :->



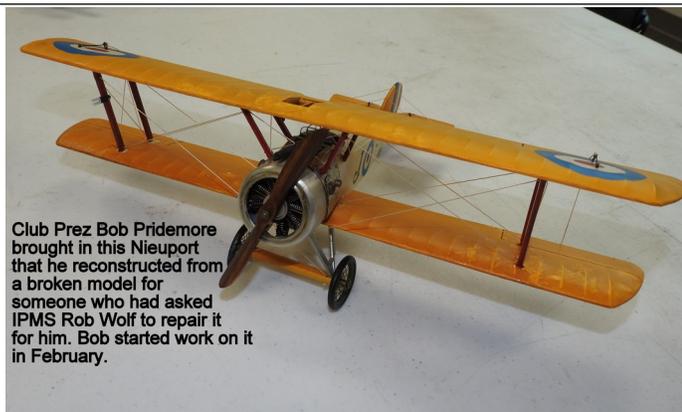
Dan Gallegos showed his '73 vintage Monogram 48th scale Mig-15.



Another shot of Dan 's Monogram Mig-15.



Dan G.'s WIP 48th Monogram
48th vintage F-86.



Club Prez Bob Pridemore
brought in this Nieuport
that he reconstructed from
a broken model for
someone who had asked
IPMS Rob Wolf to repair it
for him. Bob started work on it
in February.



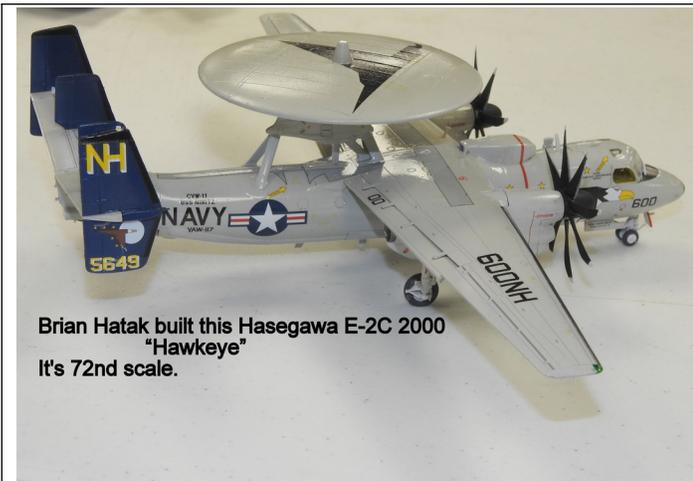
A job well done !



Cory Ransom converted this Kitty Hawk 48th
"Banshee" to the F2H-2N version using a resin
nose. He also corrected some of the kits
inaccuracies.



3/4th rear shot of Cory's
F2H-2N "Banshee"



Brian Hatak built this Hasegawa E-2C 2000 "Hawkeye" It's 72nd scale.



Brian Hatak's E-2C 2000 "Hawkeye"



Body Language



Just checking things out.

JULY 1918 RUSSIAN CIVIL WAR

04	The Fifth All-Russian Congress of Soviets commences. The left Socialist Revolutionaries (SRs) who had previously participated in the Bolshevik government, are now expelled.
06	Disgruntled → Left Socialist Revolutionaries (SRs) stage a revolt in Moscow.
10	The 1918 Constitution of the Russian Soviet Federated Socialist Republic (RSFSR) is adopted on July 10, 1918. Vatsetis (Commander Latvian Rifles) becomes commander of the Eastern Front. (This would be the Urals front Perm, Ufa, Izheusk, Simbesk, Samara area west of the Urals along the Volga River.
16-17	White forces and the Czech Legion come dangerously close to Ekaterinburg. Out of fear the former Tsar → Nicholas II and his family might be liberated, the Bolsheviks think it too risky to keep the prisoners alive. So they shoot the entire Imperial Family.
25	The Czech Legion captures Ekaterinburg.

PRIME D.B. COOPER SUSPECT DIES

July 10, 2019

By [Tim Binnall](#)

Robert Rackstraw, who many researchers suspect could have been behind the infamous D.B. Cooper skyjacking, has [reportedly](#) passed away at the age of 75. Thanks to his ties to Oregon, where the legendary 1971 caper took place, as well as a checkered past which included faking his own death to avoid criminal charges and spending time in prison for grand theft, he wound up popping up on the proverbial radar of investigators looking into the case shortly after the skyjacking occurred.

In 1978, the FBI briefly considered Rackstraw to be a person of interest in the case, but ultimately ruled him out in part because he was only 28 at the time that the crime took place and, therefore, seemingly did not match the age description provided by witnesses. Be that as it may, independent researchers were not so quick to dismiss the possibility that the retired pilot with military parachute training and a penchant for criminal activity could have been D.B Cooper.

In recent years, Rackstraw's name rose to prominence in Cooper research circles as well as the mainstream media due to the [dogged work](#) of journalist Thomas Colbert and his 40-person cold case team which includes a bevy of experts and former law enforcement officials. Since 2011, the group compiled a considerable amount of evidence which they say clearly indicates that Rackstraw was the mysterious skyjacker. Colbert and company detailed their findings in both a book, titled *The Last Outlaw*, as well as a documentary that aired on the History Channel in 2016.

For his part, Rackstraw appears to have initially relished the attention that came about when his name was first connected to the Cooper case in the late 1970s, seemingly delighting in hinting to various reporters that he could, in fact, have been the skyjacker. However, when Colbert and his team reignited the speculation these last few years, Rackstraw had a very different response to the allegations as his lawyer [declared](#) that the idea that his client was D.B. Cooper was "the stupidest thing I've ever heard."

Be that as it may, Colbert [claims](#) that, as recently as 2018, Rackstraw attempted to cash in on his newfound notoriety by secretly meeting with film producers in Los Angeles about bringing his story to the big screen and, presumably, revealing the truth about his role in the skyjacking. Alas, the movie never came to fruition and the much-discussed suspect passed away yesterday at his home in San Diego. In response to the news of Rackstraw's passing, Colbert issued a statement saying "while my cold case team believes he was Cooper, he was also a husband, father, grandfather and great grandfather. Our condolences to the family."

GHOST FLEET' OF SUNKEN WARSHIPS DECLARED A NATIONAL MARINE SANCTUARY

Nina Strochlic



© Photograph by James L. Stanfield, Nat Geo Image Collection

A fleet of wooden steamships from World War I fill the waters of Mallows Bay in Maryland.

A century ago, dozens of shipyards across the United States constructed a fleet of wooden steamships to aid the fight against Germany during World War I. Today, ospreys nest on the boats, and bats breed in the hull. More than 100 of these historic vessels survive, serving as a half-submerged home for fish, beavers, waterfowl, and vegetation along a stretch of the Potomac River next to Mallows Bay, Maryland.

On Monday, the National Oceanic and Atmospheric Administration designated the 18-square-mile area a national marine sanctuary—the first in nearly two decades. The [Mallows Bay-Potomac River National Marine Sanctuary](#) holds not only remains of the “ghost fleet” of WWI vessels, but also Civil War-era shipwrecks, and Native American archaeological sites dating back 12,000 years.

In 1916, President Woodrow Wilson created the U.S. Emergency Fleet Corporation, which began building hundreds of ships to combat the destructive German U-boats sinking merchant and passenger ships in the Atlantic. Plagued by mechanical and construction issues, none of the ships actually made it to Europe during the war. After, most of them were moved along the Potomac to be salvaged by a local company that later abandoned them in Mallows Bay. Despite their place on the sidelines, the ships “reflected the massive national wartime effort that drove the expansion and economic development of communities and related maritime service industries,” NOAA noted in the sanctuary [announcement](#).

Public officials and conservationists in Maryland first nominated the site in 2014, hoping to encourage tourism, education initiatives, and spur new jobs. It also wanted to increase monitoring of the site and acquire federal funds. There was [pushback](#) at the time from locals who made their living from the Potomac and feared additional regulations would hurt their business, and the nomination stalled on the governor's [desk](#).

Mallows Bay is already a popular tourist spot, where visitors can kayak through shipwrecks and observe an array of wildlife, including bald eagles and osprey.

The National Marine Sanctuary System, encompassing 13 sanctuaries and two marine national monuments, [protects](#) 430 shipwrecks and sunken aircraft. The Thunder Bay National Marine Sanctuary and Underwater Preserve was the last site to get a NOAA designation in 2000. After, Congress paused future sanctuaries until NOAA could determine it had the resources to manage existing inventory. The Mallows Bay-Potomac River site won't become official until a 45-day period, during which the House and Senate can hold hearings about the designation.

<https://www.msn.com/en-us/travel/tripideas/ghost-fleet-of-sunken-warships-declared-a-national-marine-sanctuary/ar-AAE2kAr?li=BBnb7Kz&ocid=iehp>

WILDLAND FIRE VEHICLE AIDED NOZZLE/MIST BLOWER

A company expects to make available soon in the United States a tracked wildland fire suppression vehicle featuring a turbine aided nozzle/mist blower and a 1,300-gallon water tank that can be refilled by helicopter.

"The first demonstrator chassis is ready in Reno, Nevada at Powerbully now and waiting for the turbine to be shipped from Italy by air freight," Nicholas Davis, CEO of Arcus Fire said. "It will be doing a week-long demo program at Reno during late October. The second demonstrator is also ready for the turbine in Montreal at Prinoth. It will have an HKD Blue turbine on it and will be on display at the Ottawa conference in November and then doing a tour of the provinces."

Mr. Davis said the price will run around \$460,000 to \$490,00 depending on options, such as infrared cameras, communications, external lockers, and drone integration. They are also looking at rental or lease options for approximately \$7,000 per month.



Arcus Wildtrack. Screenshot from the video below.

Below is a press release from Arcus Fire, followed by a video with computer-generated imagery (CGI).

LONDON — JULY 11, 2019

Arcus Fire unveiled an innovative wildland firefighting vehicle today. The Arcus Wildtrack will be able to take the fight to wildfires like no other vehicle currently on the market.

Using equipment provided by world-class manufacturers, a directional variable flow water turbine is combined with a fully-tracked body. The resulting vehicle can throw water, gel or retardant 75 meters at flow rates of 100 to 2,000 liters per minute.

Traveling at 10 kph on a variety of terrain types, the Wildtrack can suppress up to 24 acres per hour, depending on fuel and terrain. Capable of being reloaded by helicopter through its 5,000 liter (1,321 gallon) baffled hopper water tank, the Wildtrack is able to keep moving, continuously laying down suppressant and supporting firefighters with three external Camlock connections for standard fire hoses fed from the water tank.

“The Wildtrack is easy to deploy,” said Arcus Fire CEO Nick Davis. “Two vehicles can fit on a standard flatbed truck and be delivered to the fireline the same as a bulldozer. The Wildtrack also has hard points built into the chassis that allow it to be helicoptered to more remote locations. Using a helicopter which can carry water, such as an S-64 Aircrane or a CH-47 Chinook, the helicopter which delivers the vehicles can also resupply the vehicles from nearby water sources.”

Wildtrack drivers are able to use high-intensity strobes to provide visual cuing to helicopters supporting them, while the driver is provided with Forward Looking Infra-Red (FLIR) vision for safety during night operations.

Real time satellite tracking of the Wildtrack is available, as is a link to a 90-minute endurance Arcus Drone with survey repeater beamed into the cab for a bird’s-eye view of the situation on the ground.

“We will offer different leasing programs to organizations and agencies which wish to contract the Wildtrack,” Davis added. “Following the 2018 fire season in the U.S., in which millions of acres

burned, billions of dollars of real estate was destroyed, and over 100 lives were lost, my vision is that I would like to be able to reduce losses to less than \$1 billion, with only a few structures lost and no loss of life within 5 years' time."

"The Arcus Wildtrack apparatus brings some new and old concept ability to assist wildland firefighters in suppressing wildfires. I look forward to seeing the Arcus Wildtrack go from concept to prototype and seeing it in action in 2020," said Chief Kim Zagaris, Western Fire Chiefs Association Wildfire & Policy Advisor.

VIDEO AT WEBSITE

<https://wildfiretoday.com/2019/07/15/tracked-wildland-fire-vehicle-with-mist-blower/>

EGYPT SNAPS UP THE 'NILE CROCODILE' (RUSSIAN HELICOPTER)

[Arabian Aerospace](#) ^ | 13 June 2019 | Jon Lake



The Egyptian Ka-52 variant is an export derivative of the Kamov Ka-52 Alligator – known to NATO as the 'Hokum-B'.

The Nile Crocodile name was apparently proposed by Dmitry Rogozin, the then Russian deputy prime minister in charge of the defence industry. It is not certain that the name has been officially adopted.

The Kamov Ka-52 announcement was made on December 6 during Egypt's first International Defence Expo – EDEX 2018.

At least 12 Ka-52s were visible in satellite images of the airbase at Wadi al Jandali (Al Qatamiyah/Al Khatamia) published in late 2018, suggesting that the first Ka-52 squadron was by then in place. The airfield is the home of the 550th Attack Helicopter Brigade, whose 51st Squadron is equipped with the AH-64D Longbow Apache.

The Nile Crocodile may incorporate some features from the similar Ka-52K Katran (mud shark), a navalised derivative that was originally designed to operate from the two French Mistral-class amphibious assault ships ordered by Russia in 2010.

These vessels were subsequently embargoed in 2014 in the wake of Russia's annexation of the Crimea. The ships were then sold to Egypt in 2015.

The Egyptian Ka-52 features updated avionics and a new cooling system and (like the Katran) does have a reinforced fuselage structure and some corrosion-resistant materials. However, it lacks the folding rotor-blades and folding wing seen on the Ka-52K prototypes.

In 2015, Egypt signed a deal for the purchase of 46 Ka-52 land-based helicopters for delivery between 2017 and 2020. In September 2016, Egypt and Russia signed an agreement under which an initial cadre of 30 Egyptian pilots and 70 groundcrew would be trained on the Ka-52 in Russia.

The first Ka-52 for Egypt initially flew in primer, but was first seen in desert camouflage at the Progress plant in Arsenyev in the Primorsk region of Russia in June 2017. The first three aircraft were delivered from the Progress in July 2017, and three more followed in August.

Russian Helicopters general manager, Andrei Boginsky, said that 15 Ka-52s would be delivered to Egypt by the end of 2017 and that the rest would follow over the next two years. Some reports suggest that 19 Ka-52s had been delivered by the end of December 2017.

But, while deliveries ran ahead of schedule, the Ka-52 experienced technical problems during its introduction to service. The engines reportedly lost power in different flight regimes, while there were also problems with the night vision and navigation systems and other avionics equipment. It was reported that these problems lay behind the Egyptian decision to buy 10 AH-64E Apache Guardians.

Boginsky said that the company was planning urgent hardware and software upgrades to rectify deficiencies that had been found during combat testing in Syria and what was referred to as 'real action' in Egypt. These upgrades will centre on improvements to the electro-optical vision system and to the generators, which were identified as particular weaknesses.

Russian sources suggest that there is an additional requirement for further Ka-52s to fly from the Mistral-class ships. Russia's TASS news agency said that Cairo had declined the offer of European or American helicopters to equip the two helicopter carriers, and that Russia had offered modern armament, electronic warfare and communications systems for the Mistrals, as well as the Ka-52K helicopter.

It has been reported that pre-contract work is under way on an export version of the Ka-52K Katran for Egypt, including finalisation of the helicopter's "technical concept" and working on the financial aspects of the contract.

In late August 2018, Alexander Mikheyev, head of Russia's state arms seller Rosoboronexport, said that the company would "soon" start talks on supplying Ka-52K helicopters to Egypt after the completion of other equipment deliveries for the Mistral-class helicopter carriers.

[Egypt snaps up the 'Nile Crocodile' \(Russian helicopter\)](#)

RADIATION LEVELS OF SUNKEN RUSSIAN NUCLEAR SUBMARINE 100,000 TIMES HIGHER THAN NORMAL

Radiation levels in the water around a sunken Soviet-era nuclear submarine are some 100,000 times higher than normal, scientists have warned, raising fears that the K-278 *Komsomolets* may still pose a threat 30 years after it sunk.

Norwegian scientists have been analyzing the area around the submarine, which came to rest on the floor of the Norwegian Sea after sinking on April 7, 1989. The accident—caused by a fire in the engine room—resulted in the deaths of 42 of the *Komsomolets*' 69 crew. Most were killed by radiation exposure while waiting for the Soviet navy to rescue them.

The 400 feet long submarine now sits one mile underwater, around 100 miles southwest of Norway's Bear Island, in one of the largest fishing grounds on Earth.

Research teams regularly check on the status of the wreck. Russian scientists detected low levels of radiation in the water around the *Komsomolets* in the 1990s and 2007, the [Moscow Times](#) reported.

Norwegian teams survey the site every year, and noted elevated concentrations of radioactive cesium-137 nearby between 1991 and 1993, [Business Insider](#) noted. However, no leaks have ever been found.

But of three samples taken Monday using a remote-controlled mini-submarine, one shows radiation levels 100,000 times higher than expected, Norwegian state broadcaster [NRK](#) reported.

The reading was taken close to a ventilation hole, around which scientists have previously observed a strange cloud of dust. Researchers told the [TV2](#) news channel they suspect the ventilation channel is in direct contact with the nuclear reactor inside the submarine, and that radiation is pulsing through it out into the sea.

NRK explained that the scientists are using the *Ægir 6000* mini-sub used in this round of tests, which is expected to give more accurate readings than older equipment.

Hilde Elise Heldal of the Norwegian Institute of Marine Research said she was not overly surprised that radiation was picked up, given past tests that have also recorded radioactive pollution. "The results are preliminary," she told TV2. "We will examine the samples thoroughly when we get home."

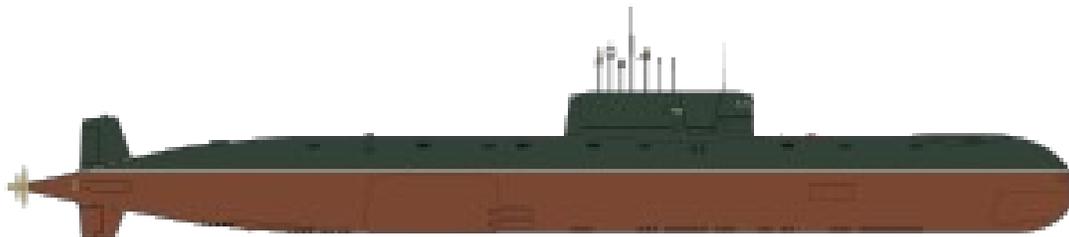
Heldal added that the radiation poses no threat to nearby fishing or scientific activities, and noted that continued monitoring is important "so that we have updated knowledge about the pollution situation in the area around the wreck." This will also help "to ensure consumer confidence in the Norwegian fishing industry," she added.

[The Barents Observer](#) noted that the chance of food chain contamination is low because the submarine is so deep underwater, at a depth very few animals operate at.



SOVIET SUBMARINE K-278 KOMSOMOLETS

K-278 Komsomolets was the only Project 685 *Plavnik* (Плавник, meaning "[fin](#)", also known by its [NATO reporting name](#) of "Mike"-class) [nuclear-powered attack submarine](#) of the [Soviet Navy](#). On 4 August 1984 *K-278* reached a record submergence depth of 1,020 metres (3,350 feet) in the [Norwegian Sea](#). The boat sank in 1989 and is currently resting on the floor of the [Barents Sea](#), one mile deep, with its nuclear reactor and two nuclear warheads still on board. The single Project 685 was developed to test technologies for Soviet 4th generation nuclear submarines. Although primarily intended as a developmental model, it was fully combat capable, but sank after a fire broke out in the aft engineering compartment on its first operational patrol.



K-278 Komsomolets profile



K-278, 1 Jan 1986

The *Komsomolets* was able to surface after the fire started and remained afloat for approximately 5 hours before sinking. Of the 42 crewmembers who died, only 4 were killed by the fire and smoke, while 34 died of hypothermia and drowning in the frigid waters while awaiting rescue that did not arrive in time. Because of this shocking loss of life a very public enquiry was conducted and, as a result, many formerly classified details were revealed by the Soviet news media.

Design The Project 685 was designed by the Rubin Design Bureau in response to a challenge to develop an advanced submarine that could carry a mix of torpedoes and cruise missiles with conventional or nuclear warheads. The order to design the submarine was issued in 1966 and design was completed in 1974. The first (and only) keel was laid down on 22 April 1978 at [Severodvinsk](#). K-278 was [launched](#) on 3 June 1983 and [commissioned](#) on 28 December 1983.

K-278 had a double hull, the inner one being composed of [titanium](#), which gave her an operating depth far greater than that of the best American submarines. The pressure hull was composed of seven compartments with the second and third protected by stronger forward and aft bulkheads creating a "safety zone" in case of an emergency. An [escape capsule](#) was fitted in the [sail](#) above these compartments to enable the crew to abandon ship in the event of an underwater emergency. Initial Western intelligence estimates of K-278's speed were based on the assumption that it was powered by a pair of [liquid-metal lead-bismuth](#) reactors. When the [Soviet Union](#) revealed that the submarine used a single OK-650b-3 conventional [pressurized-water reactor](#), these speed estimates were lowered.

Crew According to Norman Polmar and Kenneth J. Moore – two Western experts on Soviet submarine design and operations – the Project 685's advanced design included many automated systems which, in turn, allowed for fewer crewmembers than would be expected for a submarine of its size. The manning table approved by the [Soviet Ministry of Defense](#) in 1982 called for a crew of just 57 men. This was later increased to 64: 30 officers, 22 warrant officers, and 12 petty officers and seamen.

Submarine K-278 gets a name In October 1988, K-278 was honored by becoming one of the few Soviet submarines to be given an actual name: *Komsomolets* (*Комсомолец*, meaning "a member of the [Komsomol](#)"), and her commanding officer, Captain 1st Rank Yuriy Zelenskiy was honored for

diving to a depth of 1,020 meters (3,350 feet).

Sinking On 7 April 1989, while under the command of Captain 1st Rank Evgeny Vanin and running submerged at a depth of 335 metres (1,099 ft) about 180 kilometres (100 nmi) southwest of [Bear Island \(Norway\)](#), fire broke out in the engine room due to a short-circuit, and even though watertight doors were shut, the resulting fire spread through [bulkhead cable penetrations](#). The reactor [scrammed](#) and propulsion was lost. Electrical problems spread as cables burned through, and control of the boat was threatened. An emergency [ballast tank](#) blow was performed and the submarine surfaced eleven minutes after the fire began. Distress calls were made, and most of the crew abandoned ship.

The fire continued to burn, fed by the [compressed air](#) system. At 15:15, several hours after the boat surfaced, it sank in 1,680 metres (5,510 ft) of water, about 250 kilometres (135 nmi) SSW off Bear Island. The commanding officer and four others who were still on board entered the escape capsule and ejected it. Only one of the five to reach the surface was able to leave the capsule and survive before it sank again in the rough seas.

[Rescue aircraft](#) arrived quickly and dropped small rafts, but many men had already died from [hypothermia](#) in the 2 °C (36 °F) water of the [Barents Sea](#). The floating fish factory B-64/10 *Aleksey Khlobystov* (*Алексей Хлобыстов*) arrived 81 minutes after *K-278* sank, and took aboard 25 survivors and 5 fatalities. In total, 42 of the 69 crewmen died in the accident, including the commanding officer.

Aftermath In addition to her eight standard torpedoes *K-278* was carrying two torpedoes armed with nuclear warheads. Under pressure from [Norway](#), the [Soviet Union](#) used [deep sea submersibles](#) operated from the oceanographic research ship *Akademik Mstislav Keldysh* to search for *K-278*. In June 1989, two months after the sinking, the wreck was located. Soviet officials stated that any possible leaks were insignificant and pose no threat to the environment.

Examination of the wreck in May 1992 revealed cracks along the entire length of the titanium hull, some of which were of 30–40 centimetres (12–16 inches) wide, as well as possible breaches in the reactor coolant pipes. An oceanographic survey of the area in August 1993 did suggest that waters at the site were not mixing vertically, and thus the sea life in the area was not being rapidly contaminated. That survey also revealed a hole over six metres (20 feet) wide in the forward torpedo compartment.

In 1993, Vice Admiral (ret.) Chernov, commander of the submarine group of which the *Komsomolets* was part, founded the [Komsomolets Nuclear Submarine Memorial Society](#), a charity to support the widows and orphans of his former command. Since then, the Society's charter has expanded to provide assistance to the families of all Soviet and Russian submariners lost at sea. Also, 7 April has become a day of commemoration for all submariners lost at sea.

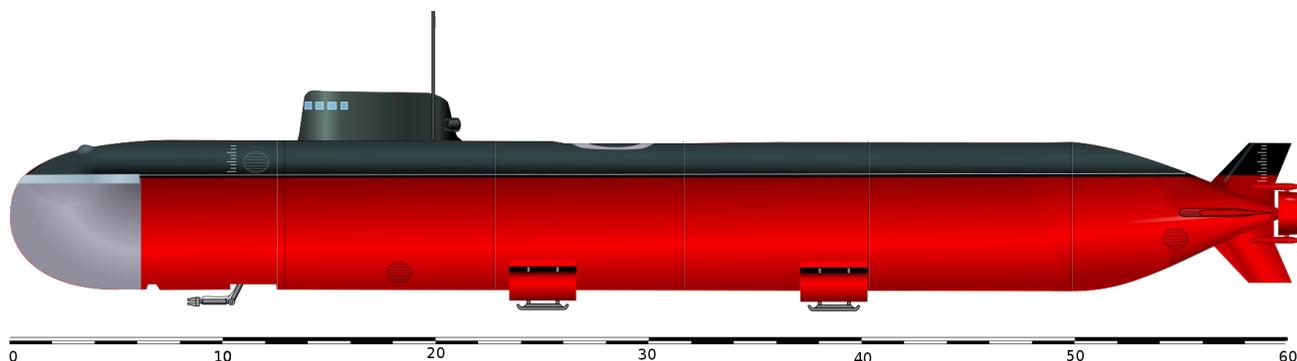
An expedition in mid-1994 revealed some [plutonium](#) leakage from one of the two nuclear torpedoes. On 24 June 1995, *Keldysh* set out again from St. Petersburg to the Mike datum to seal the hull fractures in Compartment 1 and cover the nuclear warheads, and declared success at the end of subsequent expedition in July 1996. The Russian government has declared the risk of [radioactive contamination](#) of the environment negligible until 2015 or 2025.

Norwegian authorities from the Marine Environmental Agency and Radiation Agency took several samples in August 2008 and no radiation was found. They checked for different radioactive substances including gamma emitters, plutonium, americium and strontium.

In July 2019 a joint Norwegian-Russian expedition carrying out routine monitoring of the wreck site detected elevated levels of radioactive contamination of the water around it, indicating a leakage from either the vessel's reactor or torpedoes.

PROJECT 210 AS-12

Project 210, Project 10831 or AS-31 ([Russian](#): AC-31), known also as **AS-12** – but this number is assigned to another ship nicknamed **Lozharik** ([Russian](#): Лошарик, IPA: [lɐˈʂarʲɪk]), is a Russian deep-diving submarine. "AC" stands for "Атомная Станция" from the official Russian naval term "атомная глубоководная станция", "nuclear deepwater station".^{[6][7]} On 1 July 2019 a fire broke out on the vessel while it was taking underwater measurements of the sea floor in Russian territorial waters.



History and features

The submarine was laid down in 1988, but it was not launched until August 2003 due to financial problems. It is designated for research, rescue, and special military operations and is operated by the Main Directorate of Deep-Sea Research (Главное управление глубоководных исследований), reporting to the military intelligence agency [GRU](#).^{[8][11]}

The pressure hull of the submarine is believed to be formed from up to seven interconnected spherical elements; this provides limited space for living quarters and equipment, but grants significant structural strength.^{[1][9]} The vessel is powered by a nuclear reactor, and its exact operational depth is not in the public domain. It is known to have operated at about 2,000–2,500 metres (6,600–8,200 ft) depth in the [Arctic Ocean](#) in 2012^[10] and is capable of being carried by a modified [Delta III-class submarine](#).

The vessel has been described as a "spy submarine" that could possibly be used to tap into or sever underwater telecommunications cables.^[11] Russia has released little information about it officially and there are few photographs of it; the clearest is believed to have been taken inadvertently during a [Top Gear Russia](#) photo-shoot in [Arkhangelsk](#).

The nickname "Horseballons" comes from the vessel's multi-spherical hull and was taken from a Russian cartoon character [Lozharik](#) [ru], a toy horse consisting of small spheres. The name *lozharik* is a portmanteau of [Russian](#): "лошадь" ("loshad"), "horse", and [Russian](#): "шарик" ("sharik"), "small sphere".^{[8][13]} The [NATO reporting name](#) for this submarine is NORSUB-5.

The vessel was mentioned by name in a U.S. Northern Command briefing being referred to as a "dark target" whose activities should be tracked.

DID A DEADLY FIRE BREAK OUT ON A SECRET RUSSIAN SPY SUB 'LOSHARIK'?

July 02, 2019 | Mike Eckel

It's one of the more unique, more capable, and more distinctive vessels in Russia's naval fleet. And it now appears to hold the distinction of being the latest Russian naval ship to suffer a catastrophic -- and, so far, unexplained -- incident.

Russia's Defense Ministry said on July 2 that a submarine operated by its main naval research and development unit had suffered a fire on board, killing 14 sailors. The ship was reportedly operating in Russia's territorial waters in the Barents Sea.

The ministry did not identify the ship involved in the July 1 incident, describing it only as "a research submersible vehicle designated for studying the seafloor...in the interests of the Russian Navy."

Multiple Russian media outlets, however, reported it was a submarine known as the AS-12; another outlet pointed to a vessel with a similar design, the AS-31.

Nicknamed Losharik, after a Soviet-era cartoon horse made up of balloonlike spheres, both submarines are nuclear-powered vessels that have been the subject of speculation and rumor among Western naval analysts and military experts for years, curious about its design and capabilities.



По данным источника, пострадавшая подлодка отправлена на базу в Североморск Фото: EPA

According to the source, the stricken submarine was sent to the base in Severomorsk

According to one respected naval blogger, the AS-12 is a deep-diving special missions ship, operated by the Russian Navy's primary research unit, the Main Directorate Deep Sea Research, or GUGI.

Nuclear-powered, with a crew of up to 25, the ship has been in service since the early 2000s and is believed to be able to dive as deep as 6,100 meters.

It's designed in a way that allows it to dive deeper than normal Russian attack or ballistic-missile submarines. It features a series of orbs contained within a traditional-looking submarine hull, thus giving rise to its cartoon nickname.

The submarine is also designed to be carried, or ferried, under the belly of a larger submarine, allowing greater secrecy and shrouding from sonar or other surveillance.

Western military analysts and at least one Russian naval blogger said the ship that most often ferries the AS-12 is the BS-136 Orenburg, a modified Delta III ballistic-missile submarine.

Though military spending has started leveling off, Russia President Vladimir Putin has poured tens of billions of dollars into upgrading his nation's armed forces and increased the number of operations across the different branches in recent years.

The navy is no exception, particularly with the increased Russian military presence in Syria and the eastern Mediterranean, said Jeffrey Edmonds, a former National Security Council staffer and research scholar at the Washington-based Center for Naval Analyses.

"A higher operations tempo increases the chances of an accident," he told RFE/RL. "However, it's too early to say what caused the fire and whether or not it was human or mechanical error. The Losharik incident will likely have a deep operational impact on the Directorate for Deep Sea Research, given how advanced and relatively few these submarines are."

For the wider public, the shadowy world of undersea surveillance, and even sabotage, has regained attention over the past two years with the spotting of Russian military research vessels lurking off U.S. coastlines.

U.S. intelligence and military officials have publicly voiced concerns that Russian forces might be developing new, secretive ways to tap -- or even cut -- undersea fiber-optic cables that carry transatlantic Internet traffic.

Others have pointed to new Russian efforts to go after the network of undersea acoustic arrays that the United States and NATO have deployed for years to track submarines, or even classified naval cables.

GUGI, the navy's leading experimental research division, has been behind several eye-catching weapons systems in recent years, including a nuclear-powered torpedo.

It's also responsible for a research vessel known as the Yantar, which was launched in 2015 with the ability to carry two manned submersibles and a remotely operated underwater vehicle.

In 2017, Russia's official government newspaper, Rossiyskaya Gazeta, boasted of the surveillance capabilities of the ship, which, like the AS-12, calls the Kola Peninsula port of Severomorsk its home.

"Yantar has devices aboard intended for deep-sea tracking, as well as equipment for connecting to top-secret communications cables," the paper wrote.

In 2018, the United States went so far as to accuse Moscow of "tracking undersea communications cables" and imposed economic measures on the Russian company that was allegedly providing underwater diving equipment to Russia's Federal Security Service.

On July 2, there were conflicting reports about what may have sparked the fire, whether the dead sailors may have asphyxiated due to noxious fumes or for other reasons, and whether the fire

occurred on the submarine itself or on another submersible launched by the AS-12.

For many Russians, the incident has echoes of one of the most searing moments of Putin's presidency: the 2000 sinking of the submarine Kursk, which killed 118 sailors. Putin and military officials were excoriated in the immediate aftermath for lying about the rescue operation.

"The Russians are investing a lot of energy in developing new approaches to undersea warfare, but everything that I have seen...seems to indicate that certain legacies of the Soviet era, especially overly centralized design control and corruption, remain endemic," said Don Thieme, a retired U.S. Marine officer and now a professor at the Center for Naval Warfare Studies at the U.S. Naval War College.

Despite lingering problems with design and corruption, Thieme -- who clarified that his views were separate from those of the U.S. Navy or the Defense Department -- said Russian military thinkers are still formidable.

"One should never underestimate the Russian capability to be innovative in their design processes and how they think about the maritime domain from their perspective," he told RFE/RL.

"No matter what the cause, it is a sad day for the Russian submarine force and the Russian Navy who will, once again, have to do a lot of soul-searching and answer some painful questions," he said.

Source: <https://www.rferl.org/a/did-a-deadly-fire-break-out-on-a-secret-russian-spy-sub-/30033760.html>

NEW DETAILS ON RUSSIAN SUBMARINE FIRE EMERGE ALONG WITH AN INTRIGUING SCHEMATIC (UPDATED)

[The Drive](#) ^ | July 3, 2019 | Joseph Trevithick and Tyler Rogoway

"Krasnaya Zvezda, the official newspaper of the Russian Ministry of Defense, has included a heretofore unseen drawing of the Project 09852 Belgorod, a heavily modified Oscar II-class submarine outfitted for various "special projects" missions, in its latest report about a fire that killed 14 sailors onboard a still-unnamed Russian submarine on Monday. Russia officially launched the still-under-construction Belgorod, which is presently the world's longest submarine, in April 2019. At the same time, new details regarding the July 1st accident have begun to trickle out, although they are limited in number and some are unconfirmed in nature."

"We have no way of knowing whether this means that the Belgorod was in some way involved in the incident. There are no reports that this submarine has put to sea for any period of time for any reason since April 2019, though details about the boat and the progress of its construction are extremely limited. The Kremlin officially plans to commission it sometime in 2020."

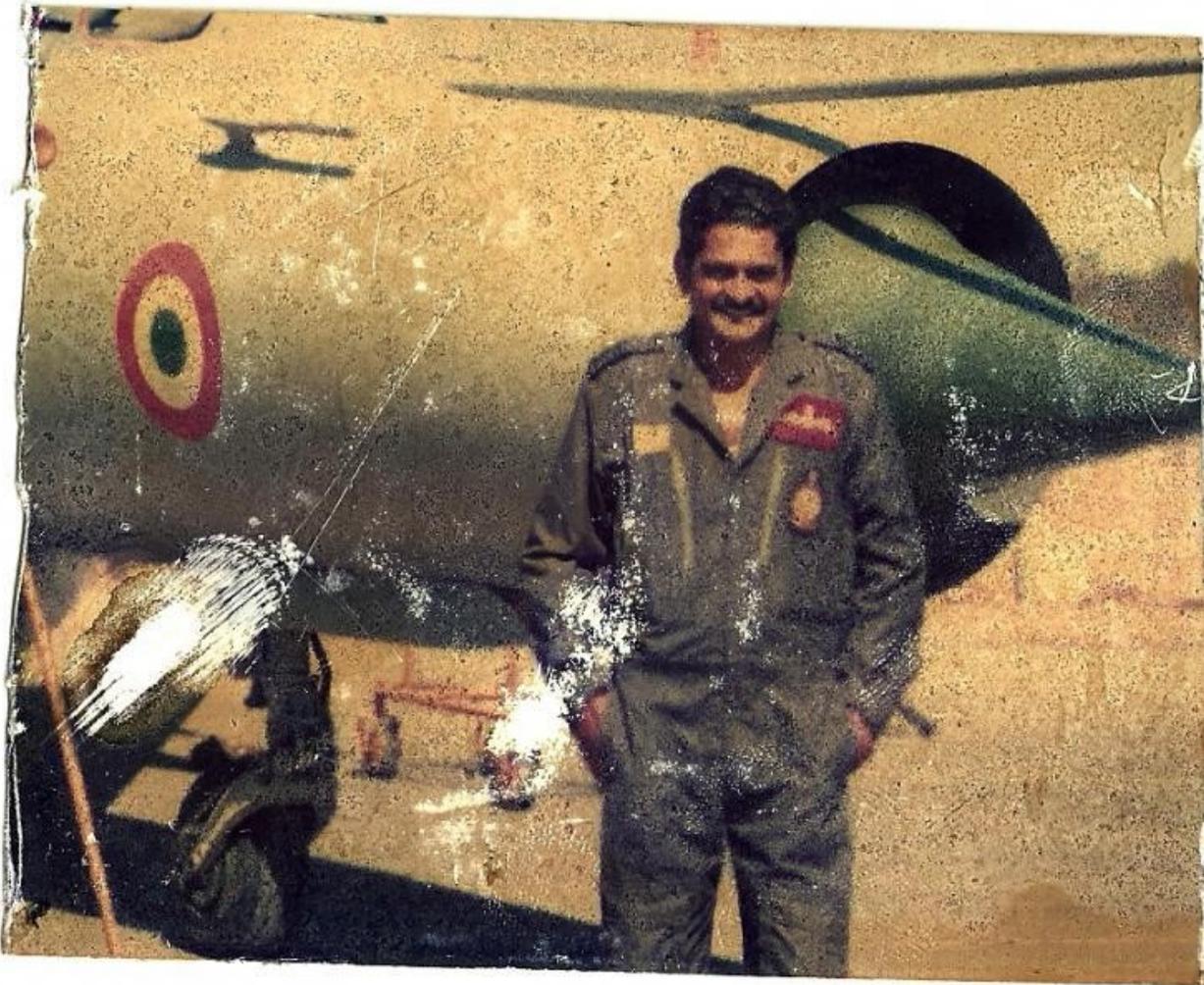
"Some earlier reports from Russian media outlets, citing unnamed individuals, had suggested that one of the Russian Navy's other submarine motherships was involved some way in the incident on Monday. Those stories specifically named the modified Project 667BDRM Delfin-class ballistic missile submarine BS-64 Podmoskovye and the Project 09786 BS-136 Orenburg, a converted Project 667BDR Delta III-class ballistic missile submarine, both of which are understood to be special mission boats capable of performing this role."

"Local fishermen reported seeing Podmoskovye surface in the Barents Sea near the town of Kildin around the time of the reported fire. The rapid surfacing was quickly followed by a lot of commotion on the large mothership submarine's deck. Soon after, two tugs and a warship met it and escorted it into the Kola Bay. Russian newspaper Kommersant, citing anonymous sources, also said that Losharik had been ascending from the seabed in order to dock with Podmoskovye in a Northern Fleet training ground to the west of Kola Bay when the fire broke out."

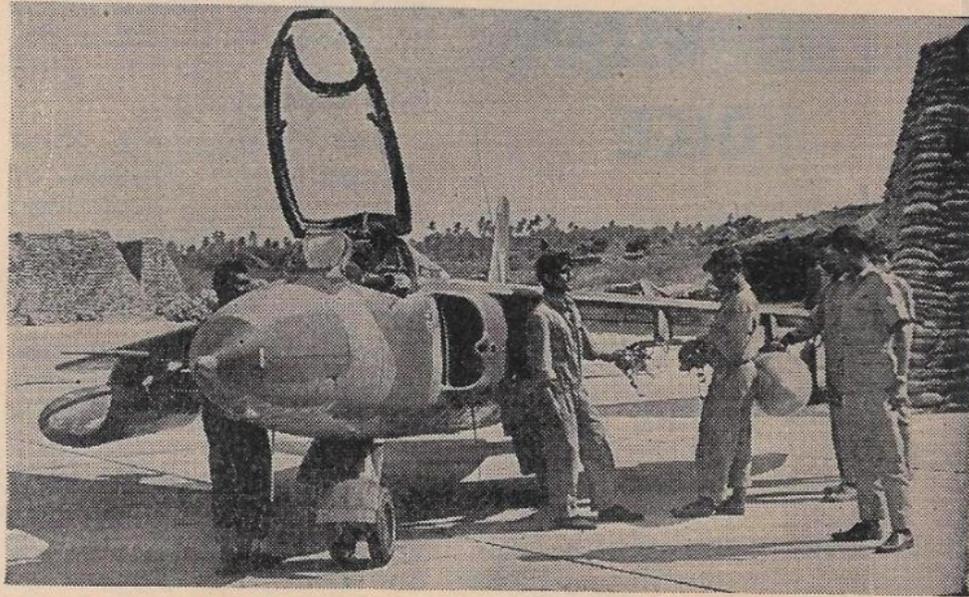
FLOAT LIKE A BUTTERFLY, STING LIKE A BEE: AIR COMBAT IN THE WORLD'S SMALLEST JET FIGHTER...

[Hush-Kit ^](#) | JULY 10, 2019

In 1971, Indian Air Force Gnats fought Pakistan's Sabres in ferocious bloody dogfights. Despite only weighing the same as a Dodge Durango, the tiny jet fighter proved a formidable machine. We spoke to IAF Wing Commander Sunith Francis Soares about flying and fighting in the Gnat. The Gnat was conceived by the British designer, 'Teddy' Petter. One of the greatest aircraft designers was lived, his other creations included the Lysander, Lightning and Canberra. Countering the trend for ever larger, more costly, fighter aircraft the Gnat was a 'pocket rocket'. It first flew in 1955. Though relegated to training duties in Britain, Finland and India. India received its first Gnat in 1958.



"With slats out and full power he executed a motherless turn, but the Gnat not only kept up with him degree for degree but gained some distance in. After, we found that we had clocked more than 9G during this turn. Roy hit the right wing near the fuselage. I saw the wing catch fire, canopy fly off, before we overshot the flaming aircraft. Strike one Sabre."



TOP: The ground crew give a careful once-over to a Gnat before it takes off on a mission. ABOVE: A relaxed, informal trio—Flt.-Lt. Massey, Flg.-Offr. Lazarus and the C.O. Wg.-Cdr. Sikand. OPPOSITE PAGE: Flt.-Lt. Massey (second from left) and others listen intently while the Commanding Officer briefs them on the next mission.

PHOTOGRAPHS BY ABHIJIT DASGUPTA

How long did you fly the Gnat and with which unit?

"I flew the Gnat from Mar 1969 to Nov 1972 with 22 Sqn based at Kalaikunda. I flew 500 Hrs Plus, including intensive flying in the Indo-Pak conflict of 1971"

What were your first impressions of the aircraft?

"Diminutive beast."

What was the best thing about the aircraft?

"Powerful and manoeuvrable."

unnamed-4.jpg

What was the worst thing about the aircraft?

"Poor serviceability in the initial years due high rate of minor failures – brakes / hydraulics. Fleet was also grounded occasionally during modifications."

Which other types have you flown?

"HF-24 Marut and MiG-21 variants."

What was your most interesting mission?

"It was a few days before the 1971 war with Pakistan actually began. We were based at Kalaikunda, near Kharagpur, and for many months had been maintaining a detachment at Calcutta for air defence duties. The ORP was a make-shift one, with sand bags to protect the aircraft and tents for the crew."



The Indian army was geared for battle and in the Boyra sector had moved adventurously into Pakistan territory setting up defensive positions in preparation for the coming battle. This sort of aggressive posturing must have been particularly provocative to the military authorities at Dacca and they decided to use some airpower to displace our troops."

"The first strike by the PAF sabres was on 22 November 1971, at around 10.00h – just as the sun

dispersed the morning fog. Four Gnats were scrambled but arrived too late to pose a threat. A second strike followed soon thereafter but once again the Gnats could not make contact and returned to base a trifle dejected. Wg Cdr BS Sikand, our CO, who had led the first two sorties, then decided to take the afternoon off for some beer and socialising and handed over the lead to Roy, and I was slotted in as number 2. Ganapathy and Don retained their positions at 3 and 4.

As I settled into the makeshift ORP, I silently prayed for another strike. Don and I were playing scrabble when the klaxon went off once again. One more formation had been picked up on the radar heading toward Boyra. Our controller this time was Fg Offr Bagchhi and the time was 14.40h, and soon we were hurtling through the skies at low level with the throttles against the stop. At low-levels and high speeds, the Gnat is not easy to fly as the noise level is atrociously high and the aircraft bucks like a rodeo horse. It became difficult to hear Bagchhi and after a slight reduction in speed and a modest gain in height we reached the border to be told that the enemy was at 2 o'clock 4 miles. Ganapathy and Don being on the right flank and therefore closer to the target should have been able to spot the aircraft but the afternoon haze made this difficult.

I then saw a glint of metal and by sharply focusing my vision saw one aircraft at about three kms, perched as if to commence a dive. I called out contact and commenced a crisp commentary on the flight path. Roy having spotted the aircraft, decided to pull over the flank pair to manoeuvre behind the aircraft. This positioned us at about 1.5 kms behind the Sabre. Someone by this time must have warned him about us, as he went into a classic steep turn with the intention of shaking us off. With slats out and full power he executed a motherless turn, but the Gnat not only kept up with him degree for degree but gained some distance in. After the incident, we found that we had clocked more than 9G during this turn. The Sabre now came out of the turn to gain some speed and this allowed us to close in, as the Gnat has a very good acceleration, and we were soon at firing range. Roy fired a small burst which missed but followed quickly with another which hit the right wing near the fuselage. I saw the wing catch fire, canopy fly off, and the start of the ejection process before we overshot the flaming aircraft. Strike one Sabre.

While we were in combat, I heard Ganapathy call out that he had spotted a Sabre and he manoeuvred behind the aircraft very quickly to fire his first burst which missed. In the mean-time, a third sabre came out of the blue- literally- between Ganapathy and Don, at a distance of 200 yards or so. With lightning quick reflexes Don swerved his aircraft and in a flash, fired his guns which struck the Sabre on the wing causing it to explode. The debris hit Don's aircraft on the nose and drop tank. Yes, drop tank! In our enthusiasm, we had forgotten the cardinal principle of combat: jettison the tanks. Strike two Sabre. The pilot ejected. This pilot was taken PoW and later released. He went on to become the Chief of the Air Staff of the PAF."

Meanwhile Ganapathy had fired a second burst which this time was better directed and hit the sabre on the right wing which also caught fire. Strike three Sabres. During our combat which I estimate did not last more than 3 minutes, I saw small puffs of incandescent lights which I later found to my dismay, was AA shells bursting all around. The Indian army air defence regiment was having a field firing practice at our expense. It's a good thing their gunnery was not as good as ours.

It was now Bagchhi's turn to take over and he assembled us for our return to base. After our rendezvous we came in a finger four formation for a run in, but because of Don's damaged aircraft did not intend to do any dramatics, but Ganapathy would not have any of it. After peeling off he came in for a victory roll to tell the world that we had shot down three Sabres without any loss."

How combat effective was the Gnat?

“Quite. It had a good kill-to-loss ratio.”

Instantaneous turn rate

“Good to excellent”

Sustained turn rate

“Ditto”

Climb rate

“Good to excellent”

Acceleration

“Again, good to excellent”

What was your most memorable mission and why?

“I would like to mention another memorable occasion. Our Stn Cdr in 1971 before and during the conflict was a tea drinker who took drastic action to curtail our alcohol consumption (to no avail). He exhorted us to emulate the Israel pilots who in the 67 conflict flew 4 to 5 sorties, who drank only orange juice (which by the way was not available at the time except in rusty tins of doubtful quality). On 5 Dec six of us flew five sorties in a span of 9 hrs literally jumping from one aircraft to another with briefings and nibbling snacks in between. We gleefully sent our ‘autho’ book that evening to the Stn Cdr and requested him to join us for a drink.”

Which three words would you use to describe the aircraft?

“Float like a...”

What were the threat aircraft it was facing and which was the most challenging and why? “Sabre. That was the most potent threat in the sub-continent. Its turn performance was quite good.”



Where were you based and what was life like on the base?

Kalaikunda. Due poor govt remuneration in that period, life was dictated by the letters 'NM'....no money or next month. however life was not uncomfortable.

What was the social life like?

"Serendipitous, in that most of the married pilots had intercaste/creed marriages which made for excellent social action. parties were great fun with dancing and games. occasional interspersed picnics and overnight outings were happy events."

How effective were the weapon systems and avionics? What additional equipment would you have liked?

"Nothing to shout about. We made do with 'Mk 1 eyeball' and 'moving thumb display.'"

How good was your training?

"Highly indigenous with no exposure to international tactics

I'd like to dedicate this to the IAF Gnat Brotherhood and especially to the war veterans of 22 Sqn, IAF (Swifts) who did a splendid job!"

Special thanks to Anshuman Mainkar for making this interview possible. Excellent article on the this subject on his blog here.

[Float like a butterfly, sting like a bee: Air combat in the world's smallest jet fighter...](#)

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