

# Flight Line

**The Official Publication of the CAF**  
Southern California Wing  
455 Aviation Drive, Camarillo, CA 93010  
(805) 482-0064



June, 2021  
Vol. XL No. 6

COMMEMORATIVE  
AIR FORCE

Visit us online at [www.cafsocal.com](http://www.cafsocal.com).



**Emma McNay, Wing Cadet Alumna**  
**Flight Instructor – See Page 13**

*CAF - So Cal Wing's 40<sup>th</sup> Anniversary!*



**Remember D-Day, June 6, 1944**  
**See Pages 27 & 28**

**To Educate, Inspire and Honor Through Flight and Living History Experiences**

# JUNE 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>MUSEUM WILL BE CLOSED UNTIL FURTHER NOTICE DUE TO COVID19 EPIDEMIC</b>		1	2	3 Work Day	4	5 Work Day
		6 D-Day	7 Museum Closed	8 Work Day	9	10 Work Day
		11 Work Day	12 Work Day	13	14 Museum Closed	15 Work Day
		16 Work Day	17 Work Day	18 Work Day	19 Work Day	20 Father's Day
		21 Museum Closed	22 Work Day	23	24 Work Day	25 Korean War Began - 1950
26 First Day of Summer	27	28 Museum Closed	29 Work Day	30	<b>MUSEUM WILL BE CLOSED UNTIL FURTHER NOTICE DUE TO COVID19 EPIDEMIC</b>	

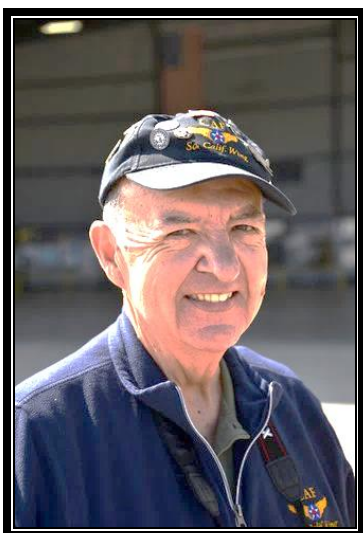
STAFF AND APPOINTED POSITIONS				IN THIS ISSUE	
Wing Leader	* Jason Somes	(818) 292-4646	wingleader@cafsocal.com	Wing Calendar . . . . .	2
Executive Officer	* Chris Liguori	(310) 430-2779	exo@cafsocal.com	Staff and Appointed Positions. . . . .	2
Adjutant	* Roland Fogel	(805) 428-6806	adjutant@cafsocal.com	SoCalWing Hall of Fame . . . . .	3
Finance Officer	* Paul Willett	(818) 469-8480	finance@cafsocal.com	A C-17 Tribute to Hump Pilots. . . . .	4
Operations Officer	* Mike Hohls	(805) 410-2498	ops@cafsocal.com	Photo Page I . . . . .	5
Maintenance Officer	* Trace Eubanks	(805) 325-1513	maintenance@cafsocal.com	Great Escape Tunnel Unearthed . . . . .	7
Safety Officer	* Tom Newhard	(805) 797-0446	safety@cafsocal.com	May/June Member Birthdays . . . . .	9
Development Officer	* Randy Sherman	(310) 740-2128	development@cafsocal.com	Charlie Plumb Speaks to Career Officers . .	10
Education Officer	* Rob Hertberg	(702) 810-6193	education@cafsocal.com	USS <i>Bonhomme Richard</i> Burns . . . . .	12
Gift Shop Manager	Berthany Smith	(805) 482 0064	giftshop@cafsocal.com	Cadet Alumni/Alumnae . . . . .	10
Friends Coordinator	Ceci Stratford	(805) 630-3696	cecipilot@sbcglobal.net	Emma McNay – Wing Cadet Alumna . . .	13
Air Show Officer	Jason Somes	(818) 292-4646	ops@cafsocal.com	D-Day Survivor Ray Lambert . . . . .	14
Museum Director	Kathy Newhard	(805) 482-0064	museum @cafsocal.com	RQ-180 UAV . . . . .	16
Personnel Officer	Will Cunningham	(805) 570-3515	membership@cafsocal.com	First Flight on the Red Planet. . . . .	18
Film/Events Manager				May <i>Friends</i> Newsletter . . . . .	21
Public Info Officer	Pat Brown	(805) 479-2221	pio@cafsocal.com	Gn. Eisenhower addresses Troops . . . .	27
Public Info Officer	Lucien Pillai	(805) 300-4580	col.luc.cafsocal@gmail.com	Gen. Eisenhower Letter to all Troops . .	28
Historian	Ron Fleishman	(805) 586-4119	oldplanec46@aol.com		
Rides Coordinator	Mike Hodson	(805) 279-2252	rides@cafsocal.com		
Wing Photographer	Arash Afshari	(805) 279-1599	acafshari@gmail.com		
Librarian	Bill O'Neill	(805) 300-0212	scwairshow@aol.com		
Newsletter Editor	Dave Flood	(805) 402-8356	dmpflood31@gmail.com		
Newsletter Production	Casey de Bree	(805) 205-0494	scdebree@aol.com		
Webmaster	Will Cunningham	(805) 570-3515	col.will.cafsocal@gmail.com		
Procurement Officer	Mike Hodson	(805) 279-2252	aitchpm@gmail.com		
Displays/Artifacts Mgr.	Charlie Carr	(805) 200-7220	education@cafsocal.com		
HANGAR PHONE (805) 482-0064 WEBSITE www.cafsocal.com E-MAIL admin.cafsocal.com				<b>Submittal Deadline - 15th of the month</b>  Southern California Wing 455 Aviation Drive Camarillo, CA 93010-9501	

This issue of Flight Line is copyrighted 2021 by the CAF, Southern California Wing. All rights reserved.

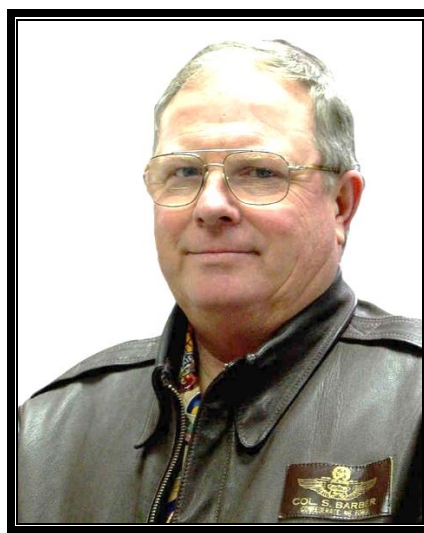


## SOUTHERN CALIFORNIA WING HALL OF FAME

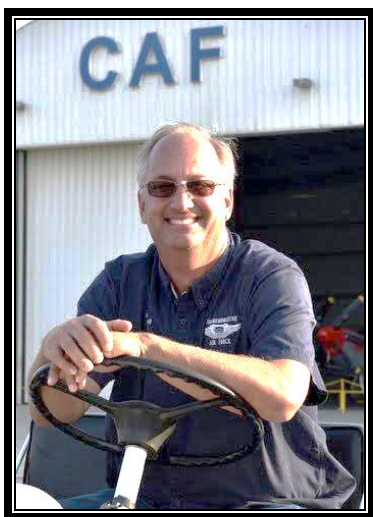
DEDICATED TO THOSE MEMBERS OF OUR WING WHO HAVE SERVED  
FOR MANY YEARS TO MAKE OUR WING EXEMPLARY!



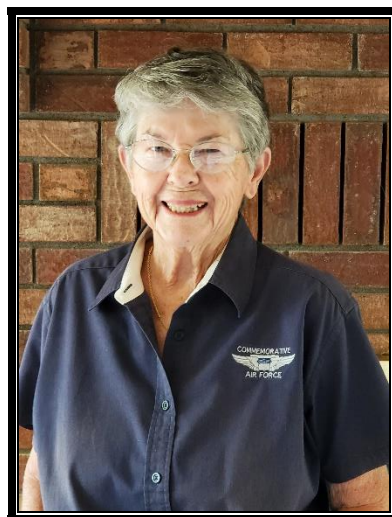
**GEORGE HERNANDEZ**  
CAF ID NO. 14768



**STEVE BARBER**  
CAF ID NO. 19119



**MARC RUSSELL**  
CAF ID NO. 20198



**GEORGIA THOMPSON**  
CAF ID NO. 16523



## C-17 Tribute to Hump Pilots

Text & Photos by Paul Koskela

From "Flight Line" dated September, 2000



**C-46 Commando "China Doll" ready for takeoff to McChord AFB, Washington**

**The following story about "China Doll's" trip to McChord AFB, WA – 22-25 June, 2000, is By Capt. Jack Narz, a "Hump Pilot" who made 194 C-46 flights (97 round-trips) over the Himalayas from January to November, 1945. Capt. Narz was the honored guest of the So Cal Wing on the flight to bring "China Doll" to a ceremony at which the Air Force dedicated a new C-17 "Globemaster III" cargo plane to those brave pilots who flew "The Hump."**

"To McChord and Back on 'China Doll'."

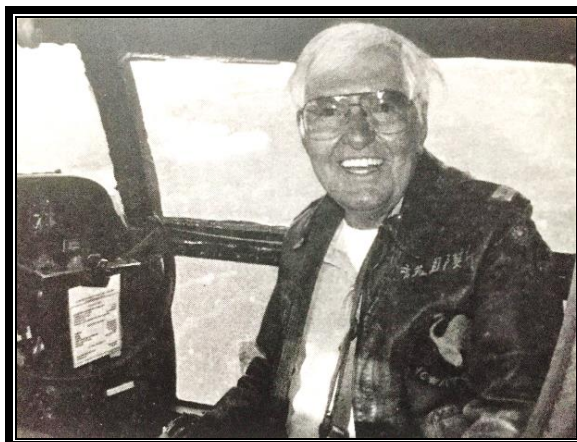
By Jack Narz

On Thursday, 22 June, 2000, Gary Barber asked me if I wanted to fly, and I sat in the left seat of the C-46 for the first time in 55 years. I reached down, found the left seat control lever, and slid the seat forward just as though I knew what I was doing. Later, when I tried to do the same thing again, I couldn't find the lever! This time I was thinking about it, and grabbed the seat back "tilt" lever instead. "Thinking" about it was a mistake, which was pointed out to me by Terri Reid, and she was right!

It felt like "old home week." The controls were right where they were back in 1945. It took a while to reacquaint myself with the instrument panel, but it felt great to have my hands and feet on the wheel and rudder pedals again. For an hour or so, I was back in my twenties! What a kick in the ass! Later in the flight I spelled Steve Barber in the right seat.

I want to thank Gary and Steve for their kindness in letting this old Hump pilot relive some of his glory days, while at the same time admiring their bravery for sitting there with hands and feet off the controls, while the old guy flew that great iron monster. I also want to thank the Colonels of the So Calif Wing who were riding in the back for not panicking when I was driving.

The weather was great both to-and-from McChord. The flights were uneventful, and the bird flew with nary a hiccup or burp, thanks to the TLC given by the Colonels who maintain the "Doll." We made excellent time on the way up and arrived as scheduled. However, McChord was closed because of a controlled fire burn at the south end of the runway. Instead of landing elsewhere, and because we still had plenty of fuel, Gary and Steve (with no objections from the Col's) elected instead to give the troops a sightseeing flight around Mt. St. Helens and environs before going in – which was a bonus for picture-taking by the passengers and crew.



**Above – Jack as a "Hump" pilot, and below – as a happy pilot in the right seat of "China Doll."**





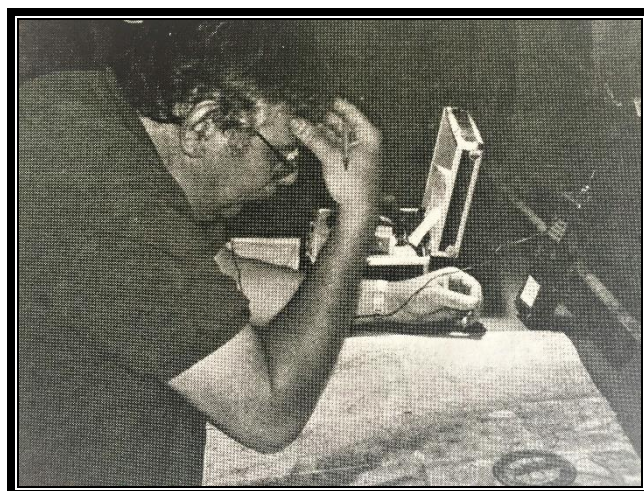
**View of Mt. St. Helens volcano from "China Doll."  
Note the depression from the eruption of May 18, 1980.**

That bright, blue CAVU day we wished for dawned on Sunday, 25 June. This was the second day of the airshow as well as the departure day for the Hump pilots and the C-46. The "China Doll" departure window was finally locked in between 1200 to 1300. We took off to the north at about 1235 and Gary and Steve did a 90 to the right and then a 270 left at low altitude for a fly-over of the field. Then a climb out to a heading for CMA, where we touched down at 1745.

On the way home, I got some more drive-time on both the left and right sides of "China Doll." It's obvious to me that both Gary and Steve love to fly the '46 and both landings were superb "grease-jobs."

Again, thanks to all. It was wonderful, and will never be forgotten!

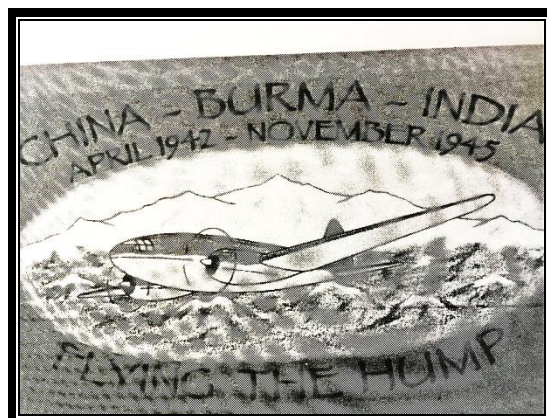
Ed Note: Following the war, Narz had a career that encompassed radio, tv, and movies. After a stint at KXO, an El Centro radio station, he had disc jockey tours on Los Angeles radio station KWIK, KIEV and KLAC. He was MC or announcer on the Curt Massey, Tennessee Ernie Ford, and Bob Crosby shows, Queen for a Day, The Colgate Comedy Hour, and One Man's Family. He was the on-camera advertising spokesman for such major accounts as L&M, Max Factor, Richfield, Carnation and Goodyear Tires. He even did some singing, and was the MC/Host for several popular game show, including "Concentration" and "Beat The Clock." Since discovering the CAF – So Cal Wing, he has made numerous donations of WWII memorabilia to our Museum.



**Are we there yet? Ron Fleishman, the navigator on the C-46 flight to McChord AFB.**



**C-17 "Globemaster III" Over McChord AFB**



**The special nose art placed on the new C-17 "Globemaster III" at dedication ceremonies to honor the CBI "Hump" pilots.**

### **CAF Members making the flight to McChord:**

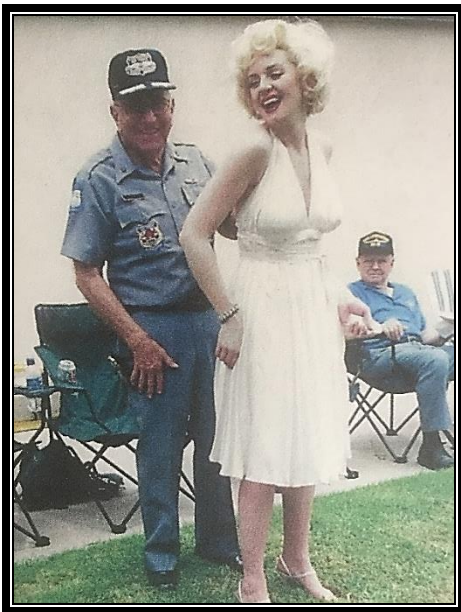
**Gary Barber, Steve Barber, Cliff Brown, Pat Brown, Alex Ferrasci, Ron Fleishman, Al Kepler, Ross Knudsen, Gary Koch, Paul Koskela, Frank Mormillo, Jack Narz, Terry Reid, Rudy Wallasch.**



## June Photo Page I



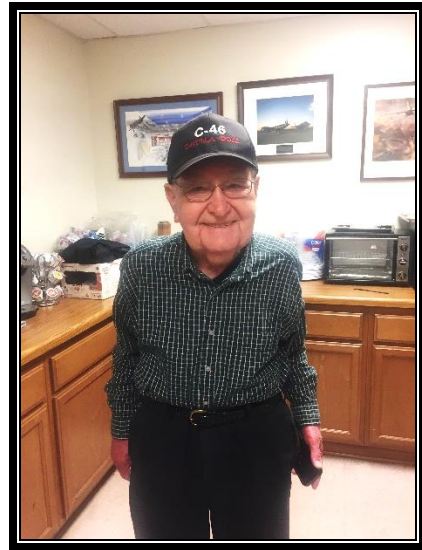
**Pat Brown (rear) with "Marilyn Monroe" at the Camarillo Street Fair, July 4, 2001.**



**Russ Drosendahl applying suntan lotion to "Marilyn's" back. Ceci Stratford attracted throngs to the CAF display at the July 4 Street Fair in Old Town Camarillo in 2001 with her great impersonation of Marilyn!**



**Are we there yet?**



**Gene O'Neal celebrating his 89<sup>th</sup> birthday at the "O" Club with a large contingent of CAF-So Cal members in attendance. Happy Birthday, Gene, and many more to come!**



**Gene's cake – with a beautiful picture of China Doll! Almost too nice to cut up. But we all enjoyed it – with ice cream, too!**



**Photo by Len Reid**

**The editor waving from a SkyRider ultralight aircraft – before taking off on a flight over the strawberry fields at an altitude of 450 feet. For a great ride - contact Mike Chicco at Hangar #1.**

## The Great Escape Tunnel Unearthed

From the South African National Society website

Untouched for almost seven decades, the tunnel used in the Great Escape has finally been discovered.

The 111-yard passage nicknamed 'Harry' by Allied prisoners was sealed by the Germans after the audacious break-out from the POW camp Stalag Luft III in western Poland.

Despite huge interest in the subject, encouraged by the film starring Steve McQueen, the tunnel remained undisturbed over the decades because it was behind the Iron Curtain and the Soviet authorities had no interest in its significance.



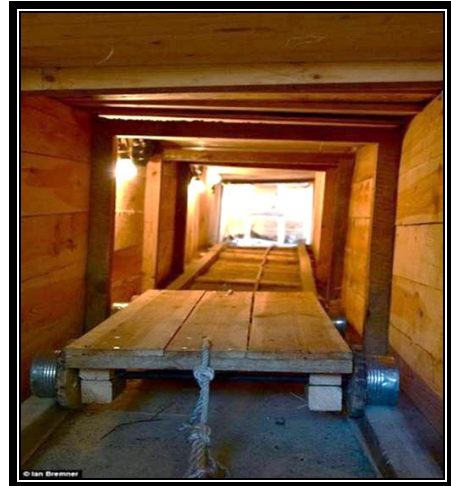
But at last British archaeologists have excavated it, and discovered its remarkable secrets. Many of the bed boards which had been joined together to stop it collapsing were still in position. And the ventilation shaft, ingeniously crafted from used powdered milk containers known as Klim Tins, remained in working order.

Scattered throughout the tunnel, which is 30ft below ground, were bits of old metal buckets, hammers and crowbars which were used to hollow out the route.

A total of 600 prisoners worked on three tunnels at the same time. They were nicknamed Tom, Dick and Harry and were just 2 ft square for most of their length. It was on the night of March 24 and 25, 1944, that 76 Allied airmen escaped through Harry.

Barely a third of the 200 prisoners many in fake German uniforms and civilian outfits and carrying

false identity papers, who were meant to slip away managed to leave before the alarm was raised when escapee number 77 was spotted.



**Tunnel Vision: a tunnel reconstruction showing the trolley system.**

Only three made it back to Britain. Another 50 were executed by firing squad on the orders of Adolf Hitler, who was furious after learning of the breach of security.

In all, 90 boards from bunk beds, 62 tables, 34 chairs and 76 benches, as well as thousands of items including knives, spoons, forks, towels and blankets, were squirreled away by the Allied prisoners to aid the escape plan under the noses of their captors.

Although the Hollywood movie suggested otherwise, *NO* Americans were involved in the operation. Most were British, and the others were from Canada, (all the tunnelers were Canadian personnel with backgrounds in mining) Poland, New Zealand, Australia, and South Africa.



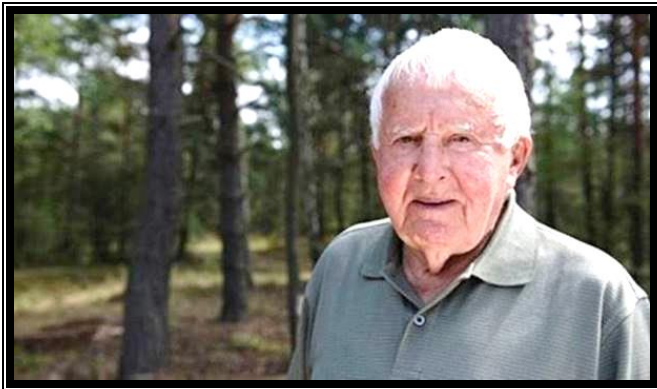
**The site of the tunnel, recently excavated by British archaeologists.**



The latest dig, over three weeks in August, located the entrance to Harry, which was originally concealed under a stove in Hut 104.

The team also found another tunnel, called George, whose exact position had not been charted. It was never used as the 2,000 prisoners were forced to march to other camps as the Red Army approached in January 1945.

Watching the excavation was Gordie King, 91, an RAF radio operator, who was 140th in line to use Harry and therefore missed out. 'This brings back such bitter-sweet memories,' he said as he wiped away tears. 'I'm amazed by what they've found.'



**Bitter-sweet memories: Gordie King, 91, made an emotional return to Stalag Luft III.**

***Many of the recent generations have no true notion of the cost in lives and treasure that were paid for the liberties that we enjoy in this United States. They also have no idea in respect of the lengths that the "greatest generation" went to in order to preserve those liberties. Below is one true, small and entertaining story regarding those measures that are well worth reading, even if the only thing derived from the story is entertainment.***

### **Escape from WWII POW Camps**

Starting in 1940, an increasing number of British and Canadian Airmen found themselves as the involuntary guests of the Third Reich, and the Crown was casting about for ways and means to facilitate their escape.

Now obviously, one of the most helpful aids to that end is a useful and accurate map, one showing not only where stuff was, but also showing the locations of 'safe houses' where a POW on-the-lam could go for food and shelter.

Paper maps had some real drawbacks — they make a lot of noise when you open and fold them, they wear out rapidly, and if they get wet, they turn into mush.

Someone in MI-5 (similar to America's OSS) got the idea of printing escape maps on silk. It's durable, can be scrunched-up into tiny wads and, unfolded as many times as needed and, makes no noise whatsoever.

At that time, there was only one manufacturer in Great Britain that had perfected the technology of printing on silk, and that was John Waddington Ltd. When approached by the government, the firm was only too happy to do its bit for the war effort.

By pure coincidence, Waddington was also the U.K. Licensee for the popular American board game Monopoly. As it happened, 'games and pastimes' was a category of item qualified for insertion into 'CARE packages', dispatched by the International Red Cross to prisoners of war.

Under the strictest of secrecy, in a securely guarded and inaccessible old workshop on the grounds of Waddington's, a group of sworn-to-secrecy employees began mass-producing escape maps, keyed to each region of Germany, Italy, and France or wherever Allied POW camps were located. When processed, these maps could be folded into such tiny dots that they would actually fit inside a Monopoly playing piece.

As long as they were at it, the clever workmen at Waddington's also managed to add:

1. A playing token, containing a small magnetic compass
2. A two-part metal file that could easily be screwed together
3. Useful amounts of genuine high-denomination German, Italian, and French currency, hidden within the piles of Monopoly money!

British and American air crews were advised, before taking off on their first mission, how to identify a 'rigged' Monopoly set — by means of a tiny red dot, one cleverly rigged to look like an ordinary printing glitch, located in the corner of the Free Parking square.

Of the estimated 35,000 Allied POWs who successfully escaped, an estimated one-third were aided in their flight by the rigged Monopoly sets.

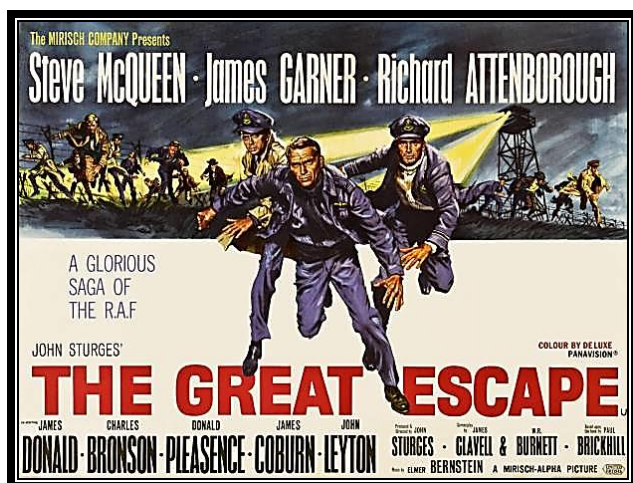


Everyone who did so was sworn to secrecy indefinitely, since the British Government might want to use this highly successful ruse in still another, future war.

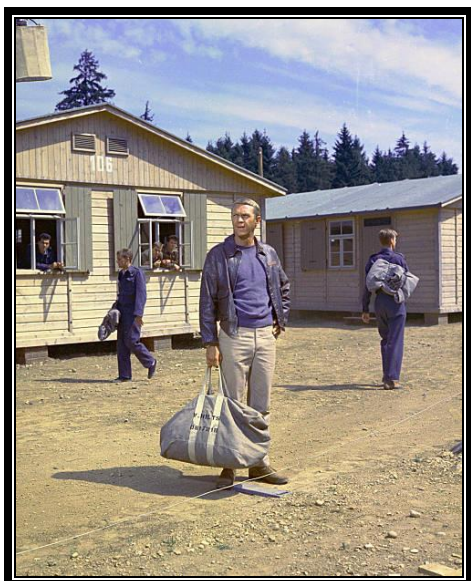
The story wasn't declassified until 2007, when the surviving craftsmen from Waddington's, as well as the firm itself, were finally honored in a public ceremony.

It's always nice when you can play that 'Get Out of Jail' Free' card!

Some of you are (probably) too young to have any personal connection to WWII (Sep. '39 to Aug. '45), but this is still an interesting bit of history for everyone to know.



Ad poster for the film "The Great Escape" – 1963



How they spread out the dirt from the tunnel onto the camp yard from duffel bags. Steve McQueen in "The Great Escape."

**Thanks to Avery Willis for sending this story.**

## May / June Members' Birthdays



### Happy Birthday in June to:

Pat Brown  
Bernied Fernandez  
Ned Grabowski  
Chris Liguori  
John McMahon  
Tom Newhard  
Phil Oliver  
E.J. Rogers  
Donald Sands  
Barry Schiff  
Tommy Thompson

### Belated Happy Birthday for May to:

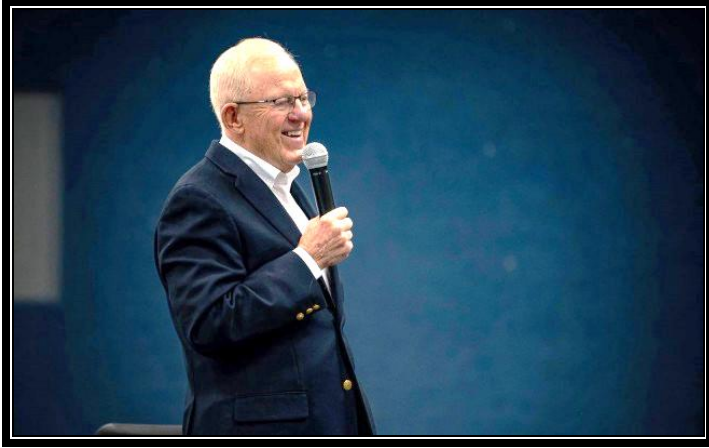
Jerry Akers  
Steve Barber  
Gino Dellanina  
Shari Heitkotter  
Rob Hertberg  
Charles Laird IV  
Dale Machalleck  
Rae Lynn McMahon  
Ken Nishimura  
Marc Russell  
Randy Sherman  
John Solomon  
John Syrdahl  
Bob Thompson  
Richard Witten



Our Wing's condolences to Marc Russell on the death of his father, Dick Russell.  
May he forever rest in peace,  
and may his memory be a blessing!

## Retired Navy fighter pilot, Vietnam War POW shares message with Field Artillery Captains Career Course students

From [www.army.mil](http://www.army.mil)



**Charlie Plumb speaking to Fort Sill Field Artillery Captains Career Course students.**

FORT SILL, Okla., April 13, 2021

Retired Navy Capt. Charlie Plumb spoke about his experiences as a Vietnam War fighter pilot and prisoner of war to Field Artillery Captains Career Course (FACCC) Class No. 1-21 students April 8 in Snow Hall – including some FACs (Forward Air Controllers).

The captain flew 74 successful missions either dropping munitions over North Vietnam or flying close air support sorties to assist U.S. Army and Marine units in South Vietnam. Some of those sorties were to support field artillerymen such as those seated before him.

"The reason those missions were the most gratifying is we could hear the (forward air controllers) and (fire support officers) and they were overjoyed," said Plumb.

With only five days left of his eight-month tour aboard the U.S.S. Kitty Hawk, Plumb was shot down near Hanoi, then the capital of North Vietnam. He became a prisoner of war (POW) for 2,103 days in the infamous "Hanoi Hilton" prison camp.

"The challenges you face today and the ones you will face in the future are the very same challenges that I faced in that prison cell," said Plumb.

Scanning the room and making eye contact, Plumb said all the students seated before him have at times felt overwhelmed or underappreciated.

"There's not a person in here who hasn't felt some guilt for not quite measuring up to the task or who didn't quite complete that mission," he added. "That's the way I felt."

Plumb spoke of the humiliation and guilt that enveloped him as he endured torture and interrogations. Quickly he learned to lie to his interrogators when he knew they couldn't possibly know the correct answer. The other times he told the truth and avoided a lot of pain.

Plumb then acquainted the audience with his life in an 8-foot-square prison cell, one of several cells that he lived in for six years as a POW.

He arrived in dreadful shape – wounded, thirsty, hungry, and losing weight fast – as temperatures exceed 120 degrees Fahrenheit. He called that the good news, because the bad news was far worse: he had given up and surrendered.

Time passed very slowly as he paced the tiny cell with a constant barrage of physical, mental, and emotional pain wearing him down. Plumb said he eventually learned to get used to the cramped space.

"The restriction isn't the 8 feet between those walls," he said. "The restriction is the 8 inches between your ears."

So, he set to making a deck of playing cards using toilet paper that he quipped was hard to shuffle. He also went places in his mind or visited family. Anything to pass the time.

Then one day he heard what sounded like the chirping noise of a cricket. Instead it proved to be a small wire scraping the floor – coming through a small hole in the wall. Plumb deduced the enemy wouldn't be trying to trick him so it had to be another prisoner trying to communicate with him. Even as the relief filled him that he wasn't alone, Plumb's mind began to fill him with dread. He thought the other prisoner was probably a higher-ranking officer, a better pilot, and one who stuck to the Code of Conduct instead of "spilling his guts," as Plumb feared he did.

Plumb said he didn't feel like comparing himself and asked the audience if they ever felt that way.

"I guess we all do at times. You don't want to get involved because you believe you'll get humiliated, outsmarted or outmaneuvered."

He said those little fears can confine us and prevent breakthroughs from happening, but sometimes you have to "kick down what's left of your comfort zone."

So Plumb gave a small tug on the wire and felt a tug back. The wire then disappeared but came back later with a small piece of toilet paper affixed to it. On it was a five-by-five grid surrounded by numbers 1-5 and the letters of the alphabet within, along with instructions to memorize the code then eat the note. With that code, prisoners could talk by giving tugs on the wire or knocks on a wall to represent which row and column a particular letter was. The recipients could then spell out words that led to conversations and even lessons on various subjects.



That means of communication led Plumb to becoming part of a team determined to endure their captivity and leave it with honor.

To reach that goal, Plumb asked the audience what tools they could draw from in their psychological toolbox to help them survive. They responded with: mental toughness; God; discipline; desire; creativity; a purpose; will power; and a sense of humor.

"Those are qualities you can't measure or learn in a textbook," he said. "It is values we're talking about - it's 'Fires 50' (the school's core values)."

Plumb said he entered the prison at age 24 and left at age 30. How he left a better man he summed up with one sentence. "Adversity is a horrible thing to waste." Of that long ago war and it's after effects, Plumb said it gave him a purpose to share his story that formed the rest of his life. But it was lessons learned growing up of discipline and forgiveness that helped him get through captivity. He said he forgave the North Vietnamese many years ago and has even returned to Vietnam with other veterans.

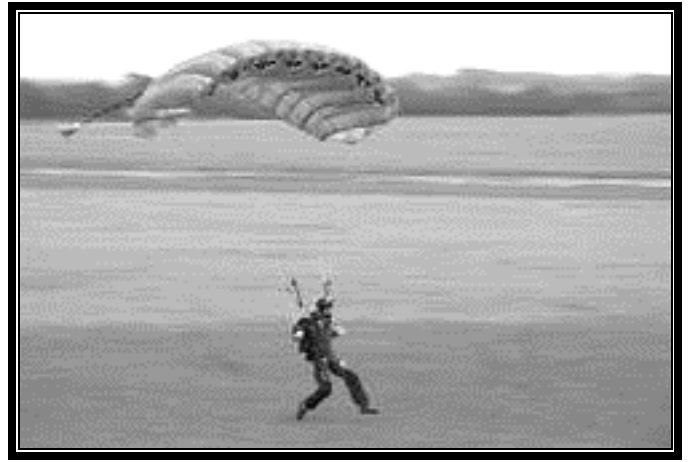
Plumb accepted the speaking request from his son-in-law Marine Maj. Jonathan Bush, a FACCC instructor. Working as a motivational speaker since his retirement from the Navy, Plumb has shared his "Who's Packing Your Parachute" message of hope and resiliency to over 5,000 audiences in business, government agencies, media, and other fields.



**Field Artillery Career Course students listening to Charlie Plumb at Ft. Sill, OK**



**Lt. Charlie Plumb, USN – with his F-11 Tiger  
"Who's Packing Your Parachute?"**



**This is one of Charlie Plumb's messages in his repertoire of speeches that he has given over many years – to many different organizations.**

Many years after being repatriated, Charlie Plumb was eating dinner with his wife at a restaurant in Kansas City. He noticed a man staring at him from two tables away. He didn't recognize the man, but kept catching him looking over at his table. Finally, the man stood up and walked over to Charlie's table, and said, "You're Captain Plumb."

Charlie acknowledged that this was true, and then the man said, "You're that guy who flew jet fighters in Vietnam. You launched from the aircraft carrier USS Kitty Hawk. You parachuted into enemy territory and you spent six years as a prisoner of war."

Surprised, Charlie looked up at the man and asked, "How in the world do you know all that?" The man chuckled and replied, "Because I packed your parachute!"

Charlie was speechless while the man grabbed his hand and shook it, and said "I guess it worked." Charlie replied, "It sure did. If it didn't, I wouldn't be here talking to you."

Later that night, Charlie lay awake wondering how many times on the ship he had walked by that same man where all the sailors sat at a table packing parachutes. How many times did he walk by without saying "good morning," or "I appreciate what you do?"

How often it must have been that he passed the man who would eventually save his life, and could not acknowledge him – because Charlie was a fighter pilot and the man was just a sailor.

Who in your life packs parachutes every day but may go unnoticed? Take a few minutes to think about how they make a difference - and say "thank you."

## Fire-Ravaged Ship is Bound for Scrapyard

**The USS Bonhomme Richard was declared a loss after a four-day July inferno at Naval Base San Diego**

**By Andrew Dyer, *San Diego Union-Tribune***



**USS Bonhomme Richard on fire at dock – Naval Base San Diego**

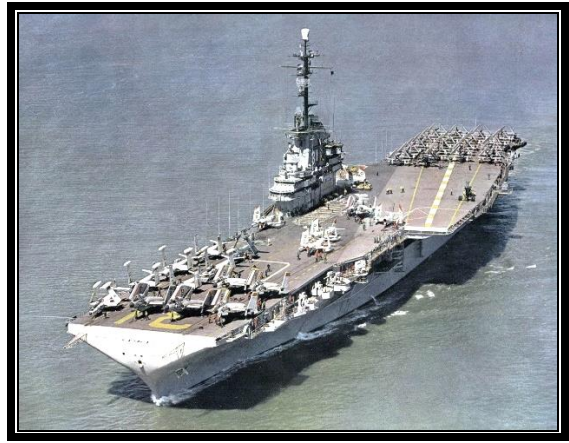
After extensive cleanup and reclamation in the wake of a July inferno, the amphibious assault ship USS Bonhomme Richard will be decommissioned in San Diego before being tossed away to be scrapped, the Navy said in a statement.

Navy officials said in November that although the Bonhomme Richard was salvageable, the time and price of repair – five to seven years, at an estimated \$2.5 billion to \$3.2 billion – were too steep to warrant saving the 22-year old ship.

The Navy planned a decommissioning ceremony, with a limited attendance. Then the ship will be towed to a scrapyard, said Cmdr. Nicole Schwegman, a Naval Surface spokeswoman. She said the ship might be bound for Galveston, Texas, but the Navy has not finalized its decision.

Schwegman said most of the roughly 1,000 sailors assigned to the Bonhomme Richard have either been reassigned or are in the process of transferring.

Fire broke out on the vessel at around 8:30 a.m. on July 12, 2020. Noxious black smoke darkened otherwise clear San Diego skies as the fire raged. Temperatures on the ship topped 1,200 degrees at times, making it all but impossible for firefighters to access burning spaces.



**The USS Bonhomme Richard, in better days, with its complement of helicopters and fighter planes.**

More than 400 sailors from 16 San Diego-based ships joined federal firefighters to battle the blaze day and night. Helicopter Sea Combat Squadron Three aircraft dumped more than 1,500 buckets of water onto the ship.

The fire burned for four days before the Navy declared it extinguished.

Navy officials said they believed the fire began in the 844-foot ship's lower vehicle-storage area, which had an ample supply of fuel and oxygen for a fire.

Amphibious assault ships, the Navy's largest amphibious ships, are used to deploy Marines and their equipment during landings. The ships' flight decks are capable of handling helicopters and the F-35B Lightning II fighter jet.

At the time of the fire, the Bonhomme Richard was nearing the end of a two-year, \$250-million upgrade to accommodate F-35B operations. It is the largest U.S. warship lost since World War II.



**The original Bonhomme Richard, donated to the Continental Navy by King Louis XVI of France in 1779.**



## Emma McNay – Wing Cadet Alumna

By Emma McNay



**Emma McNay – flying a Citabria**

I was a CAF – So Cal Wing Cadet beginning in December, 2012. I was there regularly between the ages of 14 and 18, and then occasionally as I was in college. I think what I remember most were the airshows and just in general getting to work with the planes. I've met so many amazing veterans and pilots who have helped guide my career path at a time when my original plans were not panning out the way I had hoped. But there are so many people at CAF – So Cal Wing who kept me from staying defeated – and for that I couldn't be more grateful.

I met a lot of really great people who I still talk to after years of being inactive at the museum. I miss a lot of the people I knew when I first started, and I know some of them have since "Gone West."

I still love the Hellcat above all other planes, and miss it dearly! I talk about it with all of my students so they know exactly which airplane was the best in World War II!

Between my Cadet years and now – I finished college. I was a History Major and Political Science/ Theology Minor at the University of San Diego. My senior thesis was on the development of air power in the World Wars, so I got a chance to spend a lot of time at places like the San Diego Air and Space Museum and the USS Midway. I also talked up the Hellcat a lot in that paper. I think I ended up writing over 100 pages for it. I finished college in three years, and after that I decided to continue my flight training. I had gotten my license before I left for college, and, after I graduated in 2019, I

got my instrument rating in October of that year. Then – Commercial in January, 2020 and CFI in March, 2020.

I started working as a flight instructor at Santa Paula Airport, and during that time I got my tailwheel endorsement in a Citabria, which is definitely one of the coolest airplanes I've ever flown. In December of last year I moved to Las Vegas to work at my current job and live with my boyfriend (the CAF vets would be happy to know that he's a Marine!). I still travel to California often to visit my family.

Right now I am a flight instructor at West Air Flight Training at the North Las Vegas Airport. I'm doing this job to build up hours so I can hopefully make my way towards the airlines or corporate aviation. I'm 500 hours short of the requirement for most companies. I'm also studying up for the ATP exam. If any CAF members have advice for me – I'd definitely appreciate it!

I love working here – the airport and surrounding area are amazing. Aside from flying in a lot of windy weather, I love getting to fly near such a busy airspace. It's a great training environment for students.

I have had lots of instances where students have said that I have had a huge impact on them. I also have had chances to speak to elementary students about my job as flying instructor, and it always amazes me to see how excited they are at what I do. Probably the most impactful moments for me are when I send students to solo for the first time, or to fly little kids around the airport area. The smiles on their faces are so worth the effort!



**Emma with her beloved Hellcat**

## D-Day Survivor Ray Lambert

By Anne Constantin Birge, CAF – So Cal Wing  
Thanks to: Assoc. A l'assaut de Memoires and  
American Veterans' Center

Tuesday marks the 77th anniversary of D-Day, June 6, 1944, a day on which US, Canadian and British soldiers took part in the 'largest amphibious assault and the largest combined operation in military history.' An event code-named: *Operation Overlord*.

The attached video, narrated by actor Sam Elliot, is a tribute to the D-Day survivor US Army Staff Sergeant and Medic **Arnold Raymond "Ray" Lambert** (26 Nov 1920). [Click on the icon at the end of this article.](#)

One year prior to D-Day, Ray was a medic assigned to the US Army's 1<sup>st</sup> Division (*The Big Red One*), 16<sup>th</sup> Infantry Regiment in North Africa, where he was wounded and received the *Silver Star*:

*'...on 28 April 1943. Although subjected to heavy enemy artillery, mortar and machinegun fire, Sergeant Lambert evacuated many casualties from a forward battalion aid station to an area where further medical treatment could be rendered.'*

After Tunisia, Ray went to Sicily, where he was wounded again!

His third time of being involved in an invasion began at 6:30 in the morning, on 6 June 1944, when Allied soldiers started landing on a 50-mile stretch of the German-held Normandy, France coastline. Before they could get to the beaches, they first had to navigate dangerous barbed-wire-laced waters, which the Germans also filled with 4,000,000 mines. More than 73,000 American soldiers landed on two French beaches code-named **Omaha** and **Utah**. Over 83,000 British and Canadian soldiers landed on three other French beaches code-named **Gold**, **Juno** and **Sword**. Allied troops were met with 50,000+/- German troops. Ray's landing spot - Omaha Beach.

Ground troops were only one part of the invasion, which was two years in the planning. *Operation Neptune* involved 195,700+ troops aboard ships in a flotilla of 6,939 naval vessels from the US, Britain, Poland, France, Scotland, Canada, Norway, Greece, the Netherlands, Australia, and New Zealand. For the airborne part of the D-Day invasion, there were 3,260+ airplanes and gliders involved in dropping the more than 13,000 parachutists and 3,200 tons of bombs.

Within five days of the invasion, the Allies landed 326,000+ troops, 54,000+ vehicles and 104,000+ tons of supplies. In the following weeks, the Allied forces were assisted with troops from Greece, the

Netherlands, Poland and Czechoslovakia. By August 15, 1944 (just 70-days), when France was liberated from German occupancy, 2.5+ million men, 500,000+ vehicles and 4+ million tons of supplies were brought to Normandy.

The loss of Allied life on D-Day, is staggering:

At Juno Beach - 50% of the Canadians were killed or wounded.

Allied losses, just on D-Day, are estimated to be around 4,413 dead.

German numbers aren't well recorded. But it's estimated that between 4,000 and 9,000 were killed on D-Day.

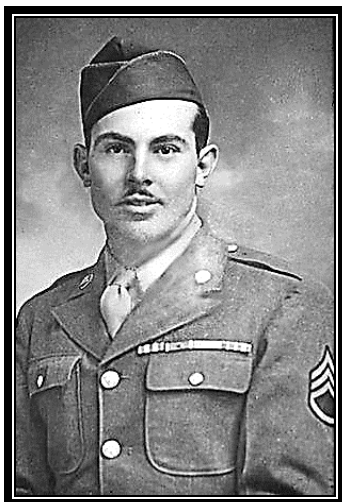
By the time France was liberated, about 53,700 Allies and almost 20,000 French citizens were killed (an additional 15,000 killed in the bombardments leading up to D-Day). It's estimated that over 200,000 Germans were killed and the same number taken as POWs.

Since WWII, Ray has traveled back to Normandy more than a half dozen times and made friends in the area. Last year, Colleville-sur-Mer, the town above the beach where the Normandy American Cemetery and Memorial is located, dedicated a plaque with the names of the soldiers in Lambert's unit of medics. It's bolted onto the chunk of concrete where they sheltered the wounded. It's known as Ray's Rock.



**"Combat Medics, 16<sup>th</sup> Infantry Regiment, 1<sup>st</sup> Infantry Division : At this rock, SSgt Arnold "Ray" Lambert set up the first casualty collection point on Omaha Beach. In honor of the Combat Medics – men who placed their lives on the line to save their comrades. Their professionalism, dedication and heroism gave their units the confidence to prevail in the face of extraordinary danger on D-Day." 36 men are listed on this Plaque of Remembrance. RIP.**





**Staff Sgt. Ray Lambert**

By the end of Ray's military service as a medic, he was awarded the **Purple Heart** for each of the **FOUR** times he was wounded. He was awarded **TWO Bronze Stars** and was awarded **THREE Silver Stars**. Ray was also honored by being named a **Distinguished Member of the 16th Infantry Regiment**. And, as of June 6, 2019, Ray's now part of the elite of America's military. Since 1918, only about 10,000 American's have received the *French Legion of Honor*. On that day in 2019, French President Emmanuel Macron personally honored North Carolina's very own Veteran Amy Staff Sergeant Arnold Raymond 'Ray' Lambert with the **Legion of Honor**.

So, as you read this today or in 20-years, please thank Ray and all our American and Allied D-Day Warriors, members of *The Greatest Generation*, for everything they did to bring freedom to the world of the 1940s and to the world of the 21st century!



**Ray Lambert on his visit to Normandy**



**Here's Ray in front of "Ray's Rock" on Omaha Beach, named such because he sheltered the injured soldiers he ministered to behind this very rock. The town of Colleville-sur-Mer, just above the beach, placed a commemorative plaque on the rock in honor of him and his team of medics.**



**Here's a photo of "Ray's Rock" as seen from above Omaha Beach, looking toward the Channel, from where so many men came and gave their lives so we might enjoy the freedoms we have. Let us never forget. Let us always remember.**



**The Normandy American Cemetery at the French village of Colleville-sur-Mer, just above Omaha Beach. May they all rest in peace. We are forever thankful for their sacrifice.**

# RQ-180 Unmanned Aerial Vehicle

Thanks to *Wikipedia*



Photo by [nowtheendbegins.com](http://nowtheendbegins.com)

The **Northrop Grumman RQ-180** is an American stealth unmanned aerial vehicle (UAV) surveillance aircraft intended for contested airspace. There have been no images or statements released, but growing evidence points to the existence of the RQ-180 and its use in regular front-line service.[1]



## Development

After the retirement of the SR-71 Blackbird in 1999, the US Air Force lacked an intelligence platform capable of penetrating airspace guarded by advanced air defense systems. The RQ-180 was designed to fulfill the mission previously accomplished by the high-speed SR-71.[2]

The RQ-180 appears to be a follow-on to the Joint Unmanned Combat Air Systems project which was cancelled in late 2005 when the United States Navy (USN) wanted a carrier-based aircraft (which led to the UCAS-D) while the United States Air Force (USAF) wanted a larger, long-range global strike platform.

In December 2005, the program was split in two, with the USN starting the UCAS-D program which created the Northrop Grumman X-47B, and the USAF starting a "classified program." The program was unmasked in Aviation Week & Space Technology in a December 9,

2013 cover story following several months of research.[3]

The RQ-180 was secretly funded through the USAF's classified budget. Northrop Grumman was given the task to build the aircraft after a competition in which it defeated Boeing and Lockheed Martin. Northrop Grumman is believed to have been awarded a development contract for the RQ-180 in 2008, with deliveries of low-rate production aircraft beginning in 2013.

Satellite imagery of Area 51 reportedly shows large hangars that could house the 130 ft (40 m) or larger wingspan of the aircraft. The RQ-180 may also be related to the expansion of Northrop Grumman's production facility at United States Air Force Plant 42 in Palmdale, California.[3]

According to Aviation Week, the secret development of the RQ-180 explains public statements of USAF officials calling for penetrating Intelligence, surveillance and reconnaissance (ISR) capabilities with no public acknowledgement of an effort to create one. It may explain the service's lack of commitment for the RQ-4 Global Hawk and instead favoring of higher priority "classified platforms". The USAF also does not want to buy and maintain large numbers of MQ-1 Predator and MQ-9 Reaper systems in order to have an aircraft that would have the ability to penetrate denied airspace and persistently provide ISR coverage.



Photo by [aerosngcanela.blogspot.com](http://aerosngcanela.blogspot.com)

The RQ-180 may also be responsible for the termination of the Next-Generation Bomber program in 2009 from costs, and the emergence of the follow-on Long Range Strike Bomber (LRS-B) program that would be cheaper and work with the UAV. The USAF MQ-X program that was to find a platform to replace the Reaper may have been cancelled in 2012 because of the RQ-180.



Creation of the RQ-180 is believed to be related to the LRS-B program, which will have a new strategic bomber operate with a "family of systems" including a Long Range Stand Off Weapon, conventional Prompt Global Strike missiles, and electronic attack and ISR platforms; the RQ-180 would appear to fill the electronic attack and ISR roles.[5] On October 27, 2015, the LRS-B development contract was also awarded to Northrop Grumman.

Lockheed Martin is developing its own solution to the problem of operating an ISR in defended airspace, known as the SR-72, that relies on flying at hypersonic speeds. Northrop Grumman's stealth design was seen as less susceptible to acquisition problems and risky technologies and could be put into service sooner, as soon as 2015.

A hypersonic reconnaissance aircraft would have inferior stealth features due to heat stress on radar absorbent materials and would thus be detected earlier. Moving targets could change position before the SR-72 could reach them.

The existence of the aircraft was confirmed with the briefest of details by an Air Force surveillance chief during an aerospace industry event in 2014.



Photo by en.topwar.ru

## Design

The RQ-180 addresses a need for conducting penetrating ISR missions into defended airspace, a mission that was left unattended with the retirement of the Lockheed SR-71 Blackbird in 1999. It is equipped with an AESA radar and passive electronic surveillance measures, and may be capable of conducting electronic attack missions.

The RQ-180 shows a shift from UAVs that operate in permissive environments, such as the RQ-4 Global Hawk and MQ-9 Reaper, to ones that can perform missions in contested airspace. It is larger, stealthier,

and has a longer range than the RQ-170 Sentinel which has previously been used for those types of missions.

The RQ-180 is believed to be about the size of the Global Hawk, which weighs 32,250 lb (14,630 kg), and have similar capabilities of endurance (24 hours) and range (12,000 nmi (14,000 mi; 22,000 km)). This is much more than the RQ-170's endurance of 5–6 hours.

It has superior all-aspect, broadband radar cross-section reduction features compared to previous stealth aircraft such as the F-117 Nighthawk, F-22 Raptor and F-35 Lightning II. The airframe has superior aerodynamics to give better range, endurance, and service ceiling.[3]

The RQ-180 is believed to have a cranked-kite layout like the X-47B, but with a much longer wingspan, perhaps as much as 130 ft (40 m). Northrop Grumman claims the wing is more scalable and adaptable than the B-2 Spirit's flying wing shape.

Aviation Week constructed concept images, including one on the cover of the magazine, of the stealthy unmanned aircraft that can penetrate an adversary's state-of-the-art air defenses to conduct intelligence, surveillance or reconnaissance missions.

## Specifications

### General characteristics

- **Crew:** Zero
- **Wingspan:** 130 ft (40 m)

### Performance

- **Service ceiling:** 60,000 ft (18,288 m) [10]

### See also

- Lockheed Martin RQ-170 Sentinel
- Mikoyan Skat
- Northrop Grumman Bat
- Sukhoi Okhotnik
- List of active United States military aircraft

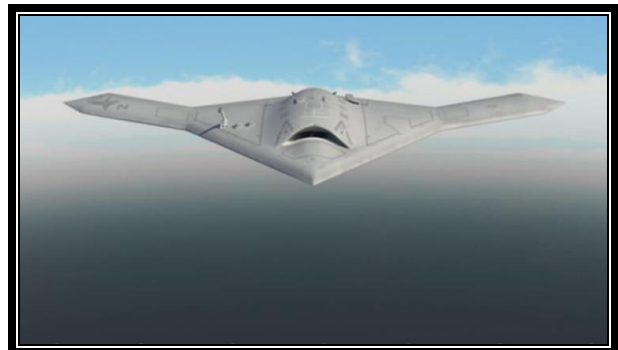


Photo by regimage.org

## First Flight on The Red Planet

By Anne Constantin Birge



Photo by John Thomas Daniels, Jr. Courtesy of NC Office of Archives and History, Raleigh

### The first powered airplane flight at Kill Devil Hills, NC, 17 Dec. 1903.

At 10:35 am, on December 17, 1903, West Dayton, Ohio bicycle makers Orville and Wilbur Wright, took their home-made, heavier-than-air, mechanically propelled airplane called the *Wright Flyer*, to the skies at Kill Devil Hills, North Carolina (not Kitty Hawk).

With the help of two civilians and three Surfmens from the US Coastal Life Saving Service, later renamed the US Coast Guard, Orville's *First Flight* in the *Wright Flyer* lasted 12 seconds while he traveled 120.' Later the same day, Wilbur piloted the *Wright Flyer* on her fourth and final flight, which lasted 59-seconds and spanned 852.'

Fast forward 117-years - many decades in which aviation saw humans fly across the oceans, break the sound barrier, travel into space and walk on Earth's moon.

With the blessing of Amanda Wright Lane and Stephen Wright, the Wright brothers' great-grandniece and great-grandnephew, a postage stamp-size piece of the muslin fabric from the *Wright Flyer's* left wing, made the 292,526,838 mile journey to Mars, attached to a tiny helicopter.

Swatches of muslin from the *Wright Flyer* also flew with Ohio native Neil Armstrong in 1969, when he was aboard Apollo 11 and its flight to our moon and in 1998 with 77-year old Ohioan John Glenn, when as the oldest human to go into space, he spent almost 9 days aboard space shuttle *Discovery*.



Vaneeza Rupani, Alabama high school junior

Vaneeza Rupani gave the name ***Ingenuity*** to the 4-pound, 19" tall helicopter that went to Mars with ***Perseverance***. The Alabama high school junior's essay was selected in July 2020, out of 28,000 submissions to NASA's 'Name the Rover' contest. Vaneeza said her choice of the name 'Ingenuity' for the Mars helicopter was because:

***"The ingenuity and brilliance of people working hard to overcome the challenges of interplanetary travel are what allow us all to experience the wonders of space exploration."***



Alexander Mather, Virginia 7<sup>th</sup> grader

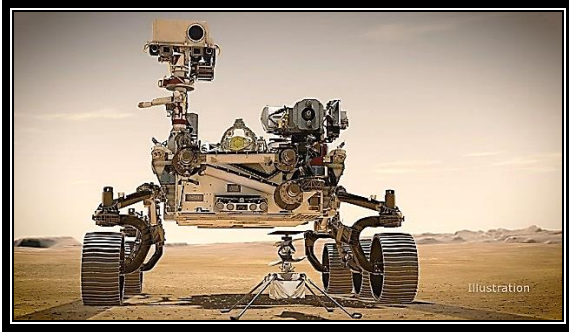
A few months earlier, in March 2020, NASA announced that 13-year old Virginia 7<sup>th</sup> grader Alexander Mather's essay earned him the right to name NASA's Mars 2020 rover - ***Perseverance***.

*Perseverance* is designed to 'gather geological data, search for signs of ancient life, and even test some of the technologies needed to sustain a future human presence on Mars.'



A NASA administrator wrote on Twitter that he was proud to name the helicopter ***Ingenuity*** because *'Ingenuity rarely gets far without'...Perseverance.*

It was ***Perseverance*** which carried the little 4-pound ***Ingenuity*** (1.5 lbs on Mars, with 5.3" x 7.7" x 6.4" fuselage) in her belly, down to the Red Planet's surface.



**NASA/JPL-Caltech**

**An artist's illustration shows NASA's *Perseverance* rover and *Ingenuity* helicopter on Mars.**

On July 30, 2020, at 4:50 am PDT, ***Perseverance*** and ***Ingenuity*** were blasted into space from Cape Canaveral Air Force Station in Florida, via an Atlas V-541 rocket. Some 6½ months later, on February 18, 2021, they safely landed at the Octavia E. Butler Landing Site in Mars' 28-mile wide Jezero Crater. Jezero is the Slavic word for 'lake.' On April 3, ***Ingenuity*** dropped 4" from \$2.5 billion ***Perseverance's*** belly and put her feet firmly on Martian soil.

Even though Mars averages about 142-million miles distance from our Sun, ***Ingenuity*** is able to use solar cells to charge her six Lithium-ion batteries (total weigh 9.6 ounces). The batteries provide enough energy for one 90-second flight per Martian day (24 hours and 37 minutes) that draws about 350 watts of power.

Packed in and on that tiny, \$85 million chopper are her solar cells, the six batteries, a computer, gyros, altimeter, tilt sensors (and other avionics), a communication system, a navigation camera, a 13-megapixel color imager and a heater to keep her warm in the frigid Martian environment. On April 3 and 4, the daytime temperature was about -7.6° F and the nighttime temperature about -117.4° F.

Because radio communication can take 4 to 24 minutes to go from Earth to Mars, ***Ingenuity*** is

piloted with pre-planned commands from Earth through ***Perseverance*** by Chief Pilot Håvard Grip, of NASA's Jet Propulsion Laboratory (JPL), Pasadena, CA.



**NASA/JPL-Caltech**

**NASA's *Ingenuity* helicopter, which ventured to Mars with the *Perseverance* rover, took this image of her own shadow as it hovered about the Martian surface on April 19, 2021. Tucked underneath *Ingenuity's* solar panel is a small swatch of fabric from the original *Wright Flyer*.**

On Monday, April 19, 2021, three days after Wilbur Wright's 154<sup>th</sup> birthday, ***Ingenuity*** obeyed NASA commands, received through ***Perseverance***. Then, the little solar-powered chopper tested her 4' flight feathers, a pair of co-axial, counter-rotating blades (made of carbon fiber skin over a molded foam core) that spin about 2,537 rpm or about 5 times faster than any Earth helicopter.

She conducted her *First Flight* of 39 seconds hovering at 9.8' above the Martian surface and then safely landing. This was the *First Flight* for any heavier-than-air, powered technology on another planet - EVER.

On Earth, the Sikorsky MH-53M *Pave Low IV* is 88' long, weighs 32,000+ pounds, has 72' long rotors, can fly 690 miles at 165 mph and has a maximum service ceiling of 16,000'. Given that Mars, with its gravity about 1/3 of Earth's and its thin atmosphere - which is 95% carbon dioxide about 1% as dense as Earth's, it's amazing the little helicopter flew at all. ***Ingenuity's*** flight on Mars is comparable to an Earth-based helicopter flying at 87,000+' above sea level.

On Thursday, April 22, again with commands from NASA, **Ingenuity** stretched her wings to fly about 16.5' high (as she also did in the next three flights),



**NASA/JPL-Caltech/ASU, taken from Perseverance's Mastcam Z**

### **Ingenuity's First Flight – April 19, 2021**

stayed aloft for nearly 52-seconds and moved side-to-side for a total of 13'. For her third flight, on April 25, *she* flew 4.5 mph, covered a total distance of 330' and had a flight time of 80-seconds. On April 30, at 7:49 am PDT, *The Little Chopper that Could and Did!* was 'let off the leash.' During her 117-second excursion, she traveled 872' and reached a top speed that's as fast as a mouse - 8 mph.

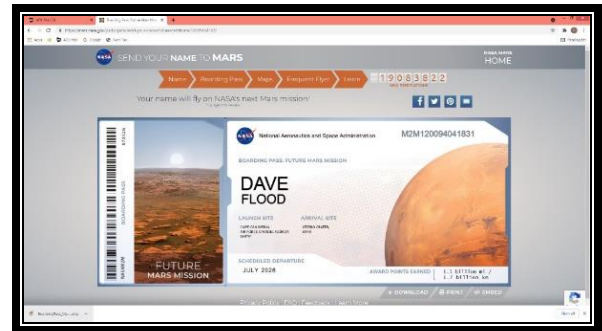
**Ingenuity** conducted these flights in winds that averaged 9 to 13 mph, with gusts up to 18 mph. Her flight times were limited due to the heat that's generated from her motor, even in the frigid Martian environment.

**Ingenuity** was only supposed to conduct up to five flights. But, on April 30, 2021, NASA extended her mission for at least another 30 days, so she can perform one or two more flights and test if powered, controlled flight is possible on Mars. Her flight is definitely a tribute to the hard work and passion of the many women and men who planned, built and sent **Perseverance** and **Ingenuity** into space and to their final destination - The Red Planet.

Just like the Wright Brothers' six years of tireless work to achieve *First Flight* on Earth, NASA spent six years getting **Ingenuity** ready for her *First*

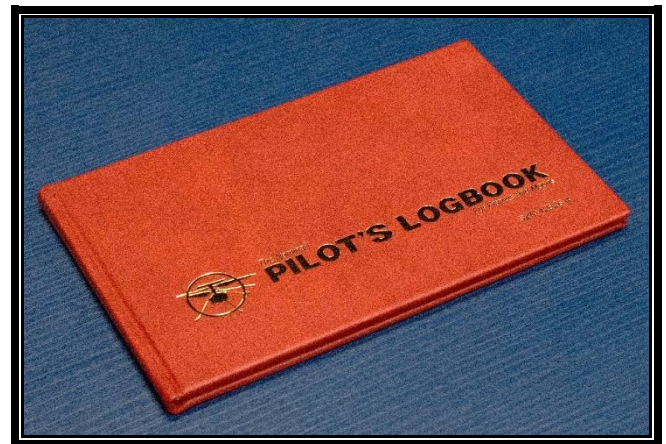
*Flight* on Mars. So, NASA honored Orville and Wilbur Wright after **Ingenuity** completed her *First Flight*. The site where the flight occurred will forever be called **Wright Brothers' Field**.

Sadly, by mid-October 2021, **Ingenuity** will be grounded. There's to be a *conjunction*, where our Sun will stand between Mars and Earth and block any communications with **Perseverance** and therefore **Ingenuity**. While *Mother's* back is turned, what kind of hijinx will they be up to?



Was your name not etched on a microchip for this Mission to Mars? Go to NASA's website (mars.nasa.gov) to enter your name for the July 2026 mission! Then, print your ticket! The microchip will be included on the next mission to explore Mars.

Better hurry! On May 2, 2021, Dave Flood's ticket was number 19,083,822.



**NASA/JPL-CaltechCredit - NASA/JPL-Caltech**

This image of the official pilot's logbook for the **Ingenuity** Mars Helicopter flights - the "Nominal Pilot's Logbook for Planets and Moons" - was taken at NASA's JPL, Pasadena, CA on April 19, 2021, the day of **Ingenuity's** first historic flight.





## Commemorative Air Force

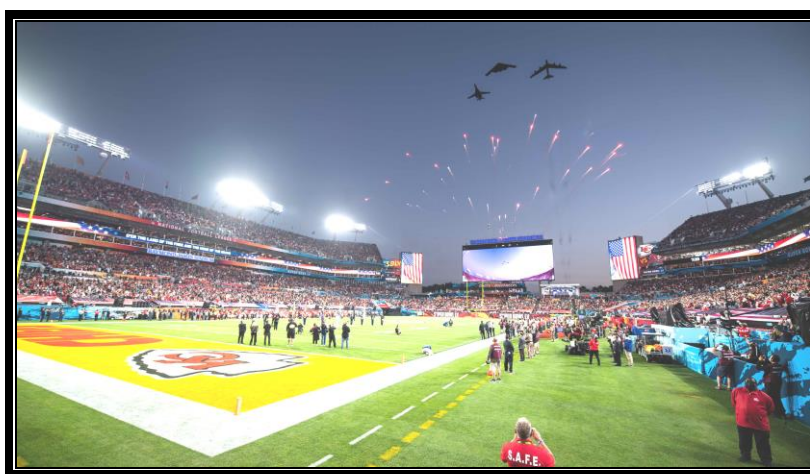
**455 Aviation Drive, Camarillo, CA 93010**

**(805) 482-0064**

Volume 15, Number 2

[www.cafsocial.com](http://www.cafsocial.com)

May, 2021



**Trifecta of Air Force bombers fly over Super Bowl XL, February 7, 2021**

Dear Friends of the Museum,

With the improvement in COVID19 incidents and an increasingly successful vaccine rollout, we are considering opening the museum, hopefully on Memorial Day weekend. Yay!

We accomplished many tasks in 2020, moving, building, painting, organizing, and so much more. We're on a roll but there's much cleaning to be done and projects to complete before we open. That's only four weeks away!

If you're interested in helping get the Museum ready, please contact Kathy Newhard at [Kathy.cafsocial@gmail.com](mailto:Kathy.cafsocial@gmail.com) or 805.857.2881 and tell her you're a Friend of the Museum.

### **Don't forget to follow us online for CAF SoCal amazing images and updates!**

Website: <https://www.cafsocial.com>

Facebook: <https://www.facebook.com/officialcafsocial>

Instagram: <https://www.instagram.com/cafsocial/>

Twitter: <https://twitter.com/cafsocial>

YouTube Channel: [https://www.youtube.com/channel/UCWa09ZhgKIVLmL\\_SVGovgwA](https://www.youtube.com/channel/UCWa09ZhgKIVLmL_SVGovgwA)

Hoping to see you soon in 2021!

Ceci Stratford  
CAF So Cal Wing  
Friends of the Museum  
[cafsocialfriends@sbcglobal.net](mailto:cafsocialfriends@sbcglobal.net)

## Woman Pilot Leads USAF Bomber Trio in Flyover of Super Bowl

Thanks to *Dayton Daily News* – by Bonnie Meib



**Capt. Sarah Kociuba, USAF B-2 Spirit bomber pilot**

A University of Dayton graduate on Sunday led the Super Bowl LV bomber flyover on Feb. 7, 2021.

Captain Sarah "Gucci" Kociuba graduated in 2012. While at UD, Kociuba was part of the Air Force ROTC program.

Kociuba led a trio of bombers, including the B-1 and B-52, over Raymond James Stadium in Tampa in a B-2 Spirit.



**The Super Bowl LV flyover by B-1, B-2 and B-52**

Although the flyover was seen for only a few seconds, Kociuba and the other pilots flew for nearly eight hours and spent weeks preparing. Kociuba is one of just 10 woman pilots of the B-2 in the country. She is the first female pilot to lead a Super Bowl flyover, according to Airways Magazine.

Kociuba has flown over 90 combat missions and has more than 1,700 flying hours. UD recognized her in a tweet on Sunday morning, congratulating the pilot on her achievements.

She was able to attend the University of Dayton and become an Air Force officer through a cooperative agreement with Wright State University's Department of Aerospace Studies.

Wright State is the home of Detachment 643 and the host site the AFROTC program.

She is originally from Cleveland. In her first year at UD, she studied to be a doctor, but then decided that flying was her passion.

Now, Kociuba is a B-2 Instructor Pilot and Wing Scheduler, stationed in Missouri. As an instructor pilot she is responsible for training B-2 pilots into combat-ready and mission-capable aviators to "support worldwide conventional and nuclear capabilities at a moment's notice," according to a biography released by the U.S. Air Force. She is chief of wing scheduling.

She has served over nine years of active duty in various positions. Before being stationed in Missouri, she earned her pilot wings at Joint Specialized Undergraduate Pilot Training in Columbus Air Force Base, Mississippi.

Kociuba has also been awarded the Air Force Commendation Metal and an Air Force medal with one oak leaf cluster. She is a 2018 distinguished graduate from squadron officer school. She was promoted to captain in 2016.



**Another view of the flyover, with the B-2 leading**



**The B-2 Spirit bomber returning to Whiteman AFB**



# Northrop Grumman B-2 Spirit

From Wikipedia, the free encyclopedia



The **Northrop** (later **Northrop Grumman**) **B-2 Spirit**, also known as the **Stealth Bomber**, is an American heavy strategic bomber, featuring low observable stealth technology designed for penetrating dense anti-aircraft defenses. Designed during the Cold War, it is a flying wing design with a crew of two.

The bomber can deploy both conventional and thermonuclear weapons, such as up to eighty 500-pound class (230 kg) Mk 82 JDAM GPS-guided bombs, or sixteen 2,400-pound (1,100 kg) B83 nuclear bombs. The B-2 is the only acknowledged aircraft that can carry large air-to-surface standoff weapons in a stealth configuration.

Development started under the "Advanced Technology Bomber" (ATB) project during the Carter administration; its expected performance was one of the President's reasons for the cancellation of the Mach 2 capable B-1A bomber. The ATB project continued during the Reagan administration, but worries about delays in its introduction led to the reinstatement of the B-1 program.

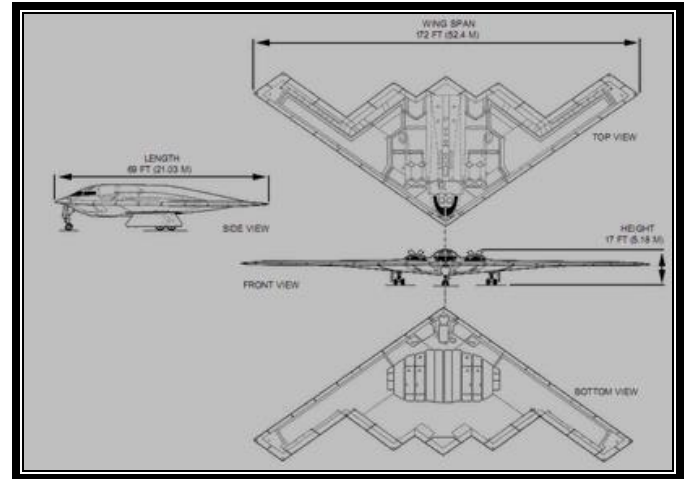
Designed and manufactured by Northrop, later Northrop Grumman, the cost of each aircraft averaged US\$737 million (in 1997 dollars). Total procurement costs averaged \$929 million per aircraft, which includes spare parts, equipment, retrofitting, and software support. The total program cost, which included development, engineering and testing, averaged \$2.13 billion per aircraft in 1997.

The winding-down of the Cold War in the latter portion of the 1980s dramatically reduced the need for the aircraft, which was designed with the intention of penetrating Soviet airspace and attacking high-value targets. As of 2018, twenty B-2s are in service with the United States Air Force, which plans to

operate them until 2032, when the Northrop Grumman B-21 Raider is to replace it.

The B-2 was first used in combat dropping conventional, non-nuclear ordnance in the Kosovo War in 1999. It later served in Iraq, Afghanistan, and Libya.<sup>1</sup>

## Specifications (B-2A Block 30)



## General characteristics

- **Crew:** 2: pilot (left seat) and mission commander (right seat)
- **Length:** 69 ft 0 in (21.0 m)
- **Wingspan:** 172 ft 0 in (52.4 m)
- **Height:** 17 ft 0 in (5.18 m)
- **Wing area:** 5,140 sq ft (478 m<sup>2</sup>)
- **Empty weight:** 158,000 lb (71,700 kg)
- **Gross weight:** 336,500 lb (152,200 kg)
- **Max takeoff weight:** 376,000 lb (170,600 kg)
- **Fuel capacity:** 167,000 pounds (75,750 kg)
- **Powerplant:** 4 × General Electric F118-GE-100 non-afterburning turbofans, 17,300 lbf (77 kN) thrust each

## Performance

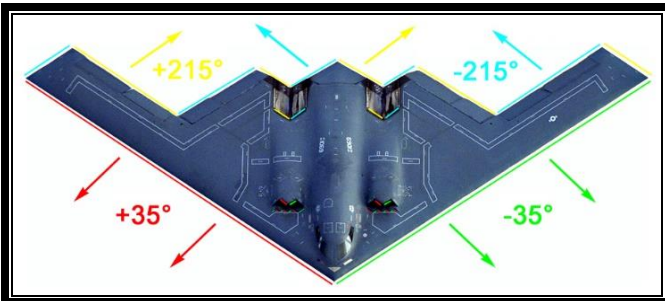
- **Maximum speed:** 630 mph (1,010 km/h, 550 kn) at 40,000 ft altitude / Mach 0.95 at sea level<sup>[159]</sup>
- **Cruise speed:** 560 mph (900 km/h, 487 kn) at 40,000 ft altitude
- **Range:** 6,900 mi (11,000 km, 6,000 nmi)
- **Service ceiling:** 50,000 ft (15,200 m)
- **Wing loading:** 67.3 lb/sq ft (329 kg/m<sup>2</sup>)
- **Thrust/weight:** 0.205

## Armament

- 2 internal bays for ordnance and payload with an official limit of 40,000 lb (18,000 kg); maximum estimated limit is 50,000 lb (23,000 kg)<sup>[68]</sup>
  - 80× 500 lb class bombs (Mk-82, GBU-38) mounted on Bomb Rack Assembly (BRA)
  - 36× 750 lb CBU class bombs on BRA
  - 16× 2,000 lb class bombs (Mk-84, GBU-31) mounted on Rotary Launcher Assembly (RLA)
  - 16× B61 or B83 nuclear bombs on RLA (strategic mission)
  - Standoff weapon: AGM-154 Joint Standoff Weapon (JSOW) and AGM-158 Joint Air-to-Surface Standoff Missile (JASSM)<sup>[160][161]</sup>
  - 2× GBU-57 Massive Ordnance Penetrator<sup>[162]</sup>



**A B-2 in formation flight with 8 U.S. Navy FA-18 Hornets & Super Hornets**



**Picture showing rate of radar reflection from the B-2 Spirit bomber. Note how the engines are built into the wings to minimize detection.**

## Rockwell B-1 Lancer

**From Wikipedia, the free encyclopedia**



The **Rockwell B-1 Lancer** is a supersonic variable-sweep wing, heavy bomber used by the United States Air Force. It is commonly called the "Bone" (from "B-One"). It is one of three strategic bombers in the U.S. Air Force fleet as of 2021, the other two being the B-2 Spirit and the B-52 Stratofortress.

The B-1 was first envisioned in the 1960s as a platform that would combine the Mach 2 speed of the B-58 Hustler with the range and payload of the B-52, and was meant to ultimately replace both bombers. After a long series of studies, Rockwell International (now part of Boeing) won the design contest for what emerged as the B-1A. This version had a top speed of Mach 2.2 at high altitude and the capability of flying for long distances at Mach 0.85 at very low altitudes. The combination of the high cost of the aircraft, the introduction of the AGM-86 cruise missile that flew the same basic profile, and early work on the stealth bomber all significantly affected the need for the B-1. This led to the program being canceled in 1977, after the B-1A prototypes had been built.

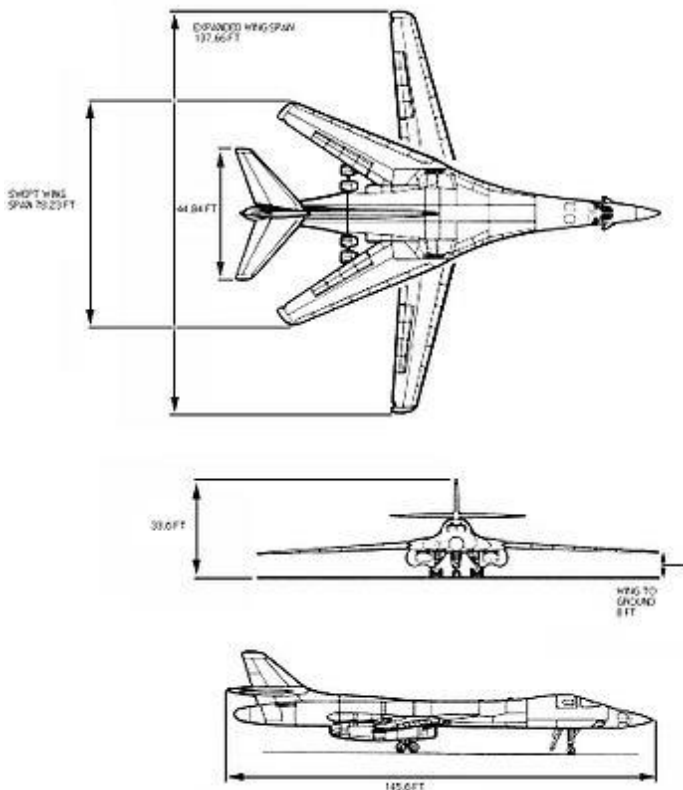
The program was restarted in 1981, largely as an interim measure due to delays in the B-2 stealth bomber program. This led to a redesign as the B-1B, which differed from the B-1A by having a lower top speed of Mach 1.25 at high altitude, but improved the low-altitude speed to Mach 0.96. The electronics were also extensively improved, and the airframe was improved to allow takeoff with the maximum possible fuel and weapons load. Deliveries of the B-1B began in 1986 and formally entered service with Strategic Air



Command (SAC) as a nuclear bomber that same year. By 1988, all 100 aircraft had been delivered.

In the early 1990s, following the Gulf War and concurrent with the disestablishment of SAC and its reassignment to the newly formed Air Combat Command, the B-1B was converted for a conventional bombing role. It first served in combat during Operation Desert Fox in 1998 and again during the NATO action in Kosovo the following year. The B-1B has supported U.S. and NATO military forces in Afghanistan and Iraq. The Air Force had 62 B-1Bs in service as of 2016. The Northrop Grumman B-21 Raider is to begin replacing the B-1B after 2025; all B-1s are planned to be retired by 2036.

### Specifications (B-1B)



### General characteristics

- **Crew:** 4 (Aircraft Commander, Pilot, Offensive Systems Officer, and Defensive Systems Officer)
- **Length:** 146 ft (45 m)
- **Wingspan:** 137 ft (42 m)

- **Lower wingspan:** 79 ft (24 m) swept
- **Height:** 34 ft (10 m)
- **Wing area:** 1,950 sq ft (181 m<sup>2</sup>)
- **Airfoil:** NACA69-190-2
- **Empty weight:** 192,000 lb (87,090 kg)
- **Gross weight:** 326,000 lb (147,871 kg)
- **Max takeoff weight:** 477,000 lb (216,364 kg)
- **Powerplant:** 4 × General Electric F101-GE-102 afterburning turbofan engines, 17,390 lbf (77.4 kN) thrust each dry, 30,780 lbf (136.9 kN) with afterburner

### Performance

- **Maximum speed:** 721 kn (830 mph, 1,335 km/h) at 40,000 ft (12,000 m), 608 kn (1,126 km/h) at 200–500 ft (61–152 m)
- **Maximum speed:** Mach 1.25
- **Range:** 5,100 nmi (5,900 mi, 9,400 km) or 7,600 km with a weapon load of 16,800 kg<sup>[166]</sup>
- **Combat range:** 2,993 nmi (3,444 mi, 5,543 km)
- **Service ceiling:** 60,000 ft (18,000 m)
- **Rate of climb:** 5,678 ft/min (28.84 m/s)
- **Wing loading:** 167 lb/sq ft (820 kg/m<sup>2</sup>)
- **Thrust/weight:** 0.28

### Armament

- **Hardpoints:** 6 external hardpoints for of ordnance<sup>[N 2]</sup> with a capacity of 50,000 pounds (23,000 kg).

**Bombs:** 3 internal bomb bays for 75,000 pounds (34,000 kg) of ordnance



**Boeing B-1 Lancer taking off.**

# Boeing B-52 Stratofortress

From Wikipedia, the free encyclopedia



The **Boeing B-52 Stratofortress** is an American long-range, subsonic, jet-powered strategic bomber. The B-52 was designed and built by Boeing, which has continued to provide support and upgrades. It has been operated by the United States Air Force (USAF) since the 1950s. The bomber is capable of carrying up to 70,000 pounds (32,000 kg) of weapons, and has a typical combat range of more than 8,800 miles (14,080 km) without aerial refueling.

Beginning with the successful contract bid in June 1946, the B-52 design evolved from a straight wing aircraft powered by six turboprop engines to the final prototype YB-52 with eight turbojet engines and swept wings. The B-52 took its maiden flight in April 1952. Built to carry nuclear weapons for Cold War-era deterrence missions, the B-52 Stratofortress replaced the Convair B-36 Peacemaker. A veteran of several wars, the B-52 has dropped only conventional munitions in combat.

The B-52 has been in service with the USAF since 1955. As of June 2019, 58 are in service, 18 in reserve, and about 12 in long-term storage. The bombers flew under the Strategic Air Command (SAC) until it was disestablished in 1992 and its aircraft absorbed into the Air Combat Command (ACC); in 2010, all B-52 Stratofortresses were transferred from the ACC to the new Air Force Global Strike Command (AFGSC). Superior performance at high subsonic speeds and relatively low operating costs have kept them in service.

## Specifications (B-52H)

## General characteristics

- **Crew:** 5 (pilot, copilot, weapon systems officer, navigator, electronic warfare officer)
- **Length:** 159 ft 4 in (48.5 m)
- **Wingspan:** 185 ft 0 in (56.4 m)
- **Height:** 40 ft 8 in (12.4 m)
- **Wing area:** 4,000 sq ft (370 m<sup>2</sup>)
- **Airfoil:** NACA 63A219.3 mod root, NACA 65A209.5 tip
- **Empty weight:** 185,000 lb (83,250 kg)
- **Gross weight:** 265,000 lb (120,000 kg)
- **Max takeoff weight:** 488,000 lb (219,600 kg)
- **Fuel capacity:** 47,975 U.S. gal (39,948 imp gal; 181,610 L)
- **Zero-lift drag coefficient:** 0.0119 (estimated)
- **Drag area:** 47.60 sq ft (4.42 m<sup>2</sup>)
- **Aspect ratio:** 8.56
- **Powerplant:** 8 × Pratt & Whitney TF33-P-3/103 turbofans, 17,000 lbf (76 kN) thrust each

## Performance

- **Maximum speed:** 650 mph (1,050 km/h, 560 kn)
- **Cruise speed:** 509 mph (819 km/h, 442 kn)
- **Combat range:** 8,800 mi (14,200 km, 7,600 nmi)
- **Ferry range:** 10,145 mi (16,327 km, 8,816 nmi)
- **Service ceiling:** 50,000 ft (15,000 m)
- **Rate of climb:** 6,270 ft/min (31.85 m/s)
- **Wing loading:** 120 lb/sq ft (586 kg/m<sup>2</sup>)
- **Thrust/weight:** 0.31
- **Lift-to-drag ratio:** 21.5 (estimated)

## Armament

- **Guns:** 1× 20 mm (0.787 in) M61 Vulcan cannon originally mounted in a remote controlled tail turret.
- **Bombs:** Approximately 70,000 lb (31,500 kg) mixed ordnance.





**Courtesy of Eisenhower Presidential Library Museum and Boyhood Home**

- In this famous photo from World War II, General Dwight D. Eisenhower speaks to a group of paratroopers from the U.S. Army's 101<sup>st</sup> Airborne Division on June 5, 1944 at 8:30 p.m., just hours before the D-Day invasion.
- At first glance, one might think General Eisenhower was giving his troops some last-minute instructions before they departed on their historic mission.
- But actually, he was talking to them about fly fishing, one of his favorite hobbies.

**Editor's Note:** A good leader, like Eisenhower was, always tries to get his troops to relax and focus on the job ahead. At this moment, before the largest invasion in history, he was using his personal skills to ramp down their anxieties and provide a little measure of "down-home" talk about fishing that would bring them all together to enjoy before their mission, from which many of them would not return.

May we keep them all in our memories and hearts, and never forget their dedication and determination and fortitude in a cause that would eventually free the world from the Nazi horror that had enveloped Europe, and threatened the world.

SUPREME HEADQUARTERS  
ALLIED EXPEDITIONARY FORCE



Soldiers, Sailors and Airmen of the Allied Expeditionary Force!

You are about to embark upon the Great Crusade, toward which we have striven these many months. The eyes of the world are upon you. The hopes and prayers of liberty-loving people everywhere march with you. In company with our brave Allies and brothers-in-arms on other Fronts, you will bring about the destruction of the German war machine, the elimination of Nazi tyranny over the oppressed peoples of Europe, and security for ourselves in a free world.

Your task will not be an easy one. Your enemy is well trained, well equipped and battle-hardened. He will fight savagely.

But this is the year 1944 ! Much has happened since the Nazi triumphs of 1940-41. The United Nations have inflicted upon the Germans great defeats, in open battle, man-to-man. Our air offensive has seriously reduced their strength in the air and their capacity to wage war on the ground. Our Home Fronts have given us an overwhelming superiority in weapons and munitions of war, and placed at our disposal great reserves of trained fighting men. The tide has turned ! The free men of the world are marching together to Victory !

I have full confidence in your courage, devotion to duty and skill in battle. We will accept nothing less than full Victory !

Good Luck ! And let us all beseech the blessing of Almighty God upon this great and noble undertaking.



*Dwight D. Eisenhower*