

MARS STAR



MARS STAR has gone digital!!

If you currently receive a printed copy, you will continue to receive a printed copy. If you currently receive an electronic copy and wish to receive a printed copy in the future, contact Carl Kaminski at 303-726-1546 or via email at carlkcol66@gmail.com

Holiday Event will be on December 4, Page 33
VP-Business: Benefits Updates, Page 6

MARS Associates: A Social Club for Retirees of Lockheed Martin & United Launch Alliance

OFFICERS

President	Ken Marts	303-868-2168
President-Elect	Jim Pennington	301-332-5971
VP Activities	Linda Duby	303-249-1665
VP Business	Gina Curet	281-691-4200
VP Communication	Dan Ellerhorst	303-263-1944
VP Membership	Carl Kaminski	303-726-1546
Treasurer	Charlie Haupt	303-798-7113
Secretary	Al Nemes	303-908-0157
Historian POC	Barb Sande	303-887-8511
Marketing Committee	Dick Sosnay	303-972-9209

DIRECTORS

Director Chair	Roger Rieger	303-912-6217
Director	Pete Munoz	720-308-1828
Director	Jayne Brown	303-905-9822
Director	Monte Kopke	303-973-4301
Director	Kathy Hetzel	303-513-0796
Director	Debbie Carr	303-503-7113
Director	Heidi Urie	303-588-6762
Director	Vacant	
Director	Vacant	

MARS STAR

Editor	Tom Pighetti	303-979-7933
Editor	Linda Stearns	303-797-3557
Memorials	Norma Emerson	303-646-1137
Website Team	Dan Ellerhorst	303-263-1944
Volunteers	Judy Nielsen	303-905-3957
<u>Reporting:</u>		
Cape Canaveral	Dick Olson	321-452-4015
Colo Springs	Doug Tomerlin	719-594-6392
Vandenberg	Eunice Souder	805-218-7605

CLUB CONTACTS

Bridge	Dave & Kathy Martz	303-683-9524
Car Club	Roger Rieger	303-912-6217
Golf	Sandy Mossman	303-730-8378
Hiking	Sue Janssen	303-936-8339
Pacesetters	Bill Wise	720-636-5823
Photography	John Chapter (Pres)	303-986-8277

REMINDER:

If you move, please give the membership VP a change of address. Also, if you are a snowbird, let us know when you are leaving and when you plan to return so your MARS STAR can be sent to you. It costs us 70 cents for each STAR package returned.

(Published quarterly by MARS Associates, Retirees of Lockheed Martin Corporation and United Launch Alliance, Denver, CO)

IMPORTANT PHONE NUMBERS

Pension related questions should be directed to: Lockheed Martin Employee Service Center (LMESC),
866-562-2363 toll-free within the U.S.
201-242-4397 from outside the U.S.
800-833-8334 for hearing impaired.

OR

HR benefits mailbox, benefits.hr@lmco.com

MARS Important Phone Numbers

(Be sure to have your MARS ID available)

MARS Delta Dental of Colorado

Individual Administrative Team: contact for Billing and Enrollment (change bank account info, update address, etc.)
877-516-6512

individual@ddpco.com

Customer Experience Team: contact for Claims and Benefit questions
800-610-0201

customer_service@ddpco.com

Assured Partners of Colorado – For additional information dental (Delta Dental and Beta Dental, which is a Colorado only plan) or vision (VSP, which includes Exclusive Member Extras of hearing aids with Tru Hearing and EyeMed, which is part of Delta Dental at no additional cost)

[Joyce Sullivan](mailto:Joyce.Sullivan@apco.com) 303-226-0177

[Jon Elmore](mailto:Jon.Elmore@apco.com) 303-228-2206

Aetna/Medicare Plus

1-888-562-8111

Kaiser Advantage Plus

303-338-3800

MARS Associates

P. O. Box 1128

Littleton, CO 80160-1128

MARS Website: <https://www.marsretirees.org>

MARS Facebook:

<https://www.facebook.com/groups/MARSAssociates>

Cover:

Left – What Would Our World Look Like Without GPS Satellites?

A description of our lives if GPS satellites were not orbiting Earth. Photo credit LM (See LM News)

Right – A United Launch Alliance (ULA) Vulcan rocket carrying the Cert-2 mission lifts off from Space Launch Complex-41 on October 4, marking the completion of Vulcan's second and final certification flight. Photo by United Launch Alliance

From the Editor's Desk

Dan Ellerhorst(dan.ellerhorst@gmail.com)

Tom Pighetti (tipighetti@g.com)

Linda Stearns (linda80120@comcast.net)

For comments or corrections, contact Linda (issue editor) or Dan Ellerhorst, V.P. of Communications.

MARS welcomes your submissions. Submissions must be relevant **to the MARS organization**, informative, and **appropriate for this newsletter**. No **personal dialogues or opinion pieces** will be accepted.

Please submit your article for approval **in advance** to the V. P. of Communications. Articles will be included as time / space allows.



President's Corner

By Ken Marts

martshouse2@aol.com

Fall is definitely in the air and the trees are finally beginning to lose their leaves, getting ready for the next season most of us refer to as Winter! Some may refer to it as post-hunting or ski season, but the calendar refers to it as Winter. It's a time some people use to rejuvenate and start early planting for the next Spring (inside, of course) while others get out and enjoy the snow by skiing, skating, tubing; or maybe some football. Go Broncos, Go Buffaloes, Go Miners (I'm a Colorado School of Mines Alum), or Go whatever team you support! We should all be thankful for the many things we enjoy doing this time of year. Whatever your preference, MARS still has some 2024 activities on our calendar and I hope to see many of you at some of them. The Holiday Luncheon in December is a favorite. We also have several Special Activities on the calendar including mansion tours and wine tasting. See the calendar at the end of this STAR issue for "*what's left*".

I'll get into the meat of my article now and start with the topic of SPAM. Not the SPAM some people eat—it's a delicacy in Hawaii with a 250+ page cookbook on how to enjoy it, but spam email or phishing. Many of our Officers and Directors have been receiving spam from yours truly, asking for help in buying gift cards or starting a conversation to help me with a task. Once you respond, the author has you hooked and is ready to "set" the line to use a fishing term. Lately, we're hearing some of our members are also receiving similar emails asking for the same. The sender appears to be me "Ken Marts" or "Charlie Haupt", but if you click on the down-arrow to the right of our names, you find the real sender is not us but the "phisher." This is your first clue the email is spam. The second clue is asking for help or money via an email. If I want something, I typically call the person on the phone so they can hear my real voice. With the advent of artificial intelligence (AI) phishing will take on a whole new meaning that I won't get into here. The bottom line is DON'T fall for the phishing emails asking for help or money even if they appear to be legitimate. Do some sleuthing first to determine their authenticity and then report the emails to your phishing or fraud mail systems.

My next topic deals with the growing use of STRIPE by MARS Associates. STRIPE is a pay system allowing you to enter your credit card information when paying for most MARS Associates activities including membership renewal. Many of our members are now using this system due to its convenience and getting a receipt soon after using it as a reminder for the event and for record keeping

(it lets you know you have a reserved spot for the event). As with your credit card, there's a fee when it is used. The fee is 2.93% and 29¢ per transaction. As an example, the summer picnic price of \$25.00 each for member and guest using STRIPE incurred a fee of \$1.76 (\$1.47 on \$50 for the 2.93% plus a 29¢ transaction fee). These STRIPE fees are absorbed by MARS Associates and are included in the cost of our five primary activities which are partially subsidized by membership fees. If you have any questions on our use of STRIPE, please consult our Treasurer, Charlie Haupt, or me or you can find our yearly budget in the annual report. The annual report is available on the website at <https://marsretirees.org/about/policy-documents/>.

I'd like to thank Gina Curet for her effort on the business side of MARS Associates. She diligently worked with Assured Partners to get some great prices for our Delta Dental and VSP programs, offered ONLY to MARS Associates members. She is also bringing in some great speakers to talk about subjects some of us think about, but many times put off. The Medicare Awareness programs, Estate Planning, and financial seminars are educational. We also make sure these presentations do not appear that MARS Associates is endorsing one company over another. They are meant to open your eyes and offer options to consider on your own or in discussions with your colleagues.

Linda Duby has also put forth a lot of work in planning our main activities like the Annual Meeting, Summer and Holiday luncheons, and picnic.

Carl Kaminski has also put in a lot of commendable work. He keeps our membership rolls up to date and welcomes new members as they come aboard. He also is handing out badges at our events with a smiling face as he greets everyone attending our events.

I haven't bragged in a while about all the work Dan Ellerhorst does in the background keeping our Communications going. He has the web team, the STAR team, and the other teams busy working to keep our members "*in the know*" with the latest. If you have questions on the website or get lost finding your way, drop Dan or myself a line so we can help you along the way!

Be sure to thank Gina, Linda, Carl and Dan for all they do for the club and by extension, for you!

Lastly, a person who has steadfastly been maintaining our growing "In Memoriam" rolls, Norma Emerson has also been doing an outstanding job. Norma will soon be stepping down and a replacement has been found to transition into her important role. Norma maintains the names on both the website and Facebook pages for our members to follow. Bill Wise pores through the lists to

get his PaceSetter group in action to attend the memorial services and contact the family of the deceased to understand what help they may require during this sad time. Next time you see Norma, give her a hug and thanks for the great service she provides to MARS Associates.

I hope you enjoy this issue of the MARS STAR and I look forward to seeing many of you at our future events. As always, reach out if you have any comments, questions, or concerns.



Next Up
Jim Pennington
(jpennington101.jp@gmail.com)

First, hello everyone! This is my first article for the MARS STAR as the new President Elect for the organization so before I talk more about the upcoming year, let me tell you a little bit about me. I joined the Board of Directors earlier this year and one of the key needs for MARS was to be sure that we had a good succession plan in place. I must have impressed the current Board and Officers, because I am in this new role. I will share some of my interests and initiatives that I would like to accomplish or be involved in as the President Elect. Finally, I will cover some of the activities and efforts that some of the Officers are working on.

I started my career with Martin Marietta in 1982 at Ocala Operations. I came out of Florida State University with an Accounting degree but wanted to get into an interesting industry vs. going into the Accounting field. As a kid growing up in Florida, I was bitten by the Space Bug watching the Gemini and Apollo Program launches from either my backyard or near the Kennedy Space Center. I worked for one year on the Copperhead Program but left the company to work for a computer systems company in Melbourne, Florida that did the software programming for the Shuttle Payloads for IBM. I enjoyed both the work and living near the ocean when I was asked to come to Martin in Ocala. Business was booming and I quickly went from Estimator to Program Finance on the Patriot, Pershing II and Hellfire Programs. I later moved to Overhead Planning and New Business Development. That's where I got involved with both the GE Aerospace and the Lockheed / Martin Marietta Transition Teams. In late 1995, I was asked to take a new role in Independent Cost Estimating in East Windsor, NJ and Valley Forge, PA. Before I got my bags unpacked, I was given an opportunity to go to Sunnyvale to be part of a new finance team made up of both Lockheed and Martin Marietta

Business Team members in Sunnyvale. After 8 months in East Windsor, I moved west to California. I worked in Sunnyvale for five years working in ICE, Overhead Planning and then as the Program Finance Manager on the ACeS Spacecraft until I was asked to go back east to Newtown as the Assistant Finance Director/APM of Newtown Operations. I had a great staff overlooking both the payload and power products for many programs. But then 9/11 happened and I wanted to get closer to the fight. I was asked to come to the Washington DC area to oversee the planning and program management of the rebuild of the Pentagon as part of the LM Technology Services group. During the next 10 years, I ended up working with the DoD, Social Security, Centers for Medicare, CDC, FAA, and even a special assignment with the FBI on a post 9/11 Commission project. I took over the largest Finance Leadership Development Program with over 185 direct employees at the newly formed IS&GS for three years until I transferred to Bethesda for over two years managing the Corporate HR Functions Budget.

In 2015, I came back to Space Systems at Waterton as part of the new generation of A2100 spacecraft transition from Newtown to Colorado. Over the next two years, I had oversight of the business operations activities for two years, when I elected to retire. Yes, I did a lot of traveling and moving over the years, but I would not have traded the relationships or the experiences that I had with some of the brightest people within the company. During all of this, I managed to keep my family together as we all took on these new challenges and moves across the United States. My wife Mary and I have been married for over 37 years and I have two daughters, Riley who is married and lives in West Littleton and my youngest Madison who lives in Maryland working with the Maryland State Police Forensics Division.

Since I will not be president of the organization until 2026, I have a long period of time to build a good understanding of MARS, the various clubs and activities and mainly the membership. I have been making some reach back to each of the MARS clubs and hope to attend a couple of events with all of them. I recently attended a PaceSetters meeting, invited by Bill Wise. The topic of the meeting was the Apollo 12 landing descent mission and the programming that went behind it. I was impressed and plan to attend more of their meetings. As the President Elect, I look to get involved and meet as many of our members as possible.

Looking to the future, as a recent retiree (7 years ago) one clear initiative that I have is to bring in more of our recent retirees from LM or ULA. For the organization to grow and thrive, we need to invite these retirees into the community with us, while also recruiting new directors and officers for the next couple years. I have been leading my University Alumni group in Colorado and one

of our key successes is to bring in new volunteers to keep the momentum while keeping the club's traditions going. If you have recommendations, comments or suggestions, please float them my way.

Finally, I have been impressed by the efforts of the current MARS officers and the engagement of the members of the Board of Directors in the monthly meetings that I have attended. Everyone takes their roles very seriously and are committed to making things happen. Two examples are the efforts that Gina Curet, our Vice President of Business has taken both on the business aspects of the organization and her recent efforts to improve on the various benefits like Vision and Dental coverage that we have coming out this month. She will cover the 2025 benefits later in this edition of the MARS STAR. Another officer that does a great job is Linda Duby as our Vice President of Activities. The recent annual picnic is a perfect example of how she gets things done. We have a great team serving you and I look forward in working with and serving our great members.

I hope you're enjoying our change in seasons and hope to see you at some of the upcoming events. Jim Pennington at jpennington101.jp@gmail.com or 301-332-5971.



Director's Notepad

By Roger Rieger
Chairperson, BoD

rrieger10731@gmail.com

Fall is one of my favorite seasons. I love the cool crispness in the air on my evening walks with Opal, our rescue "woodle" (wheaten terrier/poodle mix), and the changing of the season.

Speaking of changes, your MARS Associates is also looking ahead with some changes to our Officers and Board of Directors (BoD) in the coming year. Changes are good and a sign of a viable and healthy organization. I would like to briefly summarize some of the upcoming changes and again solicit your participation in the MARS leadership so that we can continue to grow and thrive.

As mentioned in the last issue, Jim Pennington has stepped forward into the President-elect position, succeeding Ken when his term expires at the end of 2025. Jayne Brown, a recent new member of the BoD has agreed to step forward and assume the responsibilities of VP-Membership, succeeding Carl Kaminski as he completes his second term at the end of 2024. Thank you so much, Carl, for all your hard work. Membership is the

foundation of MARS and Carl has done an outstanding job. I look forward to Jayne as she assumes this vital position. We have also added Kathy Hetzel as a new member to the BoD, and are actively seeking 3 additional members to join the Board. The BoD was intended to be a "hot bench" for MARS members to dip their toe in the MARS leadership pool and help continue the growth and viability of the organization.

Along with the Officers and BoD volunteers, MARS is supported by other very valuable team members whose time and talents are invaluable to MARS. Norma Emerson has been our In Memoriam Coordinator for many, many years, a difficult but invaluable service to our members. Norma has asked to step back from this position, and Roy Duszynski has volunteered to step forward and fill this vital role. Please join me in thanking Norma for her dedication to our organization, and welcoming Roy in his new role. We are also pleased to add Debbie Mues to our MARS STAR editorial staff, joining Linda Stearns and Tom Pighetti. The MARS STAR is a vital means to stay connected for our membership and a special thank you from all the Officers and BoD members for all your hard work, often times needing to accommodate late inputs.

If you ever desire to watch the "sausage being made," the Officers and BoD Meetings are held the first Wednesday of every month at the Red Rocks FCU headquarters building in Southpark. Meetings start at 9:30 and wrap up around 11am. "New blood" is essential for the continued vitality and growth of your Club, and I ask each of you to consider sharing your talents while having fun and staying connected with fellow MARS members. Interested? Please reach out to any of the Officers or BoD members, or contact me directly, we would love to hear from you!



Activities Updates

By Linda Duby

lindaduby@comcast.net

On June 26, 92 members and their guests attended the **Summer Luncheon Honoring Senior Members**. The luncheon was held at a favorite venue for this event, the Manor House at Ken Caryl. As in the past, the Manor House did a great job with the food and the service. As noted earlier this year, we had decided to have this luncheon in June rather than July and will hold it in June again next year. Pictures from the event were included the July edition of the STAR (marsretirees.org/Communicationss) as well as in Event Photos (marsretirees.org/EventPhotos).

The last happy hour of 2024 was held on July 23 at the Platte River Bar & Grill. There was a great response to this event and about 70 people attended. Everyone enjoyed the food, beverages and the camaraderie of the happy hour on the patio. The Platte is a great location for a summer happy hour and will probably be the location for a summer happy hour next year.

The **Annual Picnic** at Clement Park on September 11 was another successful event this year. There were 197 members and their guests enjoying the great barbeque provided by Smokin' Outlaw Kitchen. We had trays of food left over this year and, thanks to Lucy Ellerhorst and the firefighters at the South Metro fire station on Coal Mine Road, it was taken to Family Tree House in Englewood. They were delighted to get the food and we were glad the food could go to a good cause.

Representatives from Red Rocks Federal Credit Union, Assured Partners, Delta Dental, and Kaiser Permanente were in attendance. We also had guests from Lockheed Martin and United Launch Alliance. They were Laura Hopkins, Vice President, Human Resources, Shamina Fletcher, Executive Assistant, John Wasong, Technical Assistant of Lockheed Martin; and Claire Nemethy, Strategic Communications, United Launch Alliance. Of course, the highlight of the picnic was the door prize drawings. The winners of the drawings are:

Prize (Donor)	Winner
Box Kites to Bombers Magazine	Bob Winn
Delta II Grail ULA Coin	George Cain
AVII ULA Coin	Joni Winn
ULA Flask	Sylvia Dinges
\$50 Panera Gift Card (Assured Partners)	Ronda Ernst
Sonic Toothbrush (Delta Dental)	Kathy Tullio
Coin NRO Launch 16	Annette Marsteller
\$50 Panera Gift Card (Assured Partners)	Bill Oliver
GPS Delta 2 Coin	Zimmy Zimmerman
Cooler (Kaiser)	Laurie Makloski
\$50 Cash (MARS)	Dave Faren
\$50 Cash (MARS)	Ron Gedeon
\$50 Cash (MARS)	Lenni Curless
\$50 Cash (MARS)	Judy Nielsen
\$50 Cash (MARS)	Patty Shaw
\$50 Cash (MARS)	Susan Madison
\$100 Cash (MARS)	Dorian Maurer
\$100 Cash (MARS)	Lis Campbell
\$200 Cash (MARS)	Don Purkey
\$300 Cash (MARS)	Joe Wuest

Congratulations to all the winners. Pictures of the winners and the event are included in this STAR.

The final event of 2024 is the **Holiday Celebration** on December 4 at the Wellshire Event Center. The flyer, with the menu selections and more details, is included in this edition of the STAR and is already posted on the MARS website and the MARS Facebook page. Reservations can be made electronically or by mailing in a check with the coupon that is on the flyer. The deadline for reservations is November 25. MARS is again supporting Toys for Tots and will be collecting either toys or monetary donations at the check-in table. Toys must be new and unwrapped. The Marines will provide boxes to transport the toys to their warehouse. MARS will have a collection box for monetary donations.

If you have any comments or suggestions for the events, please let me know at lindaduby@comcast.net.



Business

By Gina Curet

orion43@comcast.net

This quarter, I plan to focus on important information about our dental and vision benefits. We provided a preview of the changes at the Annual Picnic; however, we have now solidified the final plans. Before I provide the details, I want to ensure that everyone is aware that these dental and vision plans are **ONLY** available to you because you are an active MARS member.

A recent audit found that 136 retirees were using the MARS Associates benefits for dental and/or vision and had not paid membership fees...some never...some for up to 6 years. Therefore, the Board sent 136 emails and letters requesting payment by 10/31/24 or their benefits will be cancelled effective 10/31/24. We do not want this to occur and want to continue to provide these cost-effective plans to our members.

Remainder of 2024

- **Delta Dental** – Two things: (1) Did you notice that you had an 8% price reduction in your plan costs in September? Yes, your rates went down! (2) Do you have major dental work to do in the near future? This is a once in a lifetime opportunity to have it completed in the last quarter of 2024 and finished in early 2025...and save yourself money! This became available to us when I negotiated new 2-year rate guarantee agreements starting in 2025.

Our current plans will only be effective from 9/1/24 – 12/31/2024 as we will be changing to a calendar year in January 2025. That means you will pay your deductible and can use your annual maximum of either \$1,000 (base option) or \$1,500 (high option) in 2024 for the remaining three months of 2024; and then pay the deductible and use your annual maximum **again** starting in January 2025 (under our new calendar year plan).

- **Vision Service Plan (VSP)** – if you renewed your VSP, then I’m sure you noticed the 10% rate reduction! We are working hard with our Assured Partner to provide competitive rates for you!

2025 Annual Enrollment for Pre-Medicare Medical Benefits

For our 153 MARS members who are not yet 65 and are most likely acquiring your medical benefits from LMC, you should have received a flyer in the mail. Retirees, Cobra, Disabled, and Late Negotiated Unions are in Wave 2 of the 2025 annual enrollment process and will select their medical benefits between **11/6-11/22/2024**. The website to review your options is at: lmc.lifeatworkportal.com - Destination Wellbeing Employee Service Center Online. They may also be reached at 866-562-2363 should you have any questions.

January 2025 Benefit Changes

As I indicated, our dental policies are changing to a calendar year. This will make it easier for members as most medical related plans are on a calendar year. Delta Dental rates will NOT be increasing from the current rates effective September 1, 2024 through December 31, 2026 – a 28-month rate guarantee!

- **NEW DeltaVision 225 Plan** available 1/1/2025. Review the new vision plan option on the website. DeltaVision provides a VSP Choice network (just like the current VSP plan that MARS offers), however, the copay costs are less, while the benefits more robust. As an example:

- **DeltaVision 225** - \$245 featured frame brand allowance; \$225 frame allowance; 20% savings on amount over allowance - \$13.94 per month (retiree only); we negotiated a 2-year rate guarantee with our vendor.

- **VSP Standard Plan** - \$170 frame allowance; 20% savings on amount over allowance - \$11.65 per month (retiree only); OR

- **VSP Premium Plan** - \$220 frame allowance; 20% savings on amount over allowance; \$20.88 per month (retiree only)

How & When to Cancel VSP (if changing to Delta Vision)

– If you select the DeltaVision 225 Plan and need to cancel your VSP plan, please note that VSP requires you to remain enrolled in their individual plan for 12 months after enrolling or renewing your policy. For example, if your VSP plan started on January 1st, the

earliest you can terminate your coverage is December 31st. To cancel your VSP coverage, please email member@vspindividual.com or call 844-641-6718. Specify the desired effective date for the termination.

You can always visit marsretirees.org and select “Benefits” for more details.

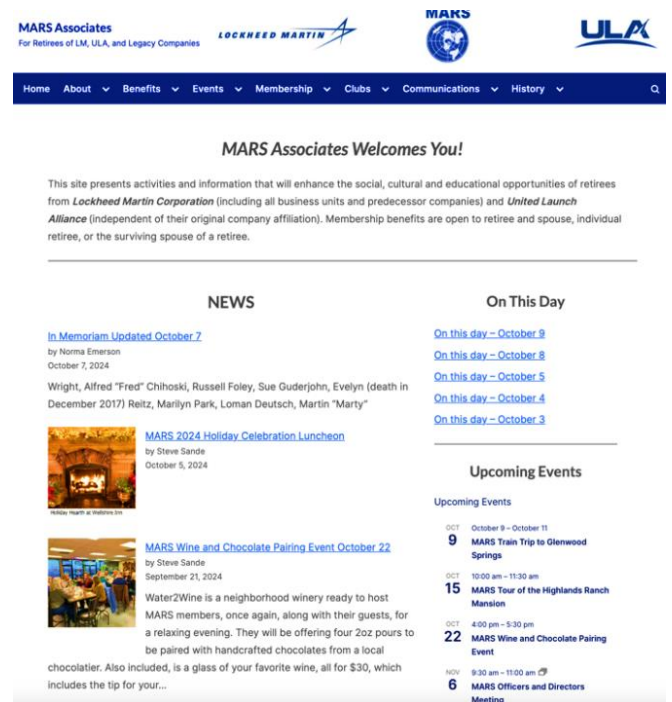
“At Capacity” for the Estate Planning Informational Session

Understanding Medicare, Financial Strategies and Estate Planning sessions have been provided for our members this year. The Estate Planning session was at capacity at Red Rocks and a great educational presentation for all with engaging questions and conversations. I plan to continue to bring these types of informative sessions to you in 2025!



Communications
By Dan Ellerhorst
(dan.ellerhorst@gmail.com)

Have you seen this before?



Yes, that is a screenshot from our website at www.marsretirees.org. I hope (and expect) that most of you have dipped (at least this far) into our website universe. When we migrated from our old website to this new one in April of 2023, we tried to retain all the content and as much of the organization of the old site as we

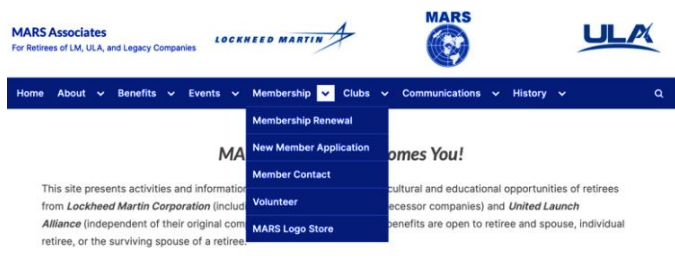
could, in order to ease the shock of the change. Of course, we also wanted to take advantage of some of the features of our new host software. And we have since then continued to modify the look and feel based on feedback from users and our content creators.

Recently, we had some feedback from members that the new website is not as easy to navigate as we had hoped. If you are among those who do not use the website and find it a bit difficult to access, I hope this mini-overview will encourage you to give it another try.

When you set your web browser to www.marsretirees.org, you will be taken to the home page shown above. The pulldown menus in the blue bar at the top provide quick access to various pages organized under these topics; Benefits, Events, Clubs, Communications, and History. Selecting "Home" will always return you to the home page.

The home page also has areas showing the latest "posts" (under the NEWS heading), links to our Historian Barb Sande's most recent "On this Day" features, Upcoming Events (from the Event Calendar), a link to the MARS STAR page (same as selecting MARS STAR from the Communications pulldown), a link to "Remembering Friends" (same as selecting "In Memoriam" from the Communications pulldown) and two important buttons. The red button "Suggestions/Requests" will take you to a form where you can fill in comments and feedback regarding the website, suggestions for improvements, or requests to post some information. These entries are reviewed and implemented by the Website Team. The blue button "Find Us on Facebook" will take you to the MARS Associates group page on Facebook.

As one example of navigating from the home page pulldown menus, let's look at the selections under "Membership", shown in the screenshot below.



This is an important area that most of you will want to use, at least on an annual basis. It's also the area you will want to refer to your friends who are not yet MARS members so they can sign up for their FREE first year! The first two selections, "Membership Renewal" and "New Member Application," will take you to pages with instructions and data fields to fill in for renewing and for new members. "Member Contact" will take you to a page

where you can see a list of members and their e-mail addresses (for those members who have given permission to share that information.) There is also a "search" field for looking for a specific member name. The next pulldown selection takes you to our "Volunteer" page, where you will find information about Volunteering Opportunities and a link to Judy Nielson, our volunteer coordinator. Finally, the "MARS Logo Store" selection takes you to a page where you can see and order shirts or caps with the MARS Associates logo. Very chic!

The easiest way to familiarize yourself with what is available on the site is to simply step through each menu item and follow the pulldown selections to see where you end up. You can't break anything, you won't be inadvertently signing up for something, and we won't send you a pile of follow-up advertisements!

If after giving it a try, you still think a little more instruction is in order, please let me know via e-mail (or the Suggestion button ;-)) and we will consider setting up an informational session online, or in-person.

Happy surfing!



Membership Report

By Carl Kaminski

carlcol66@gmail.com

MEMBERSHIP STATISTICS

As of October 1, 2024 there are 1,157 MARS Associates members, including 519 senior members. We have a total of 58 new members who have joined MARS for the 2024 CY to date.

Please welcome the following new members who have joined this quarter:

Colorado

Aurora	Penny Denny
Centennial	Vaun & Robin Grattet
Conifer	Christy & Daniel Beary
Glenwood Springs	Julie Tinker Woodruff
Golden	Lynn & Chris Cain
Highlands	Mike Nance & Joy Jardine

Ranch

Littleton Candace Hare, Frank Hurwitz & Sara
Shanzer-Hurwitz, Rick Kelly, Theodore &
Barbara Mershon

Other States

Washington

Mount Vernon Serena & Neil Yeda

NEW MEMBERS

Do you know someone who recently retired from LM or
ULA? First year membership in MARS is free for 2024.
Direct them to the website for more information or have
them contact one of the Officers or Directors.

MARS Associates is charged for forwarded mail!!

Please contact us with any info on changes of address.
When USPS provides us with a new address for mail they
have forwarded, the USPS charges MARS Associates.
Please remember to include the MARS membership team
in your list of people to notify when you have a new
mailing address, phone number or email. We want to
make sure all communications are timely.

In Memoriam

By Norma Emerson
(emer801@msn.com)

*Please contact me at the above address or at
303.646.1137 with information about the passing of a
member the spouse of a member or other MM/LM retirees
so they can be acknowledged in the Memoriam section.
Roy Duszynski will be the new "In Memoriam" person in
January 2025. His contact info is rkduzynski@msn.com
or 303-358-4750.*

*MARS Associates expresses our deepest sympathy in the
loss of your loved one and a donation will be made to a
charity chosen by the Officers and Board of Directors in
their memory.*

Members

Broadbent, Sidney (D: August 2024)
Littleton, CO
<https://tinyurl.com/2veb3hdf>

Cundell, Gloria (D: March 2024)
Brighton, CO
<https://tinyurl.com/nhbjkjkbj>

Flora, Gareth "Gary" (D: August 2024)
(Survived by Margie Flora)
Aurora, CO
<https://tinyurl.com/4daddafm>

Foley, Sue (D: September 2024)
(Survived by Jim Foley)
Littleton, CO
<https://tinyurl.com/ye88mfhv>

Gartin, John (D: June 2024)
(Survived by Clarene Gartin)
Colorado Springs, CO
<https://tinyurl.com/4rek99dy>

Giuliani, August "Tony" (D: Sept 2024)
(Survived by Sandra "Sandy" Giuliani)
Littleton, CO
No obituary published

Harrell, Ray "Keg" (D: August 2024)
Littleton, CO
<https://tinyurl.com/3bh4ja5t>

Kelly, William "Bill" (D: May 2024)
Conifer, CO
<https://tinyurl.com/yv7fsvbf>

Kildow, Janell (D: July 2024)
(Survived by Jeff Kildow)
Parker, CO
<https://tinyurl.com/bdh9u4tw>

Wright, Alfred "Fred" (D: August 2024)
(Survived by Janet Wright)
Aurora, CO
<https://tinyurl.com/3pd7t58x>

Non-Members

Bosco, Thomas "Tom" (D: August 2024)
(Survived by Marie Bosco)
Highlands Ranch, CO
<https://tinyurl.com/45pxk8r6>

Chihoski, Russell (D: September 2024)
(Survived by Caroline Chihoski)
Littleton, CO
<https://tinyurl.com/ycxxkpic>

Guderjohn, Evelyn (D: Dec 2017)
Littleton, CO
<https://tinyurl.com/2s497dth>

Kallsen, Dale (D: September 2024)
Indian Harbour Beach, FL
No obituary published

Mattson, Patty (D: July 2024)
Littleton, CO
No obituary published

Wardman, John (D: July 2024)
(Survived by Barbara Wardman)
Titusville, FL

Marketing Committee

By Richard Sosnay
richardsosnay@gmail.com

The 2024 MARS Special Activities have started off great this year, and they continue to be fun. Here is a summary of all our activities planned for 2024.

Planned 2024 Special Activities		
Activity (Attendees) [When]	Cost *Lead*	Comments
Activities Completed		
Wine Tasting (41) [Tues, Apr 23]	\$25 /person *Terry Lilly*	Will schedule another in Aug/Sept
CO Railroad Museum (19) [Tues, Apr 30]	\$11 /person *Robin Zen*	Followed by lunch at Yard House
The Wild Animal Sanctuary (27) [Tues, May 14]	\$20-\$50 /person *Carolyn Malaby*	
ULA Tour (21) [Tues, May 21]	Free *Terry Lilly *	Followed by Happy Hour at Max Taps
State Capitol/History Museum (27) [Tues, June 11]	\$14 /person *Kathy Hetzel*	Lunch at History Museum
Central City Opera (29) [Weds, July 24]	\$89.60, \$74.40, \$56.80, \$24.80 *Sue Janssen*	
LM Plant Tour (25) [Weds, Aug 28]	Free *Judy Nielsen*	
Denver Mint Tour (28) [Thurs, Sep 19]	Free *Robin Zen*	Lunch at Pint Pub
State Capitol/History Museum Tour #2 (26) [Tues, Sep 24]	\$26 /person *Kathy Hetzel*	Lunch at History Museum
Upcoming Activities Planned for 2024		
Glenwood Springs Train Trip (20) [Oct 9 - 11]	\$108 /person *Ralph Pacheco*	
Highlands Ranch Mansion (TBD) [Tues, Oct 15]	TBD *Carolyn Malaby*	Followed by Lunch
Wine Tasting #2 (TBD)	\$30 /person *Terry Lilly*	

[Thurs, Oct 22]		
(Total Attendees 263)		
Activities Moved to 2025		
Kansas Cosmosphere (TBD) [Aug or Sept]	TBD *Bill Edwards*	
AFA Planetarium & AFA Tour (TBD) [Sep or Oct]	TBD *Doug Tomerlin*	

As soon as an activity's details are finalized by the activity lead, we send out a blast email describing the event, dates and times, and how to sign up for the activity to all MARS members who have opted to read emails. While you can also find out about these activities by checking on our MARS Website and in the MARS STAR, our MARS blast email system is the best way to know about each activity as soon as they are available for sign up. Make sure you are getting our MARS blast emails and respond quickly as activities fill quickly. Following is a brief description of each activity for 2024:

Completed Activities:

These activities were previously discussed in the July 2024 MARS STAR.

- Wine Tasting – April 23
- Colorado Railroad Museum Tour – April 30
- The Wild Animal Sanctuary – May 14
- ULA Tour – May 21
- State Capitol/History Museum #1 – June 11

The activities this quarter:



Central City Opera Stage
 "Pirates of Penzance"

- **Central City Opera** - On Wednesday, July 24, we enjoyed a return to the Central City Opera, led by Sue Janssen. This year, 29 MARS members and guests thoroughly enjoyed *The Pirates of Penzance*, a comedic operetta with swashbuckling adventures and harmonious hijinks. It was a wonderful experience to drive up through

our foothills in the middle of summer to visit this old mining town with its historic opera house, grab lunch, see a wonderful operetta, and enjoy the ambiance of Central City.



Central City Opera:
MARS Members gather in the Opera Courtyard
(not all participants pictured)



Central City Opera Ushers Perform
Welcoming Serenade before
Seating the Audience

• **LM Waterton Plant Tour** - Lockheed Martin Space hosted 25 MARS members for a tour of the Waterton Campus on Thursday, August 28, 2024. The tour guide was Brian Ysasaga, Systems Engineer, National Security Space, a member of Joe Rice's organization. The tour included a visit to the Pulsar Lab in the Engineering building, which showcased what LM Space does, and some of the missions in work, followed by a tour of the Collaborative Human Immersive Lab (CHIL) area also in the Engineering building. In the FAB (Factory Assembly Bldg.), the group toured the Mission Support Area which included the Orion Lab Area. The tour began at 10:30 a.m. and ended at 1:30 p.m. Our sincere thanks and appreciation to Joe Rice and Brian for providing this opportunity for our retirees once again. Many of the retirees hadn't been at any of the facilities in 20 years or more, so this was a welcomed event.

• **Denver Mint Tour** - On Thursday, September 19th, 28 MARS members and guests enjoyed this tour, led by Robin Zen. The tour was very interesting, and they were producing pennies while we were there. Unfortunately, photos are not allowed inside the Mint. There is beautiful marble in the hallways and entrances, as well as unique chandeliers. The coin production and Mint history was fascinating, as well as a look at the future coins being produced, such as quarters celebrating American women, and some new gold coins coming soon to celebrate superheroes. Did you know that there has never been a robbery inside the Denver Mint (only a delivery truck outside the Mint)? There was one case of an employee (Orville Harrington) stealing gold bars because he was disgruntled from not getting a raise in 14 years. If you are interested in coins for purchase, you can visit the gift shop while taking the tour.

Following the Mint tour, half of the group headed to the Pint Pub for some authentic British pub food (bangers and mash, fish and chips), pints, and other drinks. Thank you to all the attendees for making this a fun and educational event!

• **State Capitol/History Museum Tour #2**

The first tour proved so popular that we scheduled a second tour also led by Kathy Hetzel. On September 24th, 26 MARS members were hosted at the State Capitol for a guided tour of the building. Our guide gave us a thorough history of the building and led us to both the senate and house chambers as well as a 99-step climb up to the gold dome where we were given time to enjoy the outdoor observation walkway and fabulous view. After that exertion, lunch at the Café Rendezvous at the History Colorado museum was a most welcome break.



Colorado History Museum Tour #2
September 24, 2024

Our time at History Colorado began with a wonderful presentation from the museum's curator, Rachael Storm. Rachael entertained us with many stories of Glenn L. Martin and the company he founded that became Martin Marietta and then Lockheed Martin. Rachael is seeking

people from these legacy companies to contribute their oral history for the museum. If you are interested in participating in this, please contact Rachael through the History Colorado website.



Colorado History Museum Curator Rachel Storm speaks to MARS group, Cheng-jer & Margie Lin listen nearby

Our afternoon was complete with free time to explore the museum. History Colorado has very interesting displays of the 10th Mountain Division and their role in Colorado history, The Sand Creek Massacre, as well as Zoom In-100 objects from Colorado that bring back more than one or two memories.



View from Colorado History Museum (L to R) Shirley Bjornseth, Sue Smith, Lucy Ellerhorst

Upcoming Activities:

The following activities will be covered in the next issue.

- **Glenwood Springs Train Tour** - This trip, led by Ralph Pacheco, will take Amtrak's California Zephyr train through the Rocky Mountains to Glenwood Springs, leaving on Wednesday, October 9, and returning on Friday, October 11. The train goes through the Moffat Tunnel and then follows the Fraser and Colorado Rivers. We'll stay 2 nights at the Antlers in Glenwood Springs so that you can spend 2 evenings and a full day enjoying the

sights and activities in the area, including the world-famous hot springs, the adventure park, and the shopping and dining opportunities.

- **Highlands Ranch Mansion Tour** - The Highlands Ranch Mansion Tour will be led by Carolyn Malaby on Tuesday, October 15. This historic Mansion has been home to some of Denver's more notable families including cattle barons, oil tycoons, prominent Denver socialites, as well as political and business leaders who have helped create the Colorado we know today. Discover spacious landscaped grounds, expansive vistas, picturesque architectural details, and a deep connection to our western heritage

- **Wine Tasting #2** - This activity also proved to be so popular that we have scheduled a second wine tasting on Thursday, October 22. Terry Lilly will also be leading this activity.

Activities Planned for 2024 but Now Shifted to 2025

- **Air Force Academy Planetarium and AFA Tour** - Doug Tomerlin, a MARS member who leads the Lockheed Martin Colorado Springs Retiree group has volunteered to lead an activity in Colorado Springs. The activity will include a visit to the Air Force Academy Planetarium and a tour of the Air Force Academy.

- **Kansas Cosmosphere Tour** - The visit to the Kansas Cosmosphere will be led by Bill Edwards. The Cosmosphere has the 2nd largest collection of US space memorabilia anywhere and the largest collection of Russian space memorabilia outside the former Soviet Union. There are many artifacts from the US Space Program (a Moon Rover, the Mercury Liberty Bell 7, the Gemini 10, and the Apollo 13 Crew Capsules). It has an impressive collection of World War II German Rocket displays (V1 Flying Bomb, a V2 Rocket and an ME163 Rocket Plane engine). The USSR collection is very impressive (flight-ready spare of the Sputnik 1 spacecraft, a Vostok capsule, the Voskhod 2 capsule and a full-size replica of the Apollo-Soyuz spacecraft.

As you can see, we have some wonderful activities planned for this year. Look for more information on our web site, in MARS mass mailers, in future editions of the MARS STAR, and on our MARS Facebook page. If you are interested in attending any of these activities, please let the activity leaders know. I hope to see you at some of the great activities.



Volunteer Efforts

MARS VOLUNTEER EVENTS - 2024

- **Waterton Auto Show** - For the Waterton Auto Show, three MARS members showed their cars, and two volunteers supported the show on August 22, 2024. The show was smaller this year, and MARS members were only permitted to bring in ten cars.
- **LM Space Fun Run** - MARS volunteers supported the October 4, 2024 Fun Run at the Waterton Campus.
- **Junior Achievement** - Eleven MARS members volunteered for the Junior Achievement Finance Park on Wednesday, October 2. They spent the morning with a group of ninety 7th and 8th grade students from Ranch View Middle School, learning about budgets and the cost of items from housing, transportation, groceries, and insurance. Each student was provided a young adult life scenario, which included whether they were married and had children, and a career with an average net monthly income. They learned about taxes, credit card and student loan debt, and each MARS volunteer provided them guidance on the cost of their monthly needs and wants. Scott Stagliano, one of the volunteers, said: "It was great seeing the energy of the middle schoolers."



Volunteers (L-R): Ed Scholz, Barbara Costley Adams, Mike Ditmer, Beth & Neal King, Annette Marsteller, Scott Stagliano, Bob & Carolyn Bauer, John Marsteller, Sonia Helmreich
Junior Achievement Finance Park

If you are interested in volunteering for upcoming events, please send your name, cell phone and email address to Judy Nielsen at jniel129@gmail.com.

Historian Corner

By Barb Sande
(barbsande@comcast.net)

Program Profile

The Mercury-Atlas manned orbital missions 7-9 are summarized in this program profile.

Introduction:

In 2022, I wrote a program profile about the Mercury-Atlas 6 mission, which had the first American to orbit Earth (John Glenn). After finishing the Apollo and Skylab series and before I jump into the Gemini program in a multi-part series, I felt it would be appropriate to briefly summarize the Mercury-Atlas 7, 8 and 9 missions, as those stories are often neglected in program retrospectives.

Mercury-Atlas 7 (Aurora 7) Overview

Launch Date: May 24, 1962 12:45:16 UTC
(7:45 am ET)

Launch Pad: Cape Canaveral LC-14

Crew: M. Scott Carpenter, Commander, USN

Mercury Capsule: Number 18, McDonnell Aircraft

Launch Vehicle: Atlas LV-37B 107-D, General Dynamics (Convair)

Orbits: Three (Planned and executed)



Bob Bauer Helping Students Speed Shop
Junior Achievement Finance Park
Ranch View Middle School

Thanks to all the volunteers who attended! We will look at setting up future Junior Achievement events for our MARS group.

Perigee: 96 nautical miles
Apogee: 162 nautical miles
Inclination: 32.5 degrees
End of Mission: May 24, 1962 17:41:21 UTC
Landing Site: Caribbean, Near Puerto Rico
Recovery Ship: USS *Intrepid*



MA-7 Launch May 24, 1962 - Photo Credit: NASA

Mercury-Atlas 7 Mission

After the Mercury-Atlas 5 flight, Donald "Deke" Slayton and Walter Schirra were designated as the pilot and backup for MA-7 and they trained side-by-side with John Glenn and Scott Carpenter (pilot and back-up for MA-6). On March 15, 1961, NASA announced that Slayton had an erratic heart rate and would be replaced by Scott Carpenter on MA-7.

This sudden discovery of a medical condition for Slayton generated intense media interest, as the seven astronauts were supposedly perfect physical specimens. It was revealed that Slayton had idiopathic atrial fibrillation (irregularity of a muscle at the top of the heart), with an unknown cause. This was apparently observed as early as April, 1959 when Slayton did centrifuge training. NASA leadership disagreed about grounding Slayton, but finally agreed with Administrator Webb that it was too risky to subject Slayton to the stresses of orbital flight when other astronauts were available. Carpenter was now designated for that mission and began more intensive training as the primary. Schirra moved to primary on MA-8.

The planning for the actual MA-7 mission took advantage of lessons learned from Glenn as he prepared for MA-6. It was agreed that the flight plan would allow for more pilot control of the spacecraft and several scientific experiments were proposed to expand the scope of a Mercury mission. A task force, the Mercury Scientific Experiments Panel,

recommended five experiments that would require more training before the mission:

1. Release a multi-colored balloon that would be tethered in the capsule to observe its behavior.
2. Observe the behavior of liquid in a glass bottle.
3. Use a special light meter to determine the visibility of a ground flare.
4. Make weather photographs with hand-held cameras.
5. Study the airglow layer.

When Carpenter received the mission assignment, he decided to name his capsule *Aurora 7*. As quoted in *This New Ocean* (see references) he said, "Because I think of Project Mercury and the open manner in which [we] are conducting it for the benefit of all as a light in the sky. Aurora also means dawn - this case the dawn of a new age. The 7, of course, stands for the original seven astronauts". An interesting coincidence – Carpenter lived at the corner of Aurora and Seventh Avenues in Boulder, Colorado when he was growing up.

Final preparations for the mission began in earnest after the Atlas launch vehicle was delivered to the Cape and erected on the pad in early March. Some delays occurred to the original flight schedule of mid-April because of training and the installation of new components and a Naval Fleet training exercise that required participation by the recovery ships. The week of May 30 looked best for the launch.

Carpenter was awakened at 01:15 am on May 24 and had the typical breakfast of orange juice, filet mignon, eggs, toast and coffee. The next hour was spent doing physical exams, having sensors attached and donning his space suit. He arrived at the gantry at 04:36 am and entered the spacecraft at 4:43 am. No problems were seen during the countdown and MA-7 launched at 07:45 local time, with over 40 million people watching it on television.

During ascent, there was a small anomaly in the hydraulic system when one of the sustainer engine's hydraulic switches registered a loss of sustainer hydraulic pressure. Normal performance of the system was substantiated by other flight data and two switches had to be tripped to signal an abort, so the flight continued as planned. The targeting was so accurate that *Aurora 7* reached almost the exact orbital parameters planned.

Carpenter was pleased by the sensation of weightlessness and he worked to turn the spacecraft to its normal backward orbital attitude; he only used 1.6 pounds of fuel for this fly-by-wire maneuver compared to over 5 pounds on MA-6. Carpenter felt no sensation of movement, even though he was traveling at 17,549 mph. Unknown to him at this time the horizon scanner optically sensing pitch attitude of the spacecraft was off by 20 degrees.

Carpenter spent much of the first orbit doing observations of Earth and trying to take special photographs of the Earth-horizon limb. A planned observation of flares sent up in the desert in Australia was unsuccessful (a repeat of the results from Glenn's mission). Carpenter's body temperature was 102 degrees F, but he claimed he was not uncomfortable or feeling ill; this was attributed to a sensor, but it stayed high during the entire flight.



Sunset at Earth limb taken by Carpenter - Photo Credit: NASA

Carpenter had solid food items for the first time on a mission. The snacks, prepared by Pillsbury and Nestle, were supposed to have coatings with an anti-crumbling agent, but they crumbled badly, creating a concern for debris, and a candy bar melted so he didn't touch the food for the remainder of the mission. He also saw the fireflies that Glenn observed on his flight; the mystery of those particles was solved on the third orbit when he bumped his hand against the wall and particles of ice came off the exterior, most likely from condensation from the life support system.

During the second orbit, Carpenter made frequent capsule maneuvers with the fly-by-wire system. He took photographs at various attitudes and even stood the capsule on its antenna plane and found the view to be exhilarating. There were issues with caging the attitude gyros during these maneuvers. During his crowded work schedule, he inadvertently actuated the sensitive high-thrust attitude control jets six times, using up fuel. By the end of the second orbit, his fuel supply was less than 50% in both manual and automatic tanks; he was reminded many times to conserve fuel and finally was directed to conserve fuel during the third orbit by drifting through almost the entire orbit. During this final orbit, he checked his attitude using the Moon and took multiple photos of the "flattened Sun" phenomenon at sunset. He also observed more of the fireflies or what he called "frost flies" coming off the surface of the spacecraft.

Before Aurora 7 passed over Hawaii on the third orbit, Flight Director Christopher Kraft was very pleased with the mission, even though Hydrogen Peroxide fuel usage was high. Carpenter was directed to begin his retrofire

countdown and shift to the automatic attitude control. He started this task late due to his preoccupation with the fireflies. As he began aligning the spacecraft, he found that the automatic stabilization system would not hold the required pitch and yaw attitude angles. He switched to the fly-by-wire system, but forgot to turn off the manual system, so both were functioning at the same time, burning fuel.

He attempted to establish retrofire attitude visually, but Aurora 7 was in fact aimed 25 degrees to the right of the true retrograde vector. He had to be reminded by Alan Shepard (at the ground station in Arguello, California) to bypass the automatic retro attitude switch and he acted immediately. The retrorockets fired 3 seconds late, adding to the vector error. Carpenter then realized the manual control system was still operating. He turned off the fly-by-wire system and saw that the manual system only showed 6 percent fuel left (it was actually at zero) so he switched back to the fly-by-wire system (showing 15 percent fuel) but kept hands off the control systems until a critical tumble.

Reentry of Aurora 7 began in earnest 500 miles off the east coast of Florida. At this point, Carpenter was more than 250 miles off the targeted landing zone. The fuel tank for the automatic system was emptied between 80,000 and 70,000 feet. The spacecraft oscillated beyond the 10-degree tolerable limits and Carpenter strained to fire the drogue chute mortar; he deployed the main chute manually at 9500 feet altitude. The splashdown was noisy and the capsule did not right itself within a minute as it was supposed to do. Carpenter exited the spacecraft and inflated the life raft (upside down). He was able to flip the raft upright and settled in.

After nearly an hour of searching, Carpenter was located in an area northeast of Puerto Rico. Two Navy frogmen bailed out of their SC-54 aircraft and surprised Carpenter in his raft as he was watching other circling aircraft. It took almost three hours for him to finally be transported. The rescue of Carpenter came from the USS *Intrepid*, while the USS *Farragut* remained by the spacecraft until the USS *John R. Pierce* arrived with special towing equipment.

Carpenter had slight exhaustion but was in good health and spirits. He had the usual post-flight parades and celebrations, including a big parade in Denver, Colorado (I vaguely remember this, as I was in the second grade in Aurora, Colorado and I was already interested in space). Carpenter did extensive post-flight debriefs and made some recommendations on the automatic/manual systems. However, NASA management, particularly Chris Kraft, was not happy with his performance in flight. Carpenter did not fly into space again for NASA. *Aurora 7* is on display at the Museum of Science and Industry in Chicago, Illinois.

Brief Biography of M. Scott Carpenter



M. Scott Carpenter - Photo Credit: NASA

Malcolm Scott Carpenter was born on May 1, 1925, in Boulder, Colorado. He lived with his maternal grandparents in Boulder after his parents had marital problems, and his mother suffered from tuberculosis. In 1943, Carpenter enlisted with the US Navy and was accepted into the Aviation Cadet Training Program.

He was able to attend college during this time at Colorado College and also had ground school and flight training. He was released by the Navy in 1945 and attended the University of Colorado in Boulder, majoring in Aeronautical Engineering (he was one credit short of graduation; he received credit from the University after his mission). He married Rene Louise Price in 1948. Carpenter was recruited by the Navy's Direct Procurement Program and reported to NAS Pensacola in 1949 and received his aviator wings in 1951. He flew multi-engine reconnaissance and anti-submarine missions in the Korean War.

He was appointed to the U.S. Naval Test School after war service, then was named Air Intelligence Officer on the USS Hornet. He was initially selected as part of the first pool of candidates for the Mercury program and after passing a series of grueling tests, was selected as one of the seven original Mercury astronauts. After his single space flight, Carpenter became part of the U.S. Navy's SEALAB project. He spent 28 days living on the ocean floor off the coast of California in 1965 and held a conversation with Astronaut Gordon Cooper, who was in orbit on the Gemini V mission.

Injuries from earlier accidents finally left Carpenter with no mobility in one of his arms, so he was grounded permanently from any consideration of future space or undersea missions. He returned to NASA briefly and then founded Sea Sciences, Inc., a corporation for developing programs utilizing ocean resources. He also was a consultant and wrote an autobiography entitled *For Spacious Skies: The Uncommon Journey of a Mercury Astronaut*.

Carpenter was married four times and had a total of eight children. In his later years he resided in Vail, Colorado with his fourth wife Patricia. In September 2013, he suffered a stroke and was hospitalized in Denver, passing away on October 10, 2013 at the age of 88. He was inducted into the US Astronaut Hall of Fame in 1990 and had many other awards and commendations.

Mercury-Atlas 8 (Sigma 7) Overview

Launch Date: October 3, 1962 12:15:12 UTC

Launch Pad: Cape Canaveral LC-14

Crew: Walter M. Schirra, Jr., Captain (retirement rank), USN

Mercury Capsule: Number 16, McDonnell Aircraft

Launch Vehicle: Atlas LV-37B 113-D, General Dynamics (Convair)

Orbits: Six (Planned and executed)

Perigee: 84 nautical miles

Apogee: 154 nautical miles

Inclination: 32.5 degrees

End of Mission: October 3, 1962 17:41:21 UTC

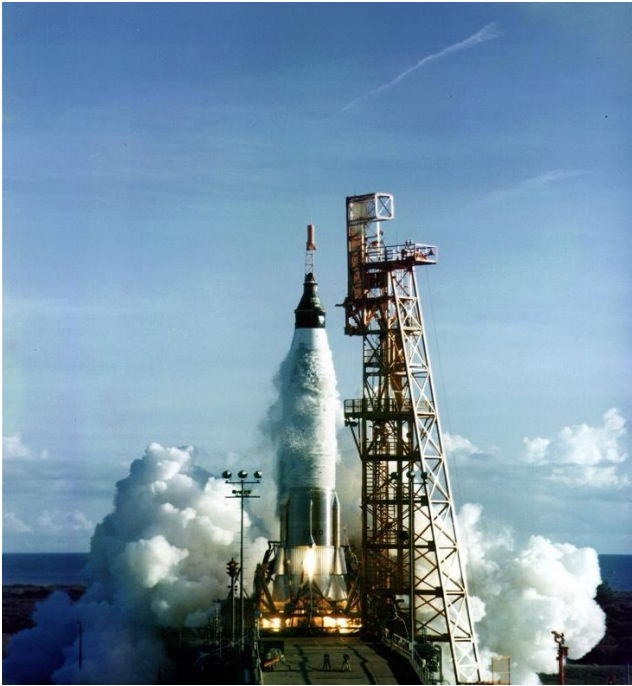
Landing Site: Central Pacific

Recovery Ship: USS *Kearsarge*

Mercury-Atlas 8 Mission

Despite the concerns for how Carpenter managed his fuel resources, NASA was pleased with the performance of man and machine in the two orbital missions. On June 7, 1962, NASA Headquarters announced that Walter "Wally" Schirra would pilot the next mission for as many as six orbits. His back-up pilot would be L. Gordon Cooper.

The original flight plan was issued on July 27, 1962 and had only minor revisions before the launch finally took place. The flight was to be an engineering-oriented mission, with less focus on scientific experimentation. There were four experiments planned, two requiring the active involvement of Schirra and two that were passive. Schirra decided to name his mission *Sigma 7*. Sigma is the mathematical symbol for the summation of factors or elements, so he paid tribute to the flight being the sum of the efforts and energies of many people. Training by Schirra and Cooper was underway early in August.



MA-8 Launch October 3, 1962 - Photo Credit: NASA

Russia poked a finger in the eyes of the American space program participants (again) with the launch of Vostok III on August 11 1962, with Major Andrian Nikolayev aboard, followed by the launch of Vostok IV, with Lt. Colonel Pavel Popovich, on the very next day. The two spacecraft came close to each other in orbit and Nikolayev did 65 orbits and Popovich did 48 orbits. The folks at NASA looked on with a bit of envy at their Soviet competitors, then kept planning for their six-orbit flight.

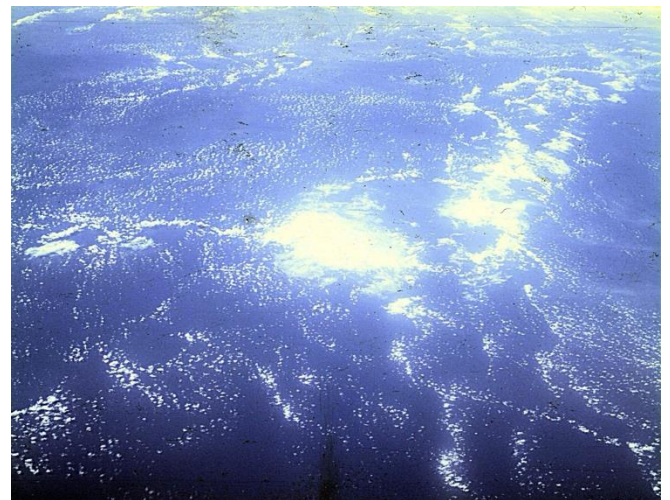
Problems with Atlas launch vehicles were encountered after vehicle 113-D was delivered (late). Static firing tests of other vehicles had suffered turbopump failures and an explosion of an Atlas 11F one second after liftoff in April was traced to a malfunction of the sustainer turbopump. The Air Force recommended to NASA that 113-D have a static firing, which occurred on September 8; modifications to 113-D removed a two-second hold-down requirement after booster ignition, hence the static firing recommendation as a precaution. A fuel leak was also found in a seam weld on the booster, causing further delays. Another concern was for possible higher radiation levels in low-earth orbit due to the Project Dominic nuclear tests in Pacific that started in July. This concern was alleviated by the shielding that was present on the spacecraft, reducing exposures to acceptable limits.

The flight was finally on the range for early October and a decision was made on October 2 to launch on October 3. Schirra was awakened at 1:40 am ET and had a hearty breakfast and brief physical. He entered the spacecraft at 4:41 am and began the prelaunch checks. After a 15-minute hold to allow repair of a radar at the Canary Islands tracking station, liftoff occurred at 7:15 am local time. Ten seconds after liftoff, an unexpected clockwise

roll transient occurred, approaching 80% of the limit that would trigger the abort system before it dampened out. This was attributed to a slight misalignment of the main engines, which was compensated for by the vernier thrusters. Sustainer engine thrust was slightly below normal due to a suspected leak in the fuel system. The sustainer engine cut off was 10 seconds late; this resulted in a higher orbital speed of 17,557 miles per hour.

After separation, Schirra carefully engaged the fly-by wire mode for attitude control and slowly turned the vehicle before taking his first glance out the window. He felt that improvements to the fly-by-wire system using only the low thrusters served him well as he tracked the sustainer stage. As his orbit continued across the Atlantic, Schirra tested manual control of the spacecraft, which felt sloppy compared to the fly-by-wire system. He also began to feel overheated and the flight surgeon debated whether it was safe continuing the mission. Schirra was able to stabilize the problem over time, although he compared the heat to "mowing a lawn in Texas in the summer."

As he passed over Australia, he looked for a flare launch from the ground, but it was obscured by cloud cover. He had difficulties with the periscope, so he would do more observations through the main window. Time passed quickly and soon he was in his second orbit. He confirmed the existence of the fireflies and amused Mission Control by saying he was in "chimp configuration," with the capsule running entirely on automatic systems. He attempted yaw maneuvers using the Moon and known stars as reference points, with the Moon being the best reference point.



Cumulus clouds photographed by Schirra – Photo Credit: NASA

On the third orbit, Schirra disconnected the gyroscopes, turned off part of the electrical system and let the capsule drift. He tested his spatial awareness and motor control and then decided to eat a light meal. The mission was cleared for the full six orbits.

On the fourth orbit, he drifted in an inverted mode with Earth above him and tried (unsuccessfully) to spot the Echo 1 satellite. Orbiting over the US, he had a brief conversation with John Glenn that was broadcast live across the country.

Schirra was still struggling with the heat and his pressure suit, with water condensing on his faceplate. By the fifth orbit, however, he began to relax and did a little bit of stretching with a bungee cord exercise device. He still had 80% of his fuel remaining in both the manual and automatic fuel tanks. As he passed over Quito, Ecuador, he was asked to greet the people in that country. Privately, he was angry because he felt he should be preparing for re-entry and not getting distracted with public statements.

The sixth orbit was dominated by preparations for re-entry. Schirra armed the retrorockets while passing over the western Pacific, with the first one being fired at 8 hours 52 minutes mission elapsed time. During re-entry, he performed an engineering request to enable the rate stabilization control system; this used up fuel at a very high rate after Schirra had worked so hard to conserve fuel during the mission.

The USS *Kearsarge* was positioned in the center of the recovery area and picked up the capsule on radar when it was still 200 miles from landing. Schirra deployed the drogue and main parachutes; his splashdown was extremely precise, only 4.5 miles from the target point and only 0.5 miles from the *Kearsarge*. He remained in the capsule until it was hoisted aboard the aircraft carrier. He sustained a bruise on his hand from operating the ejector switch, which helped vindicate Gus Grissom's hatch accident explanation for his flight on Liberty Bell 7.

The post-flight analysis reported no major malfunctions except the difficulty in maintaining suit temperature controls. The success of the mission made preparations for MA-9 easier and a list of changes based on Schirra's recommendations were underway for a day-long mission. Schirra was honored with parades and a meeting with President Kennedy after his flight, although his mission success was overcome in the news by the developing Cuban missile crisis. Schirra continued with NASA, flying on the Gemini 6A mission in 1965 and commanding Apollo 7 in 1968, the only Mercury astronaut to fly in all three programs. *Sigma 7* is currently on display at the Astronaut Hall of Fame at the Kennedy Space Center Visitor Complex.

Brief Biography of Walter M. Schirra, Jr.

Walter Marty "Wally" Schirra, Jr. was born on March 12, 1923 in Hackensack, New Jersey to a family of aviators. He grew up in Oradell, New Jersey and enrolled in the Newark College of Engineering after high school, joining

the Navy ROTC. After the attack on Pearl Harbor, he applied and was accepted at the US Naval Academy, graduating in three years with the wartime accelerated curriculum. Graduating as an ensign, Schirra served aboard the cruiser USS *Alaska* during the final months of WWII. After a brief time in China, he began training as a naval aviator at NAS Pensacola, Florida. He applied for an exchange program with the USAF at the start of the Korean War and was trained to fly the F-84 Thunderjet. He flew 90 combat missions in Korea, downing two MiG-15s and receiving the Distinguished Flying Cross for escorting B-29 bombers during that military action.



Walter M. Schirra – Photo Credit: NASA

After his tour of Korea, he became a test pilot at the Naval Ordnance Test Station in China Lake California and was accepted at the US Naval Test Pilot School in 1958, along with future fellow astronauts Jim Lovell and Pete Conrad. He became proficient in a variety of aircraft. In February 1959, he was one of 110 military test pilots selected for evaluation to become part of Project Mercury. He was then selected as one of the original seven Mercury astronauts in April 1959.

His first mission, documented in this article, was the flight of MA-8 (*Sigma 7*) in October 1962. Schirra commanded Gemini 6A with Tom Stafford in 1965 and they rendezvoused with Gemini 7. He commanded the Apollo 7 mission in October, 1968 with crew members Donn Eisele and Walter Cunningham. He decided to retire after this flight and left NASA on July 1, 1969. He became a consultant to CBS news and joined Walter Cronkite to cover seven Apollo missions, starting with Apollo 11.

After Apollo, he also worked as a business consultant and advisor to the US National Parks system and was president of an energy development company. He co-authored several books, including his autobiography *Schirra's Space* published in 1988. Schirra married Josephine Cook Fraser on February 23, 1946. They had two children and remained married until his death on May

3, 2007 (she passed in 2015). He suffered a fatal heart attack while undergoing treatment for abdominal cancer at Scripps Green Hospital in San Diego and was buried at sea. Schirra had many honors and citations during his career as an aviator and astronaut and was inducted into the US Astronaut Hall of Fame in 1990.

Mercury-Atlas 9 (Faith 7) Overview

Launch Date: May 15, 1963 13:04:13 UTC (8:14 am ET)

Launch Pad: Cape Canaveral LC-14

Crew: L. Gordon Cooper, Colonel (retirement rank), USAF

Mercury Capsule: Number 20, McDonnell Aircraft

Launch Vehicle: Atlas LV-37B 130-D, General Dynamics (Convair)

Orbits: Twenty-two (executed)

Perigee: 88 nautical miles

Apogee: 153 nautical miles

Inclination: 32.5 degrees

End of Mission: May 16, 1963 23:24:02 UTC

Landing Site: Southeast of Midway Island, Pacific

Recovery Ship: USS *Kearsarge*



MA-9 Launch May 15, 1963 - Photo Credit: NASA

Mercury-Atlas 9 (Faith 7) Mission

After the extremely successful MA-8 mission, many at NASA thought that the Mercury program should conclude on that high note. In September, 1962, NASA finished negotiations with McDonnell Aircraft to modify four Mercury spacecraft (#12, #15, #17 and #20) to configurations that would support a one-day mission. These modifications included the removal of the periscope, adding a redundant set of thrusters and adding extra batteries and oxygen tanks.

Planning for MA-9 targeted an April 1963 launch, aiming for 22 orbits if all went nominally. This goal would require vastly expanded support for the mission, because MA-9

would cross virtually all of the Earth's surface between latitudes 33 degrees north and south. L. Gordon Cooper was designated the pilot and Alan Shepard was named the backup in November, 1962. This would be the swan song of the Mercury program, as activities were kicking into high gear for Gemini and Apollo, although NASA planners did evaluate a possible MA-10 mission. Cooper was nearly removed from the flight for having arguments with the NASA deputy administrator Walter Williams over suit modifications; he also buzzed Hangar S at Cape Canaveral in an F-102 and Slayton wanted him removed from the flight. President Kennedy actually intervened to prevent his removal.

In addition to the improvements to the Mercury capsule, the Atlas booster also boasted several technical improvements, including a hypergolic igniter that would eliminate the need for hold-down time at launch. However, there were two Atlas F failures during the second half of 1962 and five failures of the Atlas D between the flights of MA-8 and MA-9. Additional scrutiny was applied to the Atlas D, although the delivered vehicle for MA-9 had to be sent back for wiring repairs after its first factory roll-out.

Finally, on March 15, 1963, the booster was rolled out of the factory and passed inspections and tests. The booster actuators were offset slightly to prevent the liftoff roll transient that occurred on MA-8. Other actions were taken to mitigate failure mechanisms from the recent Atlas D and F failures. Cooper decided to name his capsule *Faith 7*, symbolizing his trust in God, his country and his teammates; NASA admitted to being a bit worried about the name if something happened during the flight.

Cooper first boarded *Faith 7* on May 14, but the launch was canceled because of problems with a radar in Bermuda and issues with the diesel engine that rolled back the gantry. On May 15, at 8:04 am ET, *Faith 7* was launched. Ascent was nominal, with the Atlas performance being excellent, and the spacecraft entered orbit traveling at 17,547 mph. During the first orbit, Cooper learned that the orbital parameters were good enough for at least 20 orbits.

At the start of the third orbit, Cooper checked the list of eleven experiments, with the first being the ejection of a six-inch sphere with xenon strobe lights from the nose of the spacecraft. Cooper was unable to see the beacon lights until the fourth orbit. His communications with the ground revealed that everything was "textbook" with the spacecraft.

He continued some experiments during the next few orbits, including an attempt to eject a balloon (unsuccessful) and measuring radiation levels. After 10 hours of flight, the tracking station in Zanzibar (Tanzania) told Cooper he was "go" for 17 orbits. He scheduled a

rest period during orbits 9-13 and had a dinner of “roast beef mush” and took pictures of Asia. Cooper had remarkable eyesight and reported that he could see roads, rivers, small villages and even individual houses if the lighting conditions were just right.



**Tibetan Highlands photographed by Cooper –
Photo Credit: NASA**

On the fourteenth orbit, the spacecraft condition was assessed. There was adequate oxygen and plenty of peroxide fuel for attitude control (69% in the automatic tank and 95% in the manual tank). Cooper was too exuberant and grateful to try to get any real sleep, although he did doze, and he spoke a prayer into his tape recorder high above the South Pacific. Orbit 15 was consumed with calibration of equipment and synchronization of clocks.

When entering the sixteenth orbit, Cooper pitched the spacecraft to follow the plane of the ecliptic. He viewed the Zodiacal light and did many more photographs of Africa, Asia and the Pacific regions. At the start of the seventeenth orbit, Cooper transmitted slow-scan black and white television pictures back to Mercury Control. It was the first time an American astronaut had sent back images from space, although they were quite ghostly and murky. He continued to take infrared photos during the 17th and 18th orbits.

Trouble began on the 19th orbit. First, a 0.05 g light came on, possibly indicating the start of an unplanned reentry. Cooper surmised it was a faulty indicator, but Mission Control was concerned about spacecraft attitude during the re-entry preparations. Things really went downhill on the 20th orbit when all attitude readings were lost and on the 21st orbit, when a short-circuit occurred in a busbar

servicing the 250-volt main inverter, leaving the automatic stabilization and control system without electric power.

During the 21st orbit and after the electrical problems, John Glenn (stationed on the tracking ship *Coastal Sentry Quebec* near Kyushu, Japan) helped Cooper prepare a revised checklist for retrofire. Because of the malfunctions, many of the steps would have to be done manually. Cooper kept his cool during the frenzied activities he performed before re-entry. Just into the 22nd orbit, he contacted Glenn and reported that he was holding manually in the retro attitude. Glenn gave a 10-second countdown to retrofire, which was performed manually by Cooper. He maintained attitude manually during re-entry.

Fifteen minutes later, *Faith 7* landed just four miles from the prime recovery ship, the USS *Kearsarge*. The spacecraft and Cooper were brought on board forty minutes later. Cooper was found to be dehydrated and had orthostatic hypotension from being seated for more than an entire day, but otherwise was in excellent health. Cooper was the last American to orbit alone in space. He went on to command the Gemini V mission in 1965, with pilot Pete Conrad. The Mercury program ended with a great success, both for the machinery and the man; he received a ticker-tape parade viewed by over 4 million people in New York City. *Faith 7* is on display at the Space Center in Houston, Texas.

Brief Biography of L. Gordon Cooper, Jr.

Leroy Gordon “Gordo” Cooper Jr. was born on March 6, 1927 in Shawnee, Oklahoma. His father served in the US Navy and his mother was a teacher. Cooper learned to fly at a young age and was certified as a pilot at the age of 16. He enlisted in the Marines when he learned that the Army and Navy flying schools were not taking more candidates. He was an alternate for appointment to the US Naval Academy but was not selected. He was discharged from the Marines in 1946.

Cooper moved to Hawaii to live with his parents and attended the University of Hawaii. He met his first wife Trudy (Olson) through the local flying club; she became the only wife of a Mercury astronaut with a private pilot certification. They were married in 1947 in Honolulu. Cooper was active in the ROTC and was commissioned as a second lieutenant in the US Army in 1949. He transferred this commission to the US Air Force and began flight training in Texas and Arizona. He was posted to Landstuhl Air Base in West Germany for four years and became flight commander of one of the Bomber Squadrons. Returning to the US in 1954, he studied at the US Air Force Institute of Technology and graduated with a BS in Aerospace Engineering. While at AFIT, he met Gus Grissom and the two became good friends. He

and Gus were in a serious accident with a Lockheed T-33 at Lowry Field in Denver in 1956 but survived unscathed.



L. Gordon Cooper – Photo Credit: NASA

Cooper and Grissom were accepted at the USAF Experimental Flight Test Pilot School at Edwards Air Force Base in California. Cooper served as a test pilot and project manager, flying many different aircraft. In January 1959, he went through the selection process with 109 other pilots for Project Mercury and was selected as the youngest of the first seven astronauts.

After M/A 9, Cooper was the commander of Gemini V in 1965, with pilot Pete Conrad. This mission lasted nearly eight days and he was the first astronaut to make a second orbital flight. He was the backup Command Pilot for Gemini 12. He was selected as backup for the Apollo 10 mission and would have been prime on Apollo 13, but Alan Shepard returned to flight status. Slayton alleged that Cooper had a lax attitude towards training and his extracurricular activities (automobile and boat racing) were considered problematic. Cooper retired from NASA and the USAF in 1970.

Cooper served on several corporate boards and as a technical consultant after leaving NASA. He continued to race high performance boats and cars. He also worked for the Walt Disney Corporation as the Vice-President of research and development for Epcot. He and Trudy divorced after he left NASA; they had two daughters. With his second wife Suzan Taylor, he had two more daughters and remained married to her until his death.

Cooper passed away at the age of 77 from heart failure at his home in Ventura, California on October 4, 2004. He received many awards and honors and was inducted into the US Astronaut Hall of Fame in 1991. In the early 1980s, he worked closely with actor Dennis Quaid and the screenwriters during the filming of the movie *The Right Stuff* to make sure that his portrayal in the movie was accurate.

Additional resources and links:

This New Ocean: A History of Project Mercury

<https://ntrs.nasa.gov/api/citations/19990026158/download/19990026158.pdf>

Mercury-Atlas 7: Aurora 7 [NASA]

<https://www.nasa.gov/mission/mercury-atlas-7-aurora-7/>

Mercury-Atlas 8: Sigma 7 [NASA]

<https://www.nasa.gov/mission/mercury-atlas-8-sigma-7/>

Mercury-Atlas 9: Faith 7 [NASA]

<https://www.nasa.gov/mission/mercury-atlas-9-faith-7/>

Wikipedia Article about MA-7

https://en.wikipedia.org/wiki/Mercury-Atlas_7

Wikipedia Article about MA-8

https://en.wikipedia.org/wiki/Mercury-Atlas_8

Wikipedia Article about MA-9

https://en.wikipedia.org/wiki/Mercury-Atlas_9

NOTE: Biographies of the astronauts were also from Wikipedia and were accessed through the main articles.

Next Edition

The next MARS STAR article will begin a multi-part series on the Gemini program. Hopefully, my timing will be just right to follow Gemini with a multi-part series on the Viking 1 and Viking 2 missions for the 50th anniversary of the landings.

Barb Sande, MARS STAR and MARS Facebook Page Historian. Contact me at barbsande@comcast.net.

Pacesetters Club

By Bill Wise

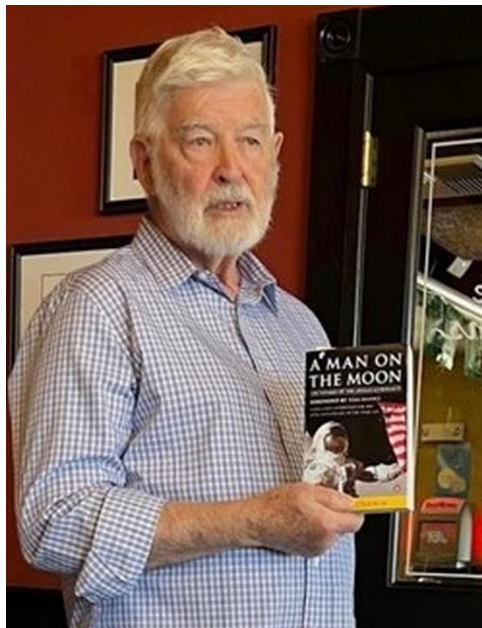
wisewj@aol.com

August

JOY Presentation - The Pacesetters were "overjoyed" with the Joy presentation by Janet Kester, August 14, 2024 at the Lansdowne Arms Restaurant. Janet gave a wonderful presentation and interacted with us terrifically. Kudos to all involved! Her presentation was divided into the topics joy vs. happiness, energy, abundance, freedom, harmony, play, surprise, transcendence, magic, renewal and other sources of joy like service, purpose, achievement, victory, love, family, and pets. This presentation was very intentional about building joy and looking for joy. A summary can be found at: <https://marsretirees.org/summary-of-janet-kesters-talk-on-joy/>

September

Matt Grogan, a NASA Manned Spacecraft Center employee during that time, participated in the Apollo operations from Apollo 8 to 15. He described the lunar features and guidance changes from Apollo 11 that made the Apollo 12 pinpoint landing possible and necessary for the accomplishment of NASA's science objectives. Matt came to Martin Marietta in 1971 after Apollo 15 to participate in the Viking Program and later NASA and military programs.



Matt Grogan Discusses Apollo 12

We had a small but very informative meeting on Apollo 12. The details and risky concerns he brought out were quite shocking. Matt utilized YouTube videos which were amazing. The nice thing about this video approach is we are able to share with MARS members the amazing stuff we saw. The stories these videos tell are amazing.

We recommend you take the time to watch the entire videos. They are about 20 minutes each. The videos in all their glory can be found at <https://marsretirees.org/pace setters-event-summary-apollo-12-talk/>.



PaceSetters
Apollo 12 Discussion



PaceSetters - Apollo 12 Discussion
Matt Grogan (standing)

Another big plus of the luncheon was the introduction of our new MARS President Elect, Jim Pennington. We intend to invite him to all future luncheons to get to know our seniors. He did a great job with his introduction to the group.

The Pacesetters advisory team will be finalizing the 2025 calendar. More on Pacesetters and future presentations can be found on the Club webpage at <https://marsretirees.org/clubs/pace setters-club>.



Bridge Club

By Dave & Kathy Martz
(martz20@comcast.net)

The Bridge Club is open to all MARS members and their guests. We play social, not tournament bridge, with light conversation while we play, as that's what most prefer. We play on the **3rd Friday of each month at the Buck Community Recreation Center in Littleton from 10 AM to 2 PM.** There is no fee to join the Bridge Club. The next quarter, we are scheduled to play on 18 October, 15 November, & 20 December 2024.

You'll need to pack a lunch, as we stop midday to eat, and then resume playing. The club provides the cards and all required items for the games. The fee for the Buck Center is \$2.00 for in-District and \$3.00 for out-of-District. There is also a small fee to the club (which helps with supplies and the year-end Holiday party).

Contact us to be added to the email list. Each month, an email will be sent to Bridge Club members about play that month. We ask that you respond to the email to reserve a place at the tables or to let us know you're not available. There is always room for more players, as the room will accommodate 6 tables. Check out the MARS website under "Clubs/Bridge Club" for more details.

We have couples, as well as singles, playing. If you're a single, invite a friend to be your partner. Your partner does not need to be a member of MARS to play.

If you want to join us, or have any questions, please contact any of the following Bridge Club Officers:

Presidents:

Dave & Kathy Martz, 303-683-9524

Vice-President:

Bill Kacena, 303-973-2685

The 3rd Quarter 2024 winners are as follows:

19 July (4 ½ tables)

- 1st – Dave & Kathy Martz tied with Ernie & Cecile Berliner
- 3rd – Bill & Mavis Kacena
- 4th – Mark & Jan Ugale

23 August (3 tables)

- 1st – Betty Hirst & Wayne Jackson
- 2nd – Dave & Kathy Martz
- 3rd – Leo Johnson & Joni Rosenberger
- 4th – Tammy Maccalous & Sandy Mossman tied with Bart & Diane Wright

20 September (2 ½ tables)

- 1st – Ernie & Cecile Berliner
 - 2nd – Bill & Mavis Kacena
 - 3rd – Mike Davis & Mary Stirling
 - 4th – Curt & Phyllis Brudos
- 23

Car Club

By Roger Rieger
(rrieger10731@gmail.com)
303-912-6217
Dave Ernst
(Dave.Ernst.157@gmail.com)
(303)-588-2747

This is the best time of year in Colorado for a road trip. Cooler days and lots of sunshine to take your ride out to blow the dust off. And for those with convertibles, it is just awesome! It is also that time of year to get your ride cleaned up and put away for the winter. It is that time of year where our rides tend to "Hibernate" until next spring.

The car club has had a busy summer. We started out with a tour of Memory Lane in Highlands Ranch where there were various collections from a 1960s soda bar, a train collection, and a private collection of cars. It was a very enjoyable afternoon where the owner provided a nice BBQ lunch.



MARS Annual Car Show - 2024 Picnic

Next up was our annual car show at the MARS picnic in September. We had 19 cars sign up and collected \$150 for "Toys for Tots". The show even attracted some kids from Columbine High School that wanted to check out the cars. It was nice to see the younger kids taking interest in cars!



Beauties on display
MARS Annual Car Show - 2024 Picnic



Checking out the cars
MARS Annual Car Show - 2024 Picnic

Finally, we have had impromptu meetings at the Lone Tree Cars and Coffee on the first Saturday of each month. We typically have multiple members attend to show off their cars as well as also walk around and look at some of the other exotic cars, including Ferraris, Lamborghinis, Maseratis, Porsches, BMWs, Aston Martins, and some wonderful 60s muscle cars from Detroit. It is a great event for even those that don't have collectable or exotic cars.

If you have not yet joined the club - please do! You can stay in touch with the Car Club through our Car Club Facebook page, the MARS website, or by contacting Roger or Dave to get added to our email distribution. Owning a unique car or motorcycle is not a requirement, just a love of all things transportation, and to be a MARS member in good standing. If interested, please drop an email to Roger or Dave to join!



Golf League

Sandy Mossman
(smoss5592@gmail.com)

Another phenomenal MARS golf league season is nearing its completion with just three more weeks to go. (Is ending on October 31st ominous?) As we have in recent years, all our golf league events have been played at Broken Tee Golf Course in Englewood, Colorado. All-in-all we have had good weather throughout the golf season with - hopefully - some continued beautiful fall weather.

We had our annual two-day league championship tournament on August 15th and August 22nd at Broken Tee. The combined net score of the two rounds determined the overall winners as follows:

- 1st place – Jeff Schnackel - net score 129
- 2nd place – Luke Sanchez - net score 141
- 3rd place – Terry Graber - net score 142
- 4th place – Randy Renken - net score 145
- 5th place – Martha Lell - net score 145
- *Last nine holes on 2nd day score determines tie breaker.

Closest to the pin:

- August 15th - hole #5 – Tom Cooke
- hole #7 – Pete Munoz
- hole #10 – Brian Overman
- hole #17 – Bill Fulkerson

- August 22nd - hole #5 – Randy Renken
- hole #7 – Martha Lell
- hole #10 – Terry Graber
- hole #17 – Eric Havard

Medalist Winner – Luke Sanchez with the lowest gross scores of 166

Even though our Championship Round is complete there is a season-long prize which rewards most wins through the season assigning points for first, second, third, etc., place in the weekly events as well as points for simply playing. Jeff Schnackel is leading the pack but is closely followed by Bill Fulkerson, Luke Sanchez, John Alfeld and Lisa Cox. Can he hang on to his lead? Also, there is a most improved golfer prize to be awarded.

A picnic/bar-b-que to award prizes and celebrate a successful golf season was held on September 12th at the River Run Pavilion next to the course. The event was partially catered and a fun event for all. Prizes were awarded at that time.

This year - as in the last two years - there were no holes-in-one made thus far in league play. Therefore, our hole-

in-one pool continues to grow - well over \$300. League members must pay \$5 into the hole-in-one pool to win the total sum.

I want to give my thanks and appreciation to our members who volunteered their time as co-chairs for each event to make this season a success. And, a special thanks to Tom Ripper for orchestrating the use of the Golf Genius system for scheduling tee times and posting golf scores for our league. Tom also served as one of the Event Managers along with Terry Graber, Bob Knickerbocker, Ken McDowell, Andy Munoz and Kathy Rieger in managing the weekly scheduling and scoring activity. Thanks also to Don Johnson as Treasurer for managing our banking account, Lisa Cox standing as vice-president and Bob Knickerbocker serving as rules chair. And, a big thank-you to Kathy Rieger for coordinating the yearly picnic.

For those MARS Associate members that are interested in joining our golf league next season, please check into our MARS website: <https://www.marsretirees.org> and click on "Golf" in the Clubs listing section. Each year in the month of March the MARS golf league has its Kick-off Meeting. The announcement for next year's event will be noted in the January issue of the MARS Star. We would love to have you join us!

Hiking Club

By Sue Janssen (susan.g.janssen@gmail.com)



Beth King was our hike coordinator for this quarter. The MARS hiking group (Gerry Boisvert, Sharon Boisvert, Andy Ellis, Vicky Ellis, Beth King, Neal King, Annette Marstiller, Paula Pinkley and Rich Reynolds) met October 7 for a beautiful fall day in Roxborough State Park. There were amazing views along the South Rim and through Willow Creek. The trails we took were 2.8 miles and gained an elevation of 465 ft. This trail is described

as offering the best views in the park and did not disappoint. The hike was followed by lunch at JPs Asian Bistro, a familiar place to many of us from our days at the Waterton Facility. It was a great walk and lunch with good friends.



Photography Club

By John Chapter

johnchapter@msn.com

303-986-8277

The MARS Photo Club meets January, February, March, April, May, September, October, and November. We do

not meet in June, July and August as many club members take this time for summer travel. In December we have a holiday luncheon at a local restaurant.

We meet on the second Thursday of each month. The meetings are at 1 pm, either via ZOOM, or in-person at the Columbine Library. Members can discuss cameras and photographic techniques. At the meeting we have a presentation, often given by one of the members. Following the presentation, we have a competition of photos submitted by the members.

The schedule and location of each meeting is posted on the club's webpage, on the MARS website, www.marsretirees.org. Also posted there are the photo results of each month's competition. Interested MARS members are encouraged to visit the club's webpage and consider attending the meetings. For more information, you may contact the club secretary, Jim Kummer, via email at jkummer@comcast.net.

Colorado Springs Lockheed Martin Retiree Group News

By Doug Tomerlin
(dougincs@aol.com)

The Colorado Springs Lockheed Martin Retiree Group is an organization for retirees from Lockheed Martin and from heritage companies Philco, Philco-Ford, Ford Aerospace, and Loral. A large percentage of the members live in the Colorado Springs area and have retired from divisions located in Colorado Springs. However, retirees from other divisions are welcome to join. There are no fees to belong to the group.

Luncheons are typically held twice a year and occasionally other activities are planned to allow retirees to stay in contact with each other. The Colorado Springs Lockheed Martin Retiree Group held a luncheon on April 18 at the La Casita Mexican Grill in Colorado Springs. We had good attendance with 36 attending. We were honored by the attendance of Ken Marts, MARS president and Dan Ellerhorst, MARS Vice President of Communications. The restaurant served everyone in a very reasonable amount of time. Many retirees stayed around and visited after completing their meals.

An outing to the Air Force Academy to include a special event at the Air Force Academy Planetarium is currently in the early planning stages for early 2025. This will be a combined outing for both the Colorado Springs Retiree Group and for the MARS Associates retirees.

If you would like more information about the Colorado Springs Lockheed Martin Retiree Group, luncheons and

other activities, please contact Doug Tomerlin at dougincs@aol.com.

Cape Canaveral News

By Dick Olson
(olsons5145@aol.com)

Luncheons

August 2024 – Attendees: Smitty, Lynn Johnson, Roger, Ken, Laverne, Larry, Mac (with grandson, Richard) and Don Bollinger. Not anything of note, just conversations & war stories. See you next month.

September 2024 -- Pretty normal turnout. Present were regulars Abe Smith, Ken Webb, Roger Wright, Lavern Jones, Larry Johnson, Sylvia Sansing, Bob Matschner, and Cecil Snipes.

See on Facebook that Buddy Smith is retiring and there is a function for him this Friday, the 6th, at the Merritt Island Moose at 3:00pm.

Cecil reported that both Dale Kallsen and Butch Ford are having some health issues and he will give us updates.

Hope everyone had a good Labor Day and encourage everyone to check out the Titan Reunion site at "teamtitan2025@gmail.com"

October 2024 – Much better turnout than usual. Present were Ken Webb, Roger Wright, Lavern Jones, Silvia Sansing, Larry Johnson, Cecil Snipes, Alison Kallsen, Bob Matschner, Don Bollinger, Kelly and Dan DeFazio, Cathy Klein and Wendell McDaniels escorted by his grandson and great-granddaughter.

Cathy reported that her mother had recently passed. Our condolences to Cathy and her family.

Alison provided details for Dale Kallsen's funeral arrangements. Dale worked as a Payload Integration Engineer starting in 1988 and retiring in 2011. Services will take place on Wednesday, November 13th at 1:00 PM at Cape Canaveral National Cemetery--followed by a celebration of life at River Rocks Restaurant, 6485 South US 1, Rockledge, FL from 2:30 to 4:30 PM.

Heard from Bill Reinhold and he and Diane have moved to Tenn. and did not have any major damage due to hurricane Helene.

Columbus Day is coming up this month and don't forget to stock up on candy for Halloween. Get prepared to vote.

Recent Obituaries

John Wardman “Murphy”, 92, passed away on Friday, 19 July. He made significant contributions to the US space industry, holding key engineering positions on the original Mercury 7 project and as the lead electrical engineer on the Atlas Centaur program. Everyone recalls the delightful ‘Murphy-isms’ attributed to him.

Dale Kallsen, 82, died on 6 September from an infected colon and heart issues. He worked in payload integration engineering in the MRL.

Lockheed Martin (LM) News

What Would Our World Look Like Without GPS Satellites?

October 15, 2024

Every day, over 12,000 miles above our heads, Global Positioning System (GPS) satellites work silently to keep our lives on track.

Their positioning, navigation and timing (PNT) support helps us get to where we need to go, serves as the backbone for banking, and enhances global farming activities, to name a few. The atomic clocks onboard these satellites also provide critical timing information that keeps our modern, rapidly evolving world operating smoothly.

These satellites are not only a necessity for civil operations, but for U.S. military operations as well – providing navigation for all major field assets, as well as critical location information, and supply delivery to troops in the battlefield.

In the U.S. alone, we use over [900 million GPS receivers](#) – nearly three receivers per person. When initiated, a receiver on our device – like a cellphone for example – then uses signals from at least four GPS satellites to determine our exact location. The time it takes for each signal to reach our receiver helps it discern its position on Earth.

But the current GPS fleet above our heads is already aging, with nearly half of these satellites already [operating](#) well beyond their intended design lives. More GPS satellites are needed in space to ensure there is never a gap in the critical capabilities they bring – and Lockheed Martin has more ready to be called up for launch. (You could say their atomic clocks are ticking!)

It’s easy to forget, but our daily lives are shaped by [the invisible forces of GPS](#). Without it, it would only take days for the things we take for granted to impact us all. Here’s what our world would look like:

- **Cellphone signals are down, and the internet becomes unreliable, leading to a total communication breakdown.** Car accidents pile up on highways, and emergency services are significantly delayed in determining the locations of the accidents, due to the stoppage in automatic tracking for 911 calls. With heavy reliance on navigation applications, map-reading is no longer a common skill, making it challenging for people to get places. We’re also unable to send emails or place phone calls and text messages, rendering us completely disconnected.

- **Power grids collapse.** For reliability and security, power systems are connected into large grids with extensive monitor and control systems. Because time stamps from GPS are used for measuring frequency errors in power generation across large areas, GPS is critical for coordination among vast utility networks. With GPS time stamps gone dark, large-scale power fluctuations and outages plague the grid – with no available tools to locate the root cause and resolve it.

- **Financial insecurity emerges as financial tools and their underlying systems shut down.** Financial and purchasing systems utilize GPS timing signals, making it challenging to purchase items with credit cards. Financial instability gradually sets in as the stock market is unable to conduct trading, and people whose retirement funds are locked in the stock market cannot convert those into cash for everyday living.

- **Airline flights and global maritime routes continue to be suspended.** Millions of people are stranded away from home, and global business operations are disrupted. A lack of air and maritime freight travel also begins to impact food transport and supply chains across the world.

- **Modern mass farming tools no longer properly function.** Farming equipment that employs timing and positioning data from GPS satellites to water crops can’t perform their duties, which negatively impacts food production and processing. The trickle-down effect from this ultimately results in an unprecedented global collapse of the farming industry and food supply chains.

- **Ongoing construction projects are paused.** GPS information is used by heavy construction equipment for grading purposes on large-scale projects like highways. Unable to accurately shape the land as needed for building projects and city infrastructure, thousands of construction sites indefinitely pause their work.

- **Military members continue to have difficulties discerning their field positions and threat locations.** These critical activities are called off, undermining intelligence collection and operations integral to maintaining national and global security.

To ensure this doesn’t become the world we live in, Lockheed Martin is working every day to bring GPS’ next-generation PNT capabilities to bear for our customers – bolstering civilian infrastructure and assuring safety military operations around the world for years to come.

United Launch Alliance (ULA) News

United Launch Alliance Successfully Launches Second Vulcan Certification Flight

October 4, 2024

Cape Canaveral Space Force Station, Fla., (October 4, 2024) – United Launch Alliance (ULA) ushers in a new era of space capabilities with the successful launch of its second certification flight (Cert-2) of the next generation Vulcan rocket on Oct. 4 at 7:25 a.m. EDT from Space Launch Complex-41 at Cape Canaveral Space Force Station.

“The success of Vulcan’s second certification flight heralds a new age of forward-looking technology committed to meeting the ever-growing requirements of space launch and supporting our nation’s assured access to space. We had an observation on one of our solid rocket boosters (SRB) that we are reviewing but we are overall pleased with the rocket’s performance and had a bullseye insertion,” said Tory Bruno, ULA’s president and CEO. “Vulcan provides high performance and greater affordability while continuing to deliver our unmatched reliability and orbital precision for all our customers across the national security, civil and commercial markets.”

The Cert-2 mission carried experiments and demonstrations associated with future capabilities of Centaur V, the world’s highest-performing upper stage designed to further deliver on ULA’s unrivaled legacy of reliability and precision. Centaur V provides 2.5 times the energy and 450 times the endurance of its predecessors, enabling the most complex orbital insertions within the most challenging and clandestine orbits.

“Vulcan is built with the strength of a national workforce whose unmatched dedication and innovation has modernized the very best of our industry-leading heritage,” said Mark Peller, vice president of Vulcan Development. “The foundation of Vulcan’s purpose-built design rests on the best of what we’ve learned from more

than 130 combined years of launch experience with Atlas and Delta.”

The Cert-2 mission served as the second of two certification flights required for the U.S. Space Force’s certification process and ULA has now completed all requirements for certification. ULA continues to work closely with the U.S. Space Force as they take the next few weeks to review the data and compare it to ULA’s first certification mission to ensure that the vehicle performed as expected and there are no additional items that need review. Once the evaluation is complete to the Space Force’s standards, the Vulcan rocket will be certified to launch national security missions.

“The team will continue to modify our infrastructure as we work towards an accelerated launch cadence to meet our customers’ manifest requirements while building off today’s successful launch and developing future Vulcan upgrades, including SMART reuse plans for downrange, non-propulsive recovery of Vulcan engines,” said Bruno.

ULA has sold more than 70 Vulcan launches to date, including 38 missions for Amazon’s Project Kuiper and multiple national security space launch missions as the part of the country’s Phase 2 launch procurement.

All rockets are not created equal. ULA is the nation’s most experienced, reliable and accurate launch service provider delivering unmatched value, a tireless drive to improve, and commitment to the extraordinary. Vulcan’s inaugural launch marked the beginning of a new era of space capabilities and provides higher performance and greater affordability while offering the world’s only high energy architecture rocket to deliver any payload, at any time, directly to any orbit.

About United Launch Alliance

For more information on ULA, visit the ULA website at www.ulalaunch.com and join the conversation on social media @ulalaunch.



IN THE NEWS

Compiled by Pete Harrigan

The following news headlines are drawn from open-source publications, as noted parenthetically. Click on the hyperlink to access the full article. Please note that some links may not work for all readers. Some sites may require a paid subscription or a login for free access. Other paywall sites may limit the number of free articles you are able to access each month.

CORPORATE NEWS

Lockheed Martin [lifts 2024 sales target](#) on fighter jet, missile demand (Reuters)
Lockheed Martin sees "[strong demand](#) for deterrence" from Europe to Asia (Financial Times)
Lockheed Martin COO Frank St. John on the defense [budget, potential acquisitions and supply chain](#) (Breaking Defense)
Defense stocks hit [all-time highs](#) amid Middle East escalation (Forbes)
Lockheed Martin [raises quarterly dividend](#) by 4.8%, boosts buyback program (MarketWatch)
Lockheed Martin [amends \\$3 billion credit agreement](#) (Investing.com)
[Major U.S. military supplier hacked](#) by EvilWeb, reports say (Newsweek)
Red ink tops \$16 billion on [risky USAF fixed-price defense deals](#) (Aviation Week Network)
Opinion / Not much has changed among the [Top 100 defense market leaders](#) (Defense News)
Lockheed Martin taps General Dynamics for [solid rocket motor manufacturing](#) (Space News)
[Solid rocket motors](#) still a challenge for L3Harris subsidiary Aerojet, Lockheed Martin and RTX officials say (Breaking Defense)
Boeing, Lockheed Martin in talks to [sell rocket-launch firm ULA](#) to Sierra Space (Reuters)
[Lockheed Martin acquires satellite firm](#) Terran Orbital in \$450 million deal (Space News)
Terran Orbital's [stock drops](#) as Lockheed Martin scoops up satellite maker at lower price (MarketWatch)
Rivada says Lockheed Martin deal [boost investor confidence](#) in constellation (Space News)
Opinion / Stay tuned for the era of [aerospace reorganization](#) (Aviation Week Network)
Lockheed Martin to finish prototype system to [detect and defeat disinformation](#) based on analyzing media (Military-Aerospace Electronics)
Agile Space Industries receives [new funding](#) from Lockheed Martin Ventures-led investment round (ExecutiveBiz)
Quantum startup stretches Series B round to \$133 million, [adds Lockheed Martin's venture arm](#) (Washington Technology)
New York federal court reinforces importance of forum selection for [insurance disputes](#) (Reuters)
Lockheed Martin names [new CEO for Australia, New Zealand](#) (Asia-Pacific Defence Reporter)
Lockheed Martin appoints [new vice president and chief executive for Europe](#) (European Security & Defence)
Lockheed Martin's [Taidet heckled by protesters](#) at Boston College event (Bloomberg News)
Lockheed Martin [CEO gets standing ovation](#) after saying it's OK for protesters to stay at Boston event (The Boston Globe)
'Committed to strengthening ties', Lockheed Martin CEO says after [meeting PM Modi](#) (The Times of India)
Lockheed Martin [strengthens ties with Indian suppliers](#), expands defense partnerships (Financial Express)
At the wedding of the year, [the A-list](#) includes ex-PMs, CEOs and Kim (The Economic Times via MSN)

HYPERSONICS NEWS

Lockheed Martin moves forward to [develop hypersonic missiles](#) for U.S. Navy submarines and surface warships (Military Aerospace Electronics)
Army's successful hypersonic missile test puts [fielding on horizon](#) (Defense News)
Lockheed Martin prepared to [build hypersonic missiles in UK](#) before U.S. (The Telegraph)
[Pentagon holding back](#) on hypersonic weapons' risks, GAO says (Military.com)
[MDA picks Northrop Grumman](#) for glide phase interceptor (Aviation Week Network)

SPACE SYSTEMS NEWS

U.S. DoD awards \$3.3 billion for [U.S.-UK Trident II support](#) through 2031 (Naval Technology)
Lockheed Martin [focusing on NGI schedule](#) following watchdog's concerns (Aviation Week Network)
U.S. [GPS modernization faces delays, technical challenges](#), GAO report says (Space News)
Lockheed Martin wins [contract to supply geostationary lightning mappers](#) (Space News)
Military's [weather satellite program in flux](#) as Space Force evaluates options (Space News)
Voyager Space to maintain [subcontractor role](#) in Lockheed Martin's missile program (Space News)

Space Force mulling [nuclear protection](#) for missile-tracking satellites (Defense News)
Companies describe studies to [revise Mars Sample Return](#) (Space News)
NASA awards [Rocket Lab study contract](#) for Mars Sample Return (Space News)
Air Force could [reopen competition](#) for Sentinel ICBM ground infrastructure, Hunter says (Breaking Defense)
Still [waiting for liftoff](#) in the UK (The Space Review)
With successful airlock test, Lockheed Martin invests in [inflatable space structures](#) (Space News)
[Leidos replaces Lockheed Martin](#) on Artemis rover team (Space News)
Life on the moon: Lockheed Martin shares [exploration vision for 2044](#) (Space.com)
Video / [Maria Demaree](#), Lockheed Martin – Leading women in space (Space News)
[Vulcan completes second flight](#) despite SRB anomaly (Space News)
U.S. eyes geostationary orbit for next-gen GPS; satellite was delivered in early 2023 but [Vulcan rocket delays](#) have kept in on the ground (Space News)
United Launch Alliance and SpaceX get \$1.8 billion boost in [Space Force contracts](#) (Space News)
ULA's Atlas 5 launches its [final national security mission](#) (Space News)

AERONAUTICS NEWS

Lockheed Martin could see [\\$1 billion financial "impact"](#) this quarter as F-35 negotiations "drag on" (Breaking Defense)
F-35's [price might rise](#), Lockheed Martin warns (Defense One)
[Pentagon keeping \\$5 million per jet](#) until Lockheed Martin finishes F-35 upgrade (Defense One)
U.S. deal on F-35s allows Lockheed Martin to [win back withheld payments](#) (Bloomberg News / Stars & Stripes)
F-35 deliveries resume, but [upgrade delays have ripple effect](#) (Defense News)
U.S. has [accepted 36 upgraded F-35s](#) since lifting delivery pause (Defense News)
Lockheed Martin names software specialist as [new head of F-35 jet program](#) (Defense News)
Lockheed Martin quietly delivered 1,000th F-35 in July; [clearing full backlog may take 18 months](#) (Air & Space Forces Magazine)
Lockheed Martin delivers "more robust" software for new F-35s, but [not full TR-3 yet](#) (Air & Space Forces Magazine)
New F-35s can [fly combat training](#) as DoD withholds millions from Lockheed Martin (Defense News)
F-35 performance-based logistics [deal is dead](#) – for now (Defense One)
Lockheed Martin Aeronautics boss details [F-35 delivery ramp-up plan](#) (FlightGlobal)
Pentagon report says Air Force to bed down [only 25 F-35s in Fiscal 2026](#) (Air & Space Forces Magazine)
Lockheed Martin launching competition to [replace F-35 cooling system](#) (Breaking Defense)
Marines hit operational status with second [carrier-capable F-35C unit](#) (Defense News)
Italian aircraft carrier [F-35Bs reach IOC](#) (U.S. Naval Institute News)
Italy to buy [25 extra F-35 fighter jets](#) under new budget (Defense News)
In first, [F-35s land on Finnish highway](#) to drill for future wars (Defense News)
F-35 in focus as [UK suspends some arms exports](#) to Israel (Aviation Week Network)
Lockheed Martin rolls out [first Polish F-35](#) (Aviation Week Network)
UAE [does not plan to reopen F-35 fighter jet talks](#) with U.S. (Reuters)
Greece signs deal to [buy 20 U.S.-made F-35 jets](#) in major military overhaul (The Associated Press)
U.S. clears [F-35 sale to Romania](#), bolstering NATO's eastern flank (Defense News)
[Dutch plan more F-35s](#), helicopters in inventory boost (Aviation Week Newsletter)
Russian economic group [leaks information on F-35](#) fighter jet; Pentagon terms it as "false" (The Economic Times)
Video / Get a look at [F-35B launch and recovery](#) ops aboard the amphibious assault ship America (Military Times)
Slovakia's [F-16 top-up plans](#) reopen political battles over Ukraine aid (Defense News)
Lockheed Martin marks [graduation of first F-16 pilots](#) from European Training Center (UK Defence Journal)
Lockheed Martin aims to [churn out dozens of F-16 pilots per year](#) at new training center (Defense One)
Lockheed Martin sees 300 potential [F-16 export sales](#) opportunity (Breaking Defense)
Lockheed Martin may pin [Thailand F-16V hopes](#) on interoperability with older jets (FlightGlobal)
[Thai Air Force picks Saab Gripen E](#) fighter jet to replace F-16s (Defense News)
Air Force eyes Lockheed Martin [restitution for defective transport aircraft parts](#) (Bloomberg News)
Lockheed Martin marks [70 years of C-130 aircraft](#) in flight (Atlanta Journal-Constitution / Military.com)
Why Lockheed Martin's [Hercules is still going strong](#) 70 years after first flight (FlightGlobal)
Lockheed Martin counters [myths of C-130's demise](#) (Aviation Week Network)
New Zealand [accepts first Super Hercules](#) airlifter from Lockheed Martin (The Defense Post)
[Egypt gets first two Super Hercules tankers](#), Lockheed Martin says (Breaking Defense)
U.S., Vietnam discuss [supplying Hanoi with C-130](#) military transport planes, sources say (Reuters)
Lockheed Martin teams up with Tata Advanced Systems to bid for [Indian Air Force transport aircraft order](#) (Hindustan Times)

Video / See two Pave Hawk helicopters get [gassed up in mid-air by a Super Hercules](#) (Military Times)
NOAA selects C-130Js as [next-generation hurricane hunters](#) (Aviation International News)
[NOAA's "Hurricane Hunters"](#) utilize Lockheed Martin, Gulfstream planes to get storm data (Fox Business)
New U.S. Air Force leaders recast [F-22 retirement plans](#) (Aviation Week Network)
New F-22 sensors could help [extend the Raptor's service life](#) (Air & Space Forces Magazine)
Video / Watch an [F-22 cut through the air](#) at America's Airshow 2024 (Military Times)
Video / Witness the view of a [chase car guiding a U-2 Dragon Lady](#) along the runway (Military Times)
Lockheed Martin, Istari partner to demonstrate [digital aircraft certification](#) (Defense News)
Air Force picks five firms to build [autonomy package](#) for drone wingmen (Defense News)
Skunk Works [changing its CCA approach](#) for next round (Aviation Week Network)
How a small USAF unit will shape the service's [autonomy goals](#) (Aviation Week Network)
UK tests Lockheed Martin [recon drone](#) set to replace Desert Hawk 3 (The Defense Post)
Can the Air Force make its [next-gen fighter jet](#) cheaper than the F-35? (Defense News)
Sixth-generation fighter at F-35 costs? That's [not going to happen](#), industry predicts (Breaking Defense)
Kendall says U.S. Air Force presses "[pause](#)" on NGAD (Aviation Week Network)
USAF's [NGAD review](#) going back to initial program assumptions (Aviation Week Network)
How the sixth-generation fighter jet will [upend air warfare](#) (Defense News)
False start? DoD IG "terminated" [NGAD next-gen fighter review](#), but may revisit down the road (Breaking Defense)
USAF secretary eyes early start for [future tanker program](#) (Aviation Week Network)
New USAF tanker solicitation shows [changing acquisition approach](#) (Aviation Week Network)
The Debrief / Our best guess about [Skunk Works' biggest secret](#) (Aviation Week Network)
Lockheed Martin Aeronautics [hires Melissa Dueñas](#) (PR Week)

MISSILES AND FIRE CONTROL NEWS

[High-tech American weapons](#) work against Russia, until they don't (The Wall Street Journal)
Biden "open" to sending [long-range cruise missiles to Ukraine](#) (Politico)
Air Force awards Lockheed Martin [\\$3.2 billion multiyear missile contract](#) (Defense News)
Lockheed Martin [ramps up building JASSM and LRASM](#) air-to-surface missiles with semi-autonomous guidance (Military Aerospace Electronics)
New [missile allows Marine pilots to strike far](#), avoid air defenses (Defense News)
Lockheed Martin unveils ["extreme range" variant of JASSM](#) cruise missile (The Defense Post)
USAF to develop its [new air-launched munition](#) for Ukraine (Aviation Week Network)
U.S. to send Tomahawks, hypersonics, [other long-range fires](#) to Germany (Defense News)
Patriot games: How [America is outgunning Europe](#) on air defense (Politico)
U.S. State Department clears [\\$5 billion sale of Patriot missiles](#) to Germany (Defense News)
Japan to sell [Patriot missiles](#) to U.S., explore co-production (The Defense Post)
U.S.-Japan Patriot missile production plan hits [Boeing component roadblock](#) (Reuters)
Boeing on track to break PAC-3 missile seeker [annual production record](#) (Defense News)
Spain procures [latest Patriot missile version](#) from U.S. (The Defense Post)
Future Precision Strike Missile to feature [smart submunition](#) (Aviation Week Network)
Lockheed Martin secures [major GMLRS contract](#) from U.S. Army (The Defense Post)
[New Army armored mobile launchers](#) get mostly positive feedback after test in Germany (Stars & Stripes)
U.S., Australia to expand basing cooperation, finalize [PrSM and GMLRS missile production](#) plans (Breaking Defense)
Lockheed Martin, Thales team to produce [Aussie-made GMLRS munitions](#) (Breaking Defense)
Lockheed Martin-Raytheon JV secures [\\$1.3 billion Javelin missile contract](#) from U.S. Army (Reuters)
Australia to procure [350 Javelin anti-tank missiles](#) from U.S. (The Defense Post)
Lockheed Martin nearing [test of sea-launched JAGM](#), pitches for U.S. and Australia (Breaking Defense)
South Korea to double Apache fleet, [introduce JAGM capability](#) (Aviation Week Network)
Australia expects [first HIMARS deliveries](#) in early 2025 (Asian Military Review)
[Norway to purchase HIMARS](#) from Lockheed Martin, snubbing Hanwha (Defense News)
Croatia plans to [order HIMARS](#) this year (Defense News)
Army's [high-energy laser competition](#) to kick off early next year (Defense News)
Army wants a [more powerful missile](#) for its new medium-range air defense system (Defense One)
U.S. Army sent to seek [new Indirect Fire Protection Capability interceptor](#) (Aviation Week Network)
Video / Watch an M270 [Multiple Launch Rocket System](#) light up the sky in live-fire (Military Times)
Video / See Apache helicopters [launch Hellfire missiles](#) at a decommissioned vessel during RIMPAC 2024 (Military Times)
Video / Watch a helicopter obliterate an unmanned aerial system with a [Hellfire missile](#) during training op (Military Times)

ROTARY AND MISSION SYSTEMS NEWS

Key [homeland defense radar test](#) is back on the calendar after anomaly (Defense News)
Missile Defense Agency, U.S. Navy [rapidly updating Aegis](#) following Middle East attacks (Aviation Week Network)
Navy [Aegis Ashore installation](#) will play key role in NATO missile defense, officials say (U.S. Naval Institute News)
Norway buys [more TPY-4 multi-mission radars](#) from Lockheed Martin (The Defense Post)
Navy taps Lockheed Martin to support and upgrade electro-optical [submarine imaging and surveillance system](#) (Military Aerospace Electronics)
Lockheed Martin in Owego rolls out 23rd and final [next-generation presidential helicopter](#) (Press & Sun-Bulletin)
[Biden takes first ride](#) in new Marine One as Sikorsky wraps delivery (Defense News)
Biden's [new chopper is demoted](#) after scorching White House lawn (Bloomberg News)
NATO awards Airbus, Leonardo and Lockheed Martin next-generation [rotorcraft concept contracts](#) (Breaking Defense)
Army plans for Black Hawk to be Future Vertical Lift [testbed for launched effects and autonomy](#) (Breaking Defense)
Airbus and Sikorsky [walk away](#) from UK New Medium Helicopter contest at 11th hour (FlightGlobal)
Boeing pitches CH-47 Chinook as [Poland's new heavy-lift chopper](#) (The Defense Post)
U.S. Navy receives [14th Freedom-class](#) littoral combat ship (The Defense Post)
U.S. Navy receives [15th littoral combat ship](#) from Lockheed Martin (The Defense Post)



MARS Associates

2024 Holiday Celebration Luncheon

The Officers and Directors of MARS Associates invite you, your spouse or companion/guest to the 2024 Holiday Celebration on **WEDNESDAY, December 4, 2024, at The Wellshire Event Center**, 3333 South Colorado Boulevard, Denver, Colorado. The entrée options this year are:

- (1) **Beef Wellington** aged then marinated overnight and slowly cooked in a Burgundy and Champignon sauce wrapped in a golden-brown puff pastry, served with horseradish and chive cream sauce;
- (2) **Lemon Grilled Chicken Breast** marinated in olive oil, lemon juice and fresh garlic and grilled;
- (3) **Colorado Honey Glazed Salmon** garnished with grilled sweet corn and fresh, hand-cut sweet peppers.

Lunch will include a field green salad with red wine vinaigrette; fresh homemade bread with butter; seasonal Colorado vegetables; roasted fingerling potatoes; and dessert. Coffee and tea are also included. If you have special dietary needs, please contact Linda Duby at 303-249-1665 with the details.

The “cash” bar will open at 11:00 a.m. Lunch will be served at 12:00 noon. Please note that the Wellshire Event Center does NOT accept cash – **credit or debit cards only**, please!

The cost for members and one guest is \$55.00 per person. The cost for additional guests or non-members is \$75.00 per person. These prices include facility fees, service fees, taxes, and gratuities. Please specify your choice of entrée(s) on the reservation form below and mail it with your check (made payable to **MARS Associates**) to the address on the form below by November 25, 2024. Or you can make your reservation by using the STRIPE link below:

STRIPE (ctrl+click): <https://marsretirees.org/2024/10/05/mars-2024-holiday-celebration-luncheon/>

Reservations must be received by November 25, 2024.

MARS Associates will be collecting donations for **Toys for Tots** again this year. If you wish to make a monetary donation, or wish to donate an *unwrapped* toy, we will be collecting them at the check-in table.

If you make a reservation and later find you cannot attend, please notify Linda Duby at 303-249-1665 or lindaduby@comcast.net; or Charlie Haupt at 303-725-7595 or qcrfccoach@gmail.com; or Carl Kaminski at 303-726-1546 or carlkcol66@gmail.com no later than **November 25, 2024** to receive a refund. Admission is by reservation only.

----- DETACH HERE -----

Holiday Celebration - December 4, 2024. Please print clearly.

Mail to: **MARS Associates, PO Box 1128, Littleton, CO 80160-1128**

Member: _____	Beef _____	Salmon _____	Chicken _____
	\$55.00	\$55.00	\$55.00
Spouse/Companion/Guest: _____	Beef _____	Salmon _____	Chicken _____
	\$55.00	\$55.00	\$55.00
Additional Guests: _____	Beef _____	Salmon _____	Chicken _____
	\$75.00	\$75.00	\$75.00

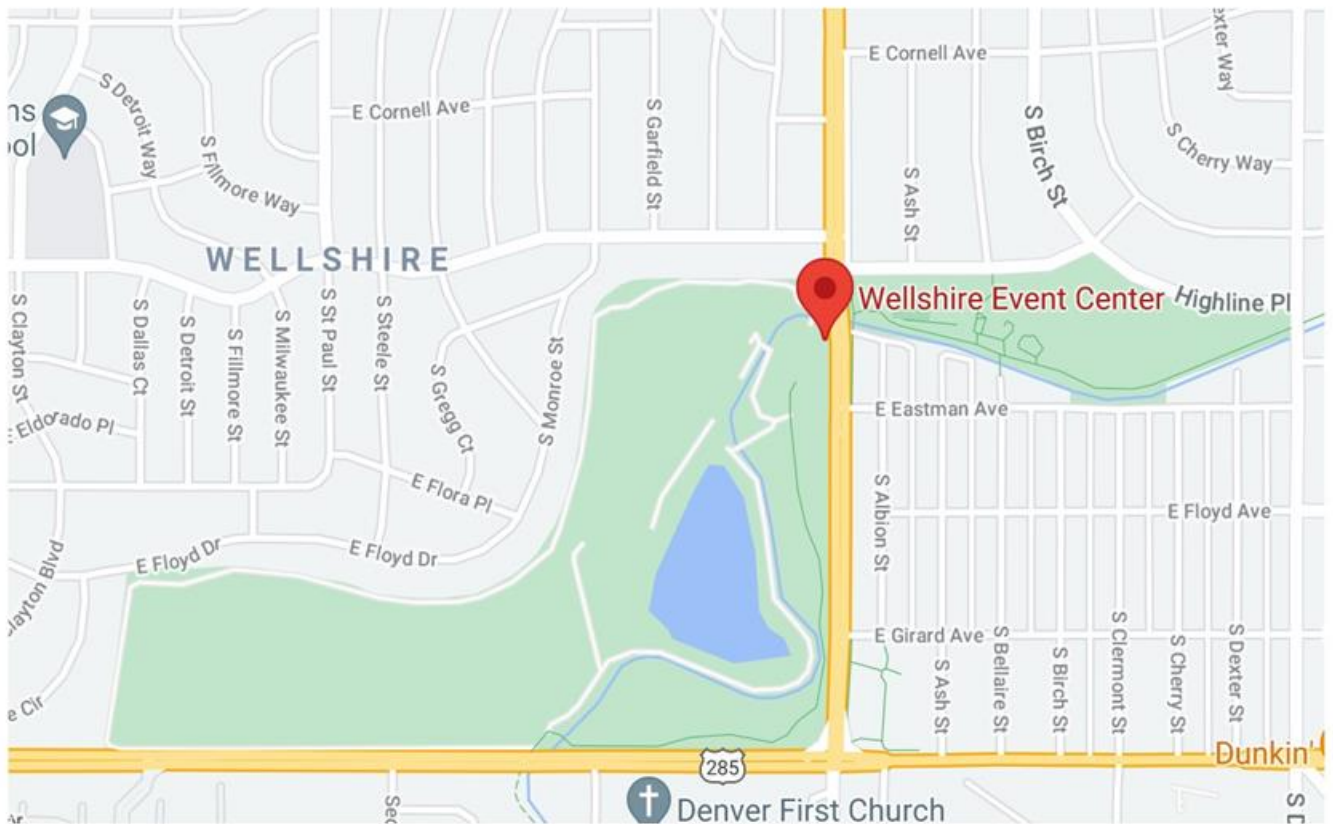
(Add sheet for additional guest names) Member Phone No. _____

Member e-mail address _____

Member/Spouse/Companion/Guest ____ @ \$55.00 per person = \$_____ Other guests ____ @ \$75.00 per person = \$_____

TOTAL ENCLOSED \$ _____ Check # _____

Wellshire Event Center, 3333 South Colorado Boulevard, Denver



Annual Picnic, Clement Park, September 11, 2024



Picnic 2024
Ken Marts, MARS Associates President



Picnic 2024
Serving at the BBQ Buffet



Picnic 2024
Enjoying the BBQ



Picnic 2024
Catching up with friends



Picnic 2024 - Calling Door Prize Ticket Numbers
Gina Curet, VP Business & Ken Marts, President



Picnic 2024
Hoping for a Door Prize



Bob Winn
Box Kites & Bombers Magazine



George Cain
Delta II Grail ULA Coin



Joni Winn
AVII ULA Coin



Sylvia Dinges
ULA Flask



Ronda Ernst
\$50 Panera Gift Card (Assured Partners)



Kathy Tullio
Sonic Toothbrush (Delta Dental)



Annette Marsteller
NRO Launch 16 Coin



Bill Oliver
\$50 Panera Gift Card (Assured Partners)



Zimmie Zimmerman
GPS Delta 2 Coin



Laurie Makloski
Cooler (Kaiser)



Dave Farin
\$50 (MARS)



Judy Nielsen
\$50 (MARS)



Lenni Curless
\$50 (MARS)



Patty Shaw
\$50 (MARS)



Ron Gedeon
\$50 (MARS)



Susan Madison
\$50 (MARS)



Dorian Maurer
\$100 (MARS)



Lis Campbell
\$100 (MARS)



Don Purkey
\$200 (MARS)



Joe Wuest
\$300 (MARS)

**More Photos Posted on the Website:
marsretirees.org/Events/EventPhotos**

Schedule Addendum (See last page)

NOTES:

1. Board of Directors has their meetings, as required
2. Officers/Directors meet 1st Wednesday every month at 09:30 am. Zoom mtgs may be used at discretion of Officers
3. Bridge Club meets 3rd Friday of every month at 10:00 am at Buck Recreation Center.
4. Car Club meets 1st Sat of every month, and as noted on their website.
5. Golf Club meets every Thursday from April through Oct of each year.
6. Hiking Club: Hike planned for October 7th at Roxborough Park. Check website for Point of Contact for each hike.
7. Photo Club meets 2nd Thursday every month (except Jun, Jul & Aug) at 1:00 pm on Zoom
8. Marketing Comm. meets monthly and encourages interested members to call in and participate (contact Dick Sosnay if interested)
9. PaceSetters Club meets the 2nd Wednesday of each month at Lansdowne Arms.
10. 2024 Holiday Celebration Dec 4 at Wellshire Event Center 11 AM .
11. 2025 Picnic Sep 10, 2025 at Clement Park 11AM (2nd Wednesday in September).

Please review dates and times and notify Jim Pennington (jpennington101.jp@gmail.com) if you have any changes or additions.



MARS ASSOCIATES
 P.O. Box 1125
 LITTLETON, CO 80160-1125

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' ADDRESS SERVICE REQUESTED



DATE: October 2024												
EVENT/MONTH	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Officers/Directors	2	6	3	8	5	5	2	7	4	2	6	3
Bridge Club	18	15	20	17	21	21	18	16	20	18	15	20
Car Club	5	2	7	4	1	1	5	3	7	5	2	6
Golf Club	Thur	-	-	-	-	-	Thur	Thur	Thur	Thur	Thur	Thur
Hiking Club	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
PaceSetters Club	9	13	TBD	8	12	12	9	14	TBD	TBD	TBD	TBD
Photo Club	10	14	12	9	13	13	10	8				
Website Team	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed
Marketing Committee	30	27	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MARS Events												
Happy Hour	Canc'd				TBD				TBD			
Holiday Celebration			4									
Spring Event / Annual Meeting						12						
Summer Luncheon Honoring Senior Members									25			
Annual Rockies Game										TBD		
2025 Annual Picnic												10
MARS Special Activities NOTE 8												
Junior Achievem't Finance Park day (Volunteers Needed)	2											
Estate Planning	8											
Glenwood Springs Train Trip	9 to 11											
Highlands Ranch Mansion Tour	15											
Wine Tasting	22											
MARS STAR Schedule												
Items due for MARS STAR												
STAR Input to Editor	10			9			10			10		
STAR Repro. Deadline	21			20			21			21		
STAR Mailing	30			29			30			30		