

DAC - MDC - Boeing Retirees
of California

Roundup

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Bill's Corner

By the time you read this, it will be well into 2026, and the holiday will be long behind you. I hope you all enjoyed the festive season, maybe even had a chance to watch the ball drop on New Year's Eve. I'll confess to cheating and watching the live celebration from New York at 9 p.m. while I am still awake enough to enjoy it.



The days of celebrating till early morning and then serving breakfast to guests are long gone. I enjoyed the Christmas season with grandchildren and their parents. The change of the year can remind us that we are getting older (well, maybe not you but I am) and the joints are feeling their age. 😊

After investing a lot of time in searching for a cheaper location for our luncheons, we have gotten a price break from Sycamore and will be staying there for another year. We analyzed a lot of factors and decided that staying makes sense.

One location that was cheaper at the high end of expected attendance (but not the lower) had a couple of drawbacks: most of the parking is a long walk from the event space, and the event space is a tent that can be uncomfortable on cold days. Another location was cheaper at the low end of expected attendance (but not the high end) and had better parking but a cramped room. Those of you who attended the October luncheon may recall we asked for expressions of willingness to pay more for annual dues and meals. A large majority supported increases. Based on all the considerations, and after crunching the numbers, we feel confident we can keep the organization going for longer than many of us will last.

It seems like I can't write this column without mentioning Boeing so here it comes. The news lately has been encouraging, with improving business performance and as a result the stock price is up. The airplane certification programs that are so far behind schedule are getting back on track, orders are up, as are production rates. There is still a long way back to historic levels of performance, but the trend is good.

Our new Program VP, Rolf Sellge, has lined up a really good speaker for March. Rather than spoil the surprise, I will let you read about it elsewhere in this issue. I hope you all make it to the next luncheon so we can say hello and chat about how life is treating us.

March 3rd Luncheon Features Speaker Maury Rosenberg



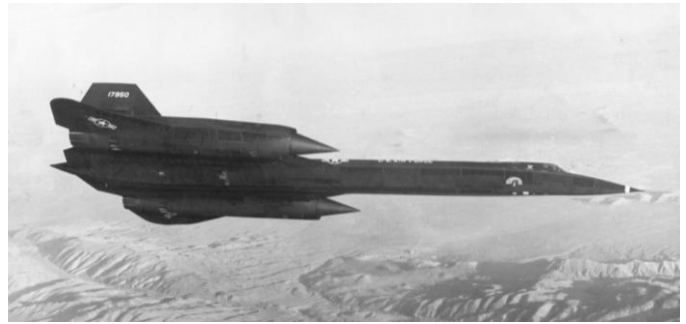
You do not want to miss the March luncheon for the rare opportunity to experience the stories of Lt. Colonel (AF ret.) Maury Rosenberg. Maury is a California native who earned his engineering degree (BS) from Northrop University and MS from USC.

Be sure to look for, complete and return your luncheon reservation form included as an enclosure with this newsletter.

Maury's aviation career spanned 37 years as an Air Force pilot and later as a UAL 767 and 757 Captain. His most exciting years were in the Air Force, flying 220 Vietnam War combat missions in F-4 Phantom aircraft.

After the war, he was selected to fly and instruct in the Wild Weasel, Phantom type F-4C, while in Japan and later at Nellis AFB. Wild Weasel missions were dangerous but successful operations -- dangerous because pilots would bait the enemy into radar detection, against which countermeasures were launched to take out the installation.

If that isn't enough, he also is one of the rare breed of pilots who flew the fastest operational aircraft in the world, the SR-71 Blackbird. Lt. Col. Rosenberg holds the flight time record in this aircraft with more than 1,000 hours.



During the 8 years of flying the SR-71, he was an instructor on this aircraft, flew reconnaissance missions in conflict areas including the Arab-Israeli War, Southeast Asia (especially Vietnam), Cuba, Russia, Europe, and Libya. He recalls flying the SR-71 with Brigadier General Chuck Yeager. His awards and recognitions are too numerous for this introduction, so come to the luncheon and find out more.

---Rolf Sellge

2026 Association Dues Letters to Be Mailed Soon; Payment by Check or Zelle Approved

Your 2026 renewal letters will be mailed in Jan., and for the first time, you may pay dues (and later your luncheon reservations) either by check or online using your Zelle account. Look for an email from the association explaining how to use Zelle followed by the standard dues letter in the U.S. Mail with more information.

3D-Printable Alloy Can Take the Heat **New NASA-developed Metallic Alloy Fills a Big Materials Gap for Printed Parts**

Back in 1977 when I joined McDonnell Douglas and both twin-aisle aircraft and high bypass ratio engines were fairly new, there were engineers who felt that aerospace efficiencies and technology might have reached their peak with those new designs. But nothing could have been farther from the truth. Looking at the 787 compared with the 767 and early 777 aircraft, the Dreamliner is up to 25% more fuel efficient than the earlier generation jetliners due to a combination of better aerodynamics, more efficient engines and lighter materials.



NASA photo of 3D-made GRX-810 alloy part.

And it doesn't stop there. At the dawn of the AI Age there is really no telling what technological wonders lie ahead.

I doubt anyone in the 1970s would have predicted that complex and critical metal parts could be produced from miracle alloys and built up using a 3D printer. But yesterday's science fiction is today's reality, as shown by a new super alloy developed by NASA for operations in extreme environments.

A recent NASA article explains: Two requirements of rockets and high-speed jet engines are durability and the ability to function in extreme temperatures. Until now, 3D printing could only produce certain engine components, because there were no affordable metal alloys for durable parts in the mid-temperature range, from 1,900°F to 2,400°F.

Expensive higher-heat alloys were the only option until NASA developed GRX-810. This was the first time NASA used computational modeling to develop a custom alloy for 3D printing, but this novel material also required a new manufacturing process. A team led by Tim Smith, materials engineer with NASA's Glenn Research Center in Cleveland, developed the new alloy by first simulating and testing alloy mixtures on a computer to determine which recipes would yield the necessary properties.

The primary metals in GRX-810 include nickel, cobalt, and chrome. But even with the right mix, the powdered metal particles required a ceramic

oxide coating to increase heat resistance and other performance that were impossible to manufacture at a reasonable cost when the project started.

The advanced dispersion coating technique Smith and his team developed employs rapid vibration applied to a container filled with the metal powder and nano-oxide particles. The vibration evenly coats each metal particle with the oxide, making them inseparable like powdered sugar on a donut hole.. The benefits over common alloys are significant – higher heat resistance and increased durability. Smith estimated that GRX-810 could last up to a year at 2,000°F under stress loads that would crack any other affordable alloy within hours.

Elementum 3D, an Erie, Colorado-based company, produces GRX-810 for customers in quantities ranging from small batches to one ton or more. The company has a co-exclusive license for the NASA patented alloy and manufacturing process. Initial tests done on the large-scale production of GRX-810 alloy showed a lifespan that's twice as long as the small-batch material NASA produced, and those were already fantastic.

Our own Tony Parker adds that the FAA began approving 3D printed parts for aircraft in the mid-2010s with GE's T25 sensor housing in 2015 marking the first commercial jet engine part, followed by Honeywell's flight-critical bearing housing in 2020, opening the door for more complex, structural components and showing growing acceptance for both metal and polymer parts on military and civilian aircraft.

Boeing has been a leader in using 3D printing for FAA-certified aircraft, notably by getting the first FAA-approved 3D-printed structural titanium parts on the Boeing 787 Dreamliner in 2017, cutting costs and supply chain time significantly, and now uses thousands of printed parts across its commercial, space, and defense programs.

---Elayne Bendel and Tony Parker

In Memoriam - 2025

The following is a list of members who passed away in 2025. It has been compiled from unofficial sources and it is probably incomplete and may contain errors. We apologize if anyone is left out or included by mistake.

*Member of DAC-MDC-Boeing Retirees Association

Bob Blount
Mark Brislawn
David Burch
Larry Fogg*
David Glynn*
Victor Greco*
Robert McKeron*
Jim Holzinger
Sandra Mc Alexander *
John Painter