

MARS STAR



Super Seniors:

Front L-R: Mike Kess, Mike Davis, Marj Wise, Janice Redfield, Lois Heppler, Jim Miles, Leo Johnson, Bart Wright, Richard Hurley, Bob Stevenson

Back L-R: Paul Jones, Bill Wise, Larry Major, Dave Steele, Tom Redfield, Fred Luhman, Mike Pfister, Bill Heppler, Bill Oliver, Horace Clair, Phyllis Brudos, Curt Brudos, Carl Schultz

MARS STAR has gone digital!!

Contact Jayne Brown at 303-905-9822 or via email at jaynebrown@comcast.net with questions.

MARS Day at the Rockies, August 6
Annual Picnic, Wednesday, September 10 (See page 31)

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

OFFICERS

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Secretary	Al Nemes	303-908-0157

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Director	Kathy Hetzel	303-513-0796
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Director	Laurie O'Shea	720 751-0727
Director	Mitch Arnold	

MARS STAR

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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	Beth King	720-217-5033
Pacesetters	Bill Wise	720-636-5823
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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 LM Corporation and United Launch Alliance, Denver, CO)

MARS Associates
P. O. Box 1128
Littleton, CO 80160-1128

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

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

MARS Benefits and Retiree Resources

(Must be a MARS Member to obtain dental and/or vision benefits)

Dental Insurance Plans

MARS Delta Dental of Colorado

Individual Administrative Team – Billing and Enrollment (changes to bank account info, expired credit cards, address changes).

877-516-6512 or Individual@ddpco.com

Customer Experience Team - Claims and Benefit questions.

800-610-0201 or customer_service@ddpco.com

Vision Insurance Plans

VSP 844-641-6718 or www.vspdirect.com

DeltaVision (www.deltadentalco.com/deltavision)

800-877-7195

Hearing Aid Discounts

TruHearing (offered by VSP) 877-396-7194 or

www.truhearing.com/vsp

Amplifon Hearing Health Care 888-486-4405 or

www.amplifonusa.com/lockheed

Assured Partners of Colorado – for additional information on offered dental or vision plans

Jon Elmore 303-228-2206 or Hudson Howard 720-510-9505

Pre-Medicare Retiree Information

Destination Wellbeing-Employee Service Center Online.

866-562-2363 or lmc.lifeatworkportal.com

LM Retiree Medicare Exchanges

VIA Benefits (Administrator) 844-596-0460 or

my.viabenefits.com/LockheedMartin

LM Retiree Resources – lockheedmartin.com

These links provide information about LM retiree health plan benefits, pension payroll, and savings plan information:

[LM Service Center](#)

[LM HealthWorks Plan](#) – for retirees under age 65

[VIA Benefits](#) – for post-65 retirees

[My Pension Payments](#)

[Pension Management Update](#) – 06/27/2022

[My Savings Plan](#) (Empower)

[LM Employee Disaster Relief Fund](#)

OR HR benefits mailbox, benefits.hr@lmco.com

Cover:

Super Seniors at the Summer Luncheon at the Manor House on June 25. (Photo by Carol Lovelace.)

From the Editor's Desk

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

Tom Pighetti (tipighetti@g.com)

Linda Stearns (linda80120@comcast.net)

For comments or corrections, contact Tom (issue editor) or Dan.

MARS welcomes your submissions. Submissions must be relevant to **MARS**, 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

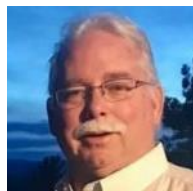
By Ken Marts
(martshouse2@aol.com)

Happy Summer everyone! We're now in the prime of summertime with hot days, water and camping adventures, and a ton of MARS activities to keep you involved. Kathy Hetzel has been developing new ideas for our Special Activities group, Gina Curet has been actively planning special sessions to keep you informed on Estate Planning, Medicare, and taxes. Carol Lovelace is busy putting together Munch n Mingle sessions (an outgrowth of the old Dinner Club). Terry Lilly is planning more GREAT Happy Hours! And this is on top of the normal MARS activities including our Summer Luncheon honoring Seniors, the Rockies Baseball game and Fall picnic. When you include the club activities, there's something going on each week that you can be involved in. Not a moment for boredom if you get engaged and involved!

I'd like to hear feedback from our members on their thoughts of all we're offering. Do any of you have thoughts on what else should be offered or what else you would like to see MARS Associates do? I have the same question on our communication with you. Too much email, not enough? Remember, MARS Associates has the website www.marsretirees.org and the Facebook page to link you with the latest information and activities. You can also reach out to an Officer or Director if you have any thoughts, comments, or questions. Our emails are listed on the website.

I mentioned Carol Lovelace earlier. She is also the Official Photographer and is capturing pictures from our events as well as getting them posted to the website and Facebook pages. If you don't see yourself in these pictures, you may want to attend some events to get the publicity you all want and need, and tell Carol she's doing a great job in capturing and posting the pictures.

I hope you enjoy reading 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

By Jim Pennington
(jpennington101.jp@gmail.com)

Well, I am getting into the groove. With transition less than six months away and Ken Marts handing over the organization to me, I have been getting to know the members a little better and, also understanding the various operational rhythms of MARS and its clubs. We recently had a great Summer Luncheon Event at the Manor House in Ken Caryl that I thought was well received. I would like to thank Carol Lovelace for taking the initiative to help capture photos from the event. They will be posted on the MARS Website. Speaking of events, the Special Activities group has also been doing a great job on our events since the last STAR release with two Happy Hours, a behind-the-scenes look at the Denver Center for Performing Arts and advance planning for the MARS Day at the Rockies. None of these events would be happening or successful without the help of each of our special event planners and leaders. So, thanks to all of those that help us provide these activities to our membership. While I am saying thanks, I must also call out the various new members of the board that have joined us since the first of the year. They bring new ideas to our meetings, and I am excited in working with the each of them into the future.

Now looking forward; we have two upcoming events in the second half of the summer. Our Annual MARS Day at the Rockies on August 6th and our Annual Picnic event is coming up on September 10th at Clement Park. We hope these two main MARS events will have a great turnout and we look forward to seeing you there! Along with these two events, Gina Curet has also arranged three more Informational Sessions, one regarding Understanding Medicare, another one related to Strategic Wealth and Estate Planning and the final being about Retirement Planning. Earlier this year, she conducted sessions regarding both Medicare and Estate Planning, where both sessions were well attended and informative. These sessions include a question-and-answer period to better help our members understand the fundamentals and essentials that people should know.

Finally, I have a personal task for all members; do you know anyone that worked at LM or ULA that has been retired for a while or recently; or are coming up to their retirement date shortly that are not currently a member of MARS? If so, please invite them to join! Our mission is very simple. MARS membership provides us with an opportunity to enhance the social, cultural, and educational aspects of our retirees' lives. MARS also helps

bring benefits such as Vision and Dental services to our members at competitive rates.

So, if you know of someone that would like to join us or would like to know what we can bring to their lives, have them contact us or attend one of our Happy Hour Events. These Happy Hour events are focused on bringing current members and possibly new members together to chat about the great work that we have done for both our respective companies and our great nation.

Hope to see you soon at one of the upcoming events! Thanks for letting me serve you!



Director's Notepad

By Roger Rieger
Chairperson, BoD

rrieger10731@gmail.com

This last quarter we welcomed a new member to the BoD - Mitch Arnold. Please join me in welcoming Mitch to the organization! With the addition of Mitch, we have fully "staffed" the BoD and Officer positions for this year! But the celebration is only a short one as the quest to bring new talent and enthusiasm to the leadership team is an ever ending. Like any organization, without members volunteering their talents, passions, and ideas the organization will eventually cease to exist.

Speaking of new ideas - wow - have you been able to participate in all the new MARS special activities? How about all the new, up-to-date, and current information available on the MARS website? Have you explored all the benefit options? Do you feel like you are getting "value" for your membership dues? I certainly do! But remember, these benefits are ONLY available to MARS members current on their dues. Unfortunately, this year, 150+ members needed to be dropped, after MANY reminders, because of non-payment of dues. Please don't let this happen to you. And if you don't feel like you are getting "value" for your dues - come seek me out and let's chat, I'd love to hear your input.

As always, the Officers and BoD Meetings, held the first Wednesday of every month at the Red Rocks FCU headquarters building in Southpark are open to all MARS members. Meetings start at 9:30 and wrap up around 11am, please join us!



Activities Updates

By Linda Duby

lindaduby@comcast.net

MARS summer happy hour on June 23 was held at Lazy Dog Restaurant & Bar, Highlands Ranch. The appetizer buffet was enjoyed by 73 members and their guests. This was a great location for a summer event – good food and nice patio for this group. A big thank you to Terry Lilly for organizing this happy hour.

The happy hours have been very successful events but we have noticed quite a few no-shows at these events. We order food based on the number of reservations. If you are unable to attend, please notify the point of contact for the happy hour as soon as possible (we understand there are circumstances that arise last minute).

The Summer Luncheon Honoring Seniors was at the Manor House at Ken Caryl on June 25. We had 95 members attend the luncheon. As usual, the service and the food were very good. The Manor House has become our "go to" venue for this event. They have been very accommodating over the years. Carol Lovelace did a great job getting lots of photos – check them out in this edition of the STAR.

The Annual Picnic will be held at Clement Park on Wednesday, September 10. We will be serving barbeque with all the trimmings, cookies, beverages, wine, and beer. And, of course, we will have door prizes. The flyer for the event is in this edition of the STAR and on the MARS website (<https://marsretirees.org>). If you wish to pay by check, please fill out the form on the flyer in the STAR and mail it to the address on the flyer. Or, you can use the form on the website to make an electronic reservation and payment. If you have any special dietary requirements, please email me at lindaduby@comcast.net.

Please check the website for other events and check your email for the monthly Satellite email with information about the upcoming events. The Satellite email will be sent out the first Friday of every month.



Business

By Gina Curet
(orion43@comcast.net)

What a hot summer already and it's only mid-July! I hope you are enjoying life, vacationing and participating in the many activities that MARS provides...whether hiking, golfing, playing bridge or participating in the benefits.

I wanted to provide an update on the significant number of member participants in our benefits plans – 1,230 total, as follows:

- DeltaVision – 29 total
- Delta Dental – 796 total: Base plan – 137; High plan – 659
- VSP – 542 total

Offering these benefits to our members is a significant asset. However, we must remember that to be eligible to participate in our benefits, you must be a MARS member. Unfortunately, due to non-renewal of 2025 memberships, I had to terminate benefits coverage for 25 Delta Dental and 13 VSP participants, respectively. Please renew your membership in accordance with the deadlines.

An Estate Planning Strategies seminar was held on June 11th by Mercer Advisors where there was great dialogue and questions from the 22 participants. Mercer has agreed to return on Wednesday, September 24th, from 10-11:30 AM at Red Rocks Credit Union, so mark your calendars! Attend to hear the panel discussion on "Strategic Wealth & Estate Planning for Retired Aerospace Professionals" and engage in the dialogue. Sign up for the seminar as seating is limited to 50.

Please ensure you read the VIA Benefits news article posted on July 2nd to ensure you are taking advantage of a \$900 per year per person benefit provided by LM through VIA Benefits.

The Benefits Survey results are in and have been consolidated. I will provide the results and recommended actions from our providers under separate cover prior to the 2026 enrollment period. Look for more to come on this topic soon!



Communications

By Dan Ellerhorst
(marsretirees.org)

I am going to go with a shorter column this issue, partly because I just returned from a month on vacation (Iceland is well-worth visiting), and partly because the topic I want to address is a work-in-progress for the Website Team. At this point in our investigations, we probably have more questions than answers, but that won't stop us from trying out some ideas and learning as we go.

We have discussed our e-mail software several times in the past. It is a commercial product called Zoho Campaigns and has worked very well for us – most of the time. We still experience a varying number of "bounces" each time we send out a mass e-mail to the membership. A "bounce" basically means you didn't get the message. There are a variety of reasons for this: the e-mail address may be old or invalid, there may be a timeout due to traffic on the servers, there may be quota issues (like mailbox full), or your mail server may be trying to protect you from spam. A large percentage of our bounces are being experienced by users of Comcast.net, and it seems that Zoho and Comcast do not play well together. We have spun off a separate effort to dig deeper into this and work with the vendor help-desks to try to figure out a solution.

Of course, just to make things challenging, the bounces occur seemingly randomly among different users and at different times.

This seems like a good time to remind people that if they "unsubscribe" from an e-mail they receive from MARS Associates (by clicking the unsubscribe link at the bottom of the message) they will no longer receive ANY e-mails from MARS Associates, until they "resubscribe." Right now, "resubscribing" can be a bit confusing (another of our tasks is to simplify this) – so if you aren't getting e-mails and wonder why – just drop me a note and we will work on fixing the problem.

Zoho Campaigns is a very robust commercial product for conducting marketing campaigns and managing large lists of contacts. We currently use a small fraction of its capabilities – but we believe there are more that we can use to improve our MARS e-mail communications. We will report more on our efforts and progress in the future. For now, we have some studying and prototyping to do. And if anyone else out there happens to have hands-on experience with setting up a commercial e-mail system,

and would like to join the fun on the Website team, drop me a note!

Finally, because of our initial learning curve on Zoho and the loading and updating of e-mail addresses for our membership over the past year and a half (yes – we sent our first Zoho mass e-mail in February of 2024!) – we have a bit of a mess in our underlying contacts database and it may be time to do a flush and reload. This would be done from our membership database – which is really a giant Excel spreadsheet – but that is another story for another time! Stand by!



VP-Membership

By Jayne Brown

(Jaynebrown@comcast.net)

MEMBERSHIP STATISTICS

As of July 1, 2025 there are 1975 total MARS Associates members including spouses and significant others. That number represents 1145 memberships including 501 senior memberships. We have a total of 42 new retirees who have joined MARS for the 2025 CY to date.

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

Colorado

Aurora	Matt & Judy Lacy
Castle Pines	Howard & Marla Silverman
Centennial	Stu Spath Michael Brotherton
Elizabeth	Randal & Teri Grave
Englewood	Gunner Reagan & Ted Porras
Golden	Christine Moore
Highlands Ranch	Janet Adamo Rich & Diane Flagg Paul & Karen Bukowski Craig & Tracey Altonen
Littleton	Bill & Susan Shepard Dave Grove Laura Fenn

Other States

Arizona

Scottsdale Dan Schwartz

California

Fremont Alphonse Chu

Lompoc Jim Blaschke

Massachusetts

Arlington David & Chris Arenson

New Mexico

Las Cruces Dennis Pugh

MEMBERSHIP RENEWAL

Drop notices in the form of a bright pink postcard were sent to all members who had not submitted their membership renewal as of June 16th. Please contact me as soon as possible if you believe you were sent this notice in error.

NEW MEMBERS

Do you know someone who recently retired from LM or ULA? First year membership in MARS is free for 2025. 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 Roy Duszynski

(rkduzynski@msn.com)

Please contact Roy Duszynski at rkduzynski@msn.com, Facebook, or LinkedIn with information about the passing of a member, the spouse of a member or other MM/LM/ULA retirees so, they can be acknowledged in the Memoriam section.

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

Rutz, Gertrude (D: 30-May-2025)
Windsor, CO
<https://tinyurl.com/3k86ew7e>

Schaefer, Donald (D: 01-Dec-2024)
Hillsboro, OR
No obituary published

Wilkerson, Randy (D: 28-May-2025)
Chino, CA
No obituary published

Non-Members

Abbott, Peter (D: 16-May-2025)
Highlands Ranch, CO
No obituary published

Beekman, Douglas (D: 20-Feb-2025)
Denver, CO
<https://tinyurl.com/rndtd9sb>

Best, Julia 'Juli' (D: 17-Jun-2025)
Highlands Ranch, CO
<https://tinyurl.com/2jv864m9>

Bianchi, Christopher (D: 31-May-2025)
Churchville, PA
<https://tinyurl.com/5n8puz2t>

Blum, Thomas (D: 28-Feb-2025)
Orlando, FL
No obituary published

Butts, Gail (D: 09-Apr-2025)
Denver, CO
<https://tinyurl.com/bdh3ax5x>

Cunningham, Richard (D: 16-Jan-2025)
Pine, CO
<https://tinyurl.com/4c7d93e7>

DeBus, William 'Bill' (D: 20-Feb-2024)
Littleton, CO
<https://tinyurl.com/4tr2jyma>

Delp, Terry (D: 06-Apr-2025)
Littleton, CO
<https://tinyurl.com/zz3vzet9>

Farmer, Richard (D: 18-Feb-2025)
Larkspur, CO

<https://tinyurl.com/3d6pzw9e>

Flanders, Howard (D: 25-May-2025)
Littleton, CO
No obituary published

Garlitz, Francis (D: 21-Mar-2025)
Loveland, CO
No obituary published

Gwynn, Robert 'Bob' (D: 07-May-2025)
Denver, CO
<https://tinyurl.com/43tj4zv9>

Hall, Ronald 'Ron' (D: 02-Apr-2025)
Colorado Springs, CO
<https://tinyurl.com/54a5nk6e>

Holsinger, George 'Curt' (D: 03-Apr-2025)
Mead, CO
<https://tinyurl.com/vns2fy5x>

Johnson, John (D: 20-Jun-2025)
Picayune, MS
<https://tinyurl.com/mubpcw2b>

Kaiser, Lyman (D: 28-Apr-2025)
Colorado Springs, CO
<https://tinyurl.com/yc7uujdr>

Lukens, Samuel (D: 01-Mar-2021)
Highlands Ranch, CO
<https://tinyurl.com/bdfahbm9>

Martin, Connie (D: 16-Jan-2024)
Ogallala, NE
<https://tinyurl.com/y8wkmd6c>

McCarthy, Timothy (D: 25-Apr-2025)
Littleton, CO
<https://tinyurl.com/5hx56jzz>

McKinney, Robert (D: 22-Mar-2025)
Craig, CO
<https://tinyurl.com/4k26wnbd>

Mielke, Donald (D: 01-May-2025)
Littleton, CO
<https://tinyurl.com/bdfu75cj>

Miller, Kent (D: 23-Feb-2025)
La Junta, CO
<https://tinyurl.com/527dp5jv>

Patterson, Kenneth (D: 03-Feb-2025)
Elbert, CO
<https://tinyurl.com/4xwdkfpz>

Redmond, William 'Bill' (D: 22-Mar-2025)
Littleton, CO
<https://tinyurl.com/bdr2kyvk>

Salerno, Christopher (D: 19-May-2025)
Pueblo, CO
<https://tinyurl.com/2v5ky85a>

Sandmeier, Vicki (D: 17-May-2025)
Penrose, CO
<https://tinyurl.com/2kvzvtz9>

Smith, Nick (D: 03-Apr-2025)
Brandon, AR
<https://tinyurl.com/yc72h5u3>

Sertz, Herbert (D: 13-Dec-2024)
Littleton, CO
<https://tinyurl.com/3ffa37hh>

Strawn, Daniel (D: 07-Jun-2025)
Castle Rock, CO
<https://tinyurl.com/47ejrvdm>

Trollinger, Michael (D: 20-May-2025)
Littleton, CO
<https://tinyurl.com/4n5pa2kj>

Wetzel, Claudine (D: 01-May-2025)
Cheyenne, WY
<https://tinyurl.com/yva2crwv>

Wiloth, Micah (D: 27-Dec-2024)
Montrose, CO
<https://tinyurl.com/mr3n6ysz>

Wright, Gary (D: 09-Jun-2025)
Centennial, CO
<https://tinyurl.com/yuxyrnz7>

Yager, Walter 'Walt' (D: 11-Apr-2025)
Phoenix, AZ
<https://tinyurl.com/5ed42hf2>

Special Activities

By Kathy Hetzel
hetzelkathy23@gmail.com

Special Events for MARS Members

The Special Activities group of MARS works year-round to plan events that give our members an opportunity to try something new or interesting and meet up with old friends. We aim to provide a wide variety of activities,

ranging from the informative, to the curious, to those that are just good fun. So far this year, members have taken in the Central City Opera, discovered illusions, toured the Highlands Ranch Mansion, trod the old west streets of Golden, enjoyed high tea while visiting the Molly Brown House, marveled at the residents of the Wild Animal Sanctuary, and peeked behind the curtain at the Denver Center for Performing Arts.

Our upcoming activities are no exception.

- Dust off that old bowling ball and join us for lunch and bowling on August 13th at Crown Lanes!
- Munch and Mingle returns this fall in another unique location
- Spend an afternoon in November with a certified Sommelier learning about wines you may never have heard of from different regions around the globe.
- Ride the rails of the Georgetown Loop Railway in October with an optional lunch afterwards

All these activities will be on the MARS website in the upcoming weeks and will also appear on the club Facebook page and in the monthly Satellite. Each will have a dedicated link to sign up and a secure way to pay for your spot. Check the club website regularly to keep up with activities as they are added. Also, don't wait until the last minute to sign up, several of these activities will have firm limits on the number of participants.

Lastly, if you have enjoyed any of these special activities in the past, consider joining our group of organizers. We will help you along the way, making sure your experience is a successful one. If you can organize just one activity a year, we'd love to have you with us. Please contact me at hetzelg@msn.com.

Historian Corner

By Barb Sande
barbsande@comcast.net

THANK YOU: A special thanks to Dan and Kelly DeFazio and Ben Dusenbery plus all of the other volunteers for the fabulous Titan 20th reunion at the Cape on April 26/27, 2025. We attended the events and had a marvelous time! The pictures from the event are at this link:
<https://tinyurl.com/TitanLegacyPhotos>.

Program Profile

Program Profile Overview: This history profile continues a multi-part series about the manned Gemini program. The current plan is to have the following parts to the series (this has been modified from the first version documented in the first write-up):

1. Creation of Project Gemini, Program Obstacles and Issues, Overview of Major Program Elements - First Quarter 2025 - COMPLETE
2. LC-19, Unmanned Gemini 1 & 2, Crew Selection and Training (overview) - Second Quarter 2025 - COMPLETE
3. Gemini 3 (first manned mission), Gemini IV, Gemini V - Third Quarter 2025 – IN THIS PROFILE
4. Gemini VI Stand-down, Gemini VII, Gemini VI-A - Fourth Quarter 2025
5. Gemini VIII, Gemini IX/IX-A, Gemini X - First Quarter 2026
6. Gemini XI, Gemini XII, Lessons Learned - Second Quarter 2026

This plan hopefully accommodates some depth of detail for each mission and, still keeps me on track for the first write-up commemorating the 50th anniversary of the Viking program in the third or fourth quarter of 2026.

Introduction

In this history profile, I provide an overview of the first three Gemini manned missions: Gemini 3, Gemini IV and Gemini V. The missions were formally changed by NASA to the use of Roman numerals for the mission designator starting with Gemini IV. In the interests of keeping the article length to slightly less than "War and Peace" I do not include detailed crew biographies in these write-ups, but provide links at the end to their Wikipedia biographies. Other resources and references that have been used are also listed at the end of the article.

Gemini 3

Gemini 3 was intended to be the first manned flight in 1964, but delays moved the mission to first quarter 1965. The crews (primary and backup) were announced at a press conference at the Manned Spacecraft Center in Houston on April 13, 1964. In my last article, I talked about the crew selection process and their general training regimen, so this section will focus more on the flight and the flight results.

For this first Gemini manned flight, Air Force Major Virgil I. "Gus" Grissom, a veteran of the Mercury program with one suborbital flight under his belt was chosen as the commander pilot. The pilot would be rookie astronaut USN Lieutenant Commander John Young, who was selected in Astronaut Group 2. Their backup crew would be USN Captain Walter M. Schirra, another veteran of the Mercury program (he actually did six orbits on Mercury-Atlas 8) and rookie Air Force Major Thomas Stafford, also selected in Astronaut Group 2. Within a week of this crew announcement, the astronauts were hard at work training for their mission. Some delays occurred when a second

Gemini spacecraft simulator at CCAFS was not updated with required modifications until November, 1964. Training took place at several contractors across the country and also included water recovery procedures.



Gus Grissom (Left) and John Young in their Gemini spacesuits. Photo Credit: NASA

The actual milestone dates for the Gemini 3 launch vehicle (Titan II/GLV-3; S/N 62-12558) are listed below, from the "Project Gemini: A Chronology" resource:

Milestone	Date
Major welding of propellant tanks in Denver begins	06/1963
Shipment of Tanks to Baltimore	12/13/1963
Vehicle Assembly completed	06/06/1964
Horizontal tests completed	06/17/1964
Erected in Vertical Test Facility	06/22/1964
Combined Systems Test (CST)	07/31/1964
Vehicle Acceptance Team inspection	10/07/1964
DD-250 complete (customer acceptance)	11/18/1964
Delivered to ETR	01/23/1965
Erected at LC-19	01/25/1965
Power applied	01/29/1965
Subsystem and CST complete	02/15/1965
Static Fire Test of Stage I	01/21/1964
Spacecraft mated to GLV-3	02/17/1965
Joint Combined Systems Test	02/24/1965
Countdown exercises /Wet Mock Simulated Launch completed	03/08/1965

Final Status Simulated Flight Test	03/17/1965
Launch	03/23/1965

Behind the timelines noted above were several modifications to the GLV-3 schedule because GLV-2 had been delayed. GLV-3 was through an initial successful CST and inspections by August 21, 1964. GLV-2 was still on the pad, so the customer and Martin Marietta agreed to install certain modifications in Baltimore instead of doing them at the Cape. CST and VAT inspections were successfully repeated by early October. However, there was still no place for the launch vehicle at the Cape so more modifications were put in place, with the vehicle finally arriving at LC-19 on 01/23/1965. The launch vehicle was delivered to CCAFS by a Boeing 377 Stratocruiser, one stage at a time, due to the unavailability of a C-133.

The actual milestone dates for the first manned Gemini spacecraft (S/C 3) are listed below:

Milestone	Date
Equipment Installation Complete	09/12/1964
Reentry/Adapter Mate	09/27/1964
Altitude Chamber Test	11/18/1964
Simulated Flight Test	12/21/1964
Shipped to ETR	01/04/1965
Complex 19 Electrical Integrity and G&C Tests	02/04/1965
Mechanical Mate to GLV-3 at LC-19	02/17/1965
Joint Combined Systems Test	02/24/1965
Wet Mock Simulated Launch/Simultaneous Launch Demonstration Test	03/08/1965
Final Simulated Flight Test	03/18/1965
Launch	03/23/1965
Recovery of Crew and S/C 3	03/23/1965

S/C 3 was the first spacecraft that was processed under new procedural and contract changes. First, a Configuration Control Board was put in place to review and justify any design changes to the spacecraft, moving this vehicle from a development phase into an operational production phase. Second, the McDonnell contract was moved from a fixed price to an incentive-based contract (this change was also renegotiated and put in place with Martin Marietta, Aerojet General and Lockheed). No significant problems were noted during spacecraft processing that were recorded in the references.

The mission scope for Gemini 3 was being developed and discussed almost up to the planned launch time. Grissom and Young argued for an open-ended mission, with the crew deciding how many orbits to complete once they

successfully launched. This idea was turned down because it was the first manned flight and full ground tracking coverage of the spacecraft was only possible for three orbits. Grissom gruffly remarked to the press after this decision, "We can do all the testing of the spacecraft we need in three trips."

One of the first-order objectives that was determined fairly early was to "demonstrate and evaluate the capability to maneuver the spacecraft in orbit using the Orbital Attitude and Maneuver System (OAMS)". Several firings of the system were planned to slightly change orbits but then a popular fictional book hit the bestseller list in 1964. This realistic science fiction work entitled "Marooned" by Martin Caiden* was based on a concern for retro rockets not firing on a space mission, stranding the crew. (Note: "Marooned" was a great book and a decent movie, which included a Titan III as part of a rescue scenario). NASA determined that there would be three OAMS firings to place the spacecraft in various orbits and then into a final failsafe orbit, where the crew could survive until inevitable reentry from the decay of the orbit. This threw mission planning into a frenzy to get this ready for a March, 1965 launch, but the new plan was completed by March 4.

Three experiments were also proposed for inclusion on Gemini 3:

- Blood samples on the ground and from the crew in orbit would be exposed to a radiation source for a set period-of-time simultaneously and then evaluated for chromosomal aberrations.
- The second experiment measured the effects of low gravity on living cells, using fertilized sea urchin eggs.
- A reentry communications improvement experiment was added that would inject water into the plasma sheath to lower the plasma's frequency to allow UHF signals to penetrate the blackout. The long blackouts seen during Mercury missions were of concern to Mission Control.

A Design Certification for the stacked elements was held at NASA Headquarters on March 1 and 2, 1965. Only minor items were found and a final Flight Readiness Review was held at the Cape on March 20. Martin Marietta technicians began loading propellants on the evening of March 22, 1965. The crew had the usual traditional meal of steak and eggs early on March 23 and were inside the spacecraft at LC-19 by 7:30 am EST. The countdown was halted when a first-stage oxidizer leak was detected; this was quickly fixed by tightening some bolts. Weather had been a concern, but the delay allowed for conditions to clear up.



Gemini 3 Launch on Titan II/GLV-3. Photo Credit: NASA.

Gemini 3 lifted off from LC-19 at 14:24:00 UTC/09:24:00 EDT on March 23. CAPCOM (Capsule communicator) Gordon Cooper announced, "You're on your way, Molly Brown!" The informal mission-name was chosen by Grissom after the loss of his Mercury capsule "Liberty Bell" following splashdown due to a faulty hatch mechanism. NASA managers were not thrilled with the "unsinkable" connotation, but reluctantly agreed after hearing Grissom's second choice ("Titanic"). The liftoff of the Titan GLV was so smooth that Grissom and Young did not feel anything initially but only realized the mission was underway because of the running mission clock.

When the Titan GLV Stage I engines cut off 2.5 minutes later, with the simultaneous "fire in the hole" start of Stage II engine at stage separation, Grissom and Young felt the Titan go from just over 6 g's acceleration, then abruptly to zero g's and then to an almost immediate build-up to 6g's again. Their simulations prepared them for this but reality was still impressive; Young was also startled by the bright flash caused by the Stage II ignition. As astronaut Richard Gordon noted later in the program, the Titan II was "a young fighter pilot's ride. It's faster than the Saturn's old man's ride." Wally Schirra and Gordon Cooper, veterans of Mercury, considered the Titan ride to be smoother than the Atlas.

The Titan II/GLV Stage II shut down 5.5 minutes after launch. Grissom immediately fired the aft thrusters but lost track of time and fired for too long, so "Molly Brown"

ended up with a slight over velocity condition. However, their elliptical orbit (76 by 108.5 miles) was almost perfectly on target (76 by 113 miles). This was the first time a manned crew from any country was able to change their orbital parameters during flight. The three-orbit flight was almost textbook perfect, with only a few minor glitches.

Young noticed a possible drop in the oxygen pressure gauge, but a quick glance at other gauges showed anomalous readings, too, and the problem was isolated to an instrumentation power supply; the readings recovered after switching to a backup unit. A slight and continuous yaw to the left was thought to be a leaking thruster, but turned out to be a venting water boiler. Two of the on-board experiments were a mixed success - Grissom broke the handle on the sea urchin cell-growth experiment, while the radiation exposure experiment had inconclusive results, with the space cells showing slightly more damage than the ones on the ground with the same level of radiation.

An unsanctioned experiment took place on the flight and was discovered by NASA and the media after the mission. Wally Schirra, an inveterate prankster and backup commander for the mission, stopped at Wolfie's Restaurant and Sandwich Shop on North Atlantic Avenue in Cocoa Beach on the morning of the launch (alas, no longer there). He bought a corned beef sandwich and then somehow managed to pass it off to John Young before the flight. Young pulled out the sandwich during their mission when they were supposed to be trying out some small authorized food items and he and Grissom shared a couple of bites before realizing the danger posed to electronic equipment by crumbs from the bread. When the facts became known, disciplinary actions were handed down to the two astronauts and future crews were cautioned not to try the same stunt. Stories about the stunt alternatively blame Schirra or Young, who mentioned having a good sandwich on board and Schirra decided to be a nice guy (or truly a prankster).



Wolfie's Restaurant and the Ramada Inn, 900 N. Atlantic Ave, Cocoa Beach, Florida. Photo Credit: Florida Public Library

Three more OAMS burns during the three-orbit mission were successful. The first burn, 90 minutes into flight and for 75 seconds, circularized their orbit and reduced orbital velocity. The second burn, 45 minutes after the first, shifted the plane (inclination) of the orbit by 1/50th of a degree. The final 2.5 minutes burn, during the final orbit, dropped the spacecraft perigee to 44.7 miles, ensuring reentry even if the retrorockets didn't fire.

Re-entry procedures were precisely followed, but the re-entry itself produced some surprises. At first, it matched the simulations of the effects and forces; the communications experiment using the water flow to disrupt the plasma had promising results. But the spacecraft was off-course and attempts by Grissom to control the flight were unsuccessful. The spacecraft splashed down 84 km short of its intended splashdown target in the Atlantic off the coast of Turks and Caicos (splashdown was at 19:16:31 UTC on 03/23/1965). After parachute deployment, the spacecraft abruptly shifted from a vertical to a horizontal attitude, causing Grissom to bang his face into the control panel, cracking the faceplate on his helmet (the material was changed from acrylic to polycarbonate plastic for future flights). The crew was finally rescued 30 minutes after splashdown by crews from the USS *Intrepid*. Gemini 3 completed 3 orbits and traveled 80,000 miles.

The crew passed their physicals after the flight and held debriefs on the mission, which was considered a complete success, opening the door to operational flights beginning with Gemini IV. This was also the last manned flight using the Mission Control center at the Cape for the entire mission (a handoff to Mission Control in Houston would occur on all future missions at liftoff). The recovered Gemini 3 spacecraft is currently on display at the Grissom memorial near Mitchell, Indiana and a corned beef sandwich is also preserved for posterity (in resin) at that same memorial. As for the crew, Grissom tragically lost his life in the Apollo 1 fire on January 27, 1967. Young participated in or commanded five more space missions, including Gemini X, Apollo 10, Apollo 16, STS-1, and STS-9; he was also Chief of Astronaut Operations. Eating that contraband corned beef sandwich did not affect his career, as he became one of NASA's greatest astronauts. He passed away on January 5, 2018.

Gemini IV

After the success of Gemini 3, the planning for the next missions was evaluated. Gemini IV was intended to be a multi-day mission, but concerns for fuel cell development led to a decision to reduce the mission from 7 days to 4 days because batteries would be used. A planned rendezvous with an evaluation pod was also scrapped from the plan; an attempt to rendezvous with the second

stage of the Titan II was substituted. A dramatic decision to have an EVA (Extravehicular Activity) on Gemini IV was eventually approved very close to launch on May 25, 1965. This decision was challenging, but the first EVA by a human on March 18, 1965 (Cosmonaut Alexei Leonov on Voshkod II) put pressure on NASA to accelerate some of the goals of Gemini. The medical team was also very concerned about a 7-day mission and some of those concerns still required mitigation for a 4-day mission with an EVA.

The crews were announced to the press on July 29, 1964. The primary and backup crew members were all from Astronaut Group 2 and were spaceflight rookies. The command pilot of Gemini IV would be USAF test pilot James A. McDivitt, Jr and the pilot would be USAF test pilot Edward H. White II; these two had known each other since they attended the University of Michigan. The backup crew would be USAF test pilot Frank F. Borman II as command pilot and USN test pilot James A. Lovell, Jr as the pilot. Training in earnest for the crews commenced immediately. While the crew and some of the enthusiasts pushed for an EVA, work was also done on an EVA simulator for the spacecraft to assist in training.



Jim McDivitt (at right) and Ed White Photo Credit: NASA

The actual milestone dates for the Titan launch vehicle Titan II/GLV-4 (S/N 62-12559) are noted below:

Milestone	Date
Major welding of propellant tanks in Denver begins	11/1963
Shipment of tanks to Baltimore	03/06/1964
Vehicle Assembly completed	09/04/1964
Horizontal tests completed	10/23/1964
Erected in Vertical Test Facility	10/28/1964
Subsystem Functional Verification Tests	11/19/1964
Combined Systems Test (CST)	11/25/1964
Vehicle Acceptance Team inspection complete	12/11/1964
DD-250 complete (customer acceptance)	03/21/1965
Delivered to ETR	03/23/1965
Erected at LC-19	03/19/1965
Subsystem and CST complete	04/16/1965
S/C-4 mated to GLV-4	04/23/1965
Joint Combined Systems Tests	04/30/1954
Countdown practice exercises/Wet Mock Simulated Launch Test	05/13/1965
Final Simulated Flight Test	05/29/1965
Launch	06/03/1965

The three-month delay after Vehicle Acceptance Complete and DD-250 was due to the lack of space for the vehicle at the Cape. Modifications were incorporated in Baltimore and additional testing and acceptance was done (dates of those tests are not available). It should be noted that GLV-4 was erected at LC-19 only six days after the launch of Gemini 3.

Here are the actual milestone dates for S/C-4:

Milestone	Date
Equipment Installation complete	01/31/1965
Re-entry/Adapter Mate	02/23/1965
Systems Assurance Test (new for this spacecraft)	03/02/1965
Simulated Flight Test	03/08/1965
Shipped to ETR	04/04/1965
Complex 19 Electrical Integrity & G&C tests	04/14/1965
Mechanical Mate to GLV-4 at LC-19	04/23/1965
Joint Combined CST	04/30/1965
Wet Mock Simulated Launch/Simultaneous Launch Demonstration Test	05/13/1965
Final Simulated Launch Test	05/29/1965
Launch	06/03/1965
Recovery of S/C-4 and crew	06/07/1965

S/C-4 experiences a few delays in processing because of supplier delivery issues.

The mission was finalized at the end of May, 1965 with the announcement to the press that Gemini IV would be a four-day mission with an EVA by Ed White. No name was announced for the mission, although McDivitt proposed "American Eagle"; NASA insisted on the simple nomenclature of "Gemini 4" (officially known as Gemini IV with Roman numerals used through press releases). The crew would also try to rendezvous with Stage II of the Titan GLV and would perform a series of experiments that were scientific and medical in nature. The experiment list/results are noted in a few paragraphs.

Because this was the first true multi-day mission for NASA ground controllers, three groups, on eight-hour rotations were required in Mission Control to cover the mission 24/7. This would also be the first mission controlled from the new Manned Spacecraft Center in Houston after liftoff. Crews began propellant loading of Titan II/GLV-4 12 hours before flight; the crew arrived at the pad just after 7:00 am on June 3. A hold was called at T-35 minutes when the Titan GLV launch vehicle erector did not fully lower to the launch position (this problem was confirmed on a second attempt). Troubleshooting revealed an incorrectly installed connector in a junction box, which was replaced. The countdown resumed and liftoff occurred at 15:15:59 UTC (10:15:59 Eastern time).



Launch of Gemini IV on Titan II/GLV-4. Photo Credit: NASA

At liftoff, two roll transients caused by misalignment of the Titan first-stage engines occurred; these were quickly corrected by the autopilot. The fuel top-off umbilical failed to detach and was pulled loose from the skin of the vehicle when the booster had climbed to about 27 feet. Performance of all launch vehicle systems was nearly

nominal. Some modifications had been made to the guidance program on the GLV-4 booster to produce a less lofted flight trajectory and a lower altitude at booster engine cut-off (BECO) than on Gemini 3; these were generally successful despite a still somewhat lofted flight path. BECO occurred at T+152 seconds, and second-stage engine cut-off (SECO) at T+333 seconds. The spacecraft entered a 100-by-176-mile orbit.

On the first orbit, the crew attempted to rendezvous with the spent Titan II/GLV Stage II. This was unsuccessful for the following reasons:

- NASA engineers had not yet worked out the idiosyncrasies of orbital mechanics, which are counter-intuitive. Simply thrusting the spacecraft toward the target changed its orbital altitude and velocity relative to the target. When McDivitt tried this, he found himself moving away and downward.
- The stage was dumping its residual propellant, causing it to move around in various directions relative to the Gemini.
- There were only two running lights on the stage, which made it hard at times for McDivitt to determine its orientation. McDivitt concluded that a rendezvous target should have at least three lights.
- There was no radar on board Gemini IV to give a precise range to the target, so the astronauts had to rely on their visual depth perception to estimate the range, and this differed widely for the two men.

McDivitt gave up after expending almost half of the available thruster fuel.



Ed White begins his 23-minute EVA on Gemini IV. Photo Credit: NASA

The EVA was planned for the second orbit, but the crew requested a postponement until the third orbit as the rendezvous attempt had fatigued both crew members, especially White, who would be performing the EVA. The cabin depressurization began over Australia on the third orbit. White attempted to open the hatch but had difficulty with the latch. McDivitt had noted problems with

this latch in vacuum tests on the ground and he saw how the latch was designed with springs that sometimes failed to compress. He was able to get the latch working and was confident that he could close it at the end of the EVA.

Tied to a tether, White floated out of the Gemini spacecraft, using a hand-held maneuvering unit that expelled pressurized oxygen to control his travel. He found it easy to maneuver, particularly in the pitch and yaw planes, but the roll plane used too much of the maneuvering unit's gas supply. While White was enthralled by his experience and both astronauts were taking many pictures, NASA was desperately trying to communicate with them. Here's a summary of the communication problems extracted from the Wikipedia article on Gemini IV:

There were communication problems during the spacewalk. Gemini spacecraft were the first to use a voice-operated switch (known as VOX) on the astronaut's microphones, but McDivitt soon realized that his VOX circuit was not working properly; he could only hear the Capsule Communicator (CAPCOM) in the push-to-talk setting, but not on VOX (though both astronauts could be heard by each other and the ground). Plus, while outside the spacecraft, White was unable to receive transmissions from the ground and had to have all messages relayed through McDivitt. McDivitt must have switched to the VOX setting somewhere around the time White was exiting the spacecraft, because at that point, for most of the EVA, neither he nor White responded either to the Hawaii CAPCOM, or to the Houston CAPCOM, Gus Grissom. Grissom tried to talk to Gemini IV a total of 40 times in 13 minutes before he got a response.

This communications problem caused increasing concerns for Mission Control because White was running up against two time constraints during his EVA: 1) Loss of signal after passing over the Bermuda station, and 2) Crossing of the spacecraft through solar terminator into darkness. McDivitt finally took his communication system off VOX and immediately received urgent messages from Chris Kraft (through Grissom) to get White back inside ASAP! White was having so much fun that he claimed that he wanted to shoot more photos before coming back in. He finally re-entered the spacecraft after a 23-minute EVA, 10 minutes longer than planned and just as the spacecraft entered darkness.

The two struggled with the latch on the hatch again and finally, after twenty minutes, McDivitt was able to confirm that the latch was properly sealed. A plan to throw out the EVA gear by re-opening the hatch was not attempted and the gear was kept in the tiny spacecraft. McDivitt and White attempted to rest for four hours, a major challenge with the constant radio traffic and close quarters.

The EVA was the highlight of the 66-orbit mission. Briefly, here are the names of the eleven experiments and their results (these experimental results for each mission are found in Appendix D of the "On the Shoulders of Giants" report):

- Inflight exerciser - The use of a bungee cord exerciser became harder as the mission progressed
- Inflight phonocardiogram - This successfully measured the heart rates of the astronauts during key mission events, with no significant changes noted.
- Bone demineralization test - This test showed distinct losses in bone mineralization compared to a person in bed rest for the same length of time on Earth.
- Spacecraft electrostatic discharge - Readings were higher than expected; the sensor was considered too sensitive and was redesigned for future missions.
- Proton-electron measurement - Successfully operated; all data telemetered to Earth for further analysis.
- Tri-axis magnetometer test - Successfully operated; all data telemetered to Earth for further analysis.
- Two-color Earth limb photography - 30 good pictures obtained.
- Synoptic terrain photography - 100 usable terrain study photos obtained.
- Synoptic weather photography - 200 photos obtained; 100 considered usable.
- Radiation in spacecraft - Radiation doses within the accepted levels.
- Simple navigation using a sextant - Information was good, but more statistical data are needed to validate the technique.

The crew ate all but one of the 16 freeze-dried meals they were provided. They had no way to measure water intake, so they minimized consumption. Both astronauts complained of nose and throat irritation, which was attributed to the ammonia outgassing from flame retardant materials (changed for future flights). The on-board IBM computer failed on the 48th revolution, necessitating an open-loop rolling reentry profile (similar to Mercury). Re-entry was relatively trouble-free, although a malfunctioning thruster resulted in a much faster roll rate and their landing was rough.

The Gemini IV splashdown point was off-course by about 50 miles, but the recovery ships arrived quickly. The crew and the spacecraft were lifted onto the USS *Wasp*. Both astronauts passed their post-flight physical examinations, with some minor physiological changes due to the weightless conditions for four days. The mission was considered a great success, in spite of the rendezvous problems. The crew was greeted at various events around the world with great enthusiasm. Gemini IV did 66 total orbits and traveled 1,609,700 miles.

An analysis of the IBM computer failure was also instigated to ensure corrective actions were in place before the next mission. Unfortunately, the failure mechanism was never found in over 500 ground tests, but a manual bypass switch was installed for future missions to allow the crew to bypass areas that might have caused the problem.

The Gemini IV spacecraft is currently on display at the Udvar-Hazy Center (Smithsonian Air & Space Museum) in Chantilly, Virginia. Ed White tragically perished in the Apollo 1 fire in January, 1967. Jim McDivitt commanded the Apollo 9 mission, then went on to manage Apollo spacecraft systems, not returning to space. He resigned from NASA in 1972, worked in private industry and passed away on September 13, 2022 (age 93).

Gemini V

Planning for Gemini V was underway simultaneously with Gemini IV. Gemini V was supposed to be the first mission to rendezvous with the Agena D docking vehicle, but significant delays in that program element required other solutions. The primary objectives for the mission were determined to be:

- Use Guidance & Navigation techniques to rendezvous with the REP (Rendezvous Evaluation Pod).
- Demonstrate 8-day capability of spacecraft and crew, including assessment of eight days of weightlessness on crew health.

The long-awaited fuel cells were finally ready to go on this mission. A secondary objective included 17 experiments, which are listed later in this section. Mission planners also agreed that the retrorocket performance so far on the first two manned missions would allow for removing the "fail-safe" orbital maneuver (to allow re-entry in case of retrorocket failure) near the end of the mission.

The primary and backup crews for Gemini V were finally announced on February 8, 1965. The command pilot role went to Mercury-Atlas 9 veteran and Air Force Test Pilot L. Gordon Cooper; the pilot seat was assigned to rookie astronaut Charles "Pete" Conrad, Jr., a naval test pilot selected as part of Astronaut Group 2. The backup command pilot went to USN and NASA test pilot Neil A. Armstrong, Jr., with the backup pilot assignment to USNR and General Electric test pilot Elliott M. See, Jr. Both of the backup crew members were also part of Astronaut Group 2. Training focused on the REP docking procedures and also executing planned countdown simulations of the near-simultaneous and precise launch operations that would be required for a Titan II/GLV launch and an Atlas/Agena D launch.



Gordon Cooper (Right) and Pete Conrad. Photo Credit: NASA

The actual milestone dates for the Titan launch vehicle GLV-5 (S/N 62-12560) are noted below:

Milestone	Date
Major welding of propellant tanks in Denver begins	01/1964
Shipment of tanks to Baltimore	06/25/1964
Vehicle Assembly completed	12/09/1964
Horizontal tests completed	01/07/1965
Erected in Vertical Test Facility	02/08/1965
Subsystem Functional Verification Tests	03/08/1965
Combined Systems Test (CST)	04/21/1965
Vehicle Acceptance Team inspection complete	04/26/1965
DD-250 complete (customer acceptance)	05/15/1965
Delivered to ETR	05/18/1965
Erected at LC-19	06/07/1965
Subsystem and CST complete	06/19/1965
S/C-5 mated to GLV-5	07/07/1965
Countdown practice exercises/Wet Mock Simulated Launch Test	07/22/1965
Final Simulated Flight Test	08/12/1965
Launch	08/21/1965

Titan II/GLV-5 was erected at the pad only four days after the launch of Gemini IV. The delays until the launch in August were primarily due to the rigorous training schedule for the crews.

Here are the actual milestone dates for S/C-5:

Milestone	Date
Equipment Installation complete	03/01/1965
Re-entry/Adapter Mate	04/01/1965
Systems Assurance Test	04/20/1965
Simulated Flight Test	05/19/1965
Altitude Chamber Test	06/01/1965
Shipped to ETR	06/19/1965
Complex 19 Electrical Integrity & G&C tests	06/26/1965
Mechanical Mate to GLV-5 at LC-19	07/08/1965
Joint Combined CST	07/13/1965
Wet Mock Simulated Launch/Simultaneous Launch Demonstration Test	07/22/1965
Final Simulated Launch Test	08/13/1965
Launch	08/21/1965
Recovery of S/C-5 and crew	08/29/1965

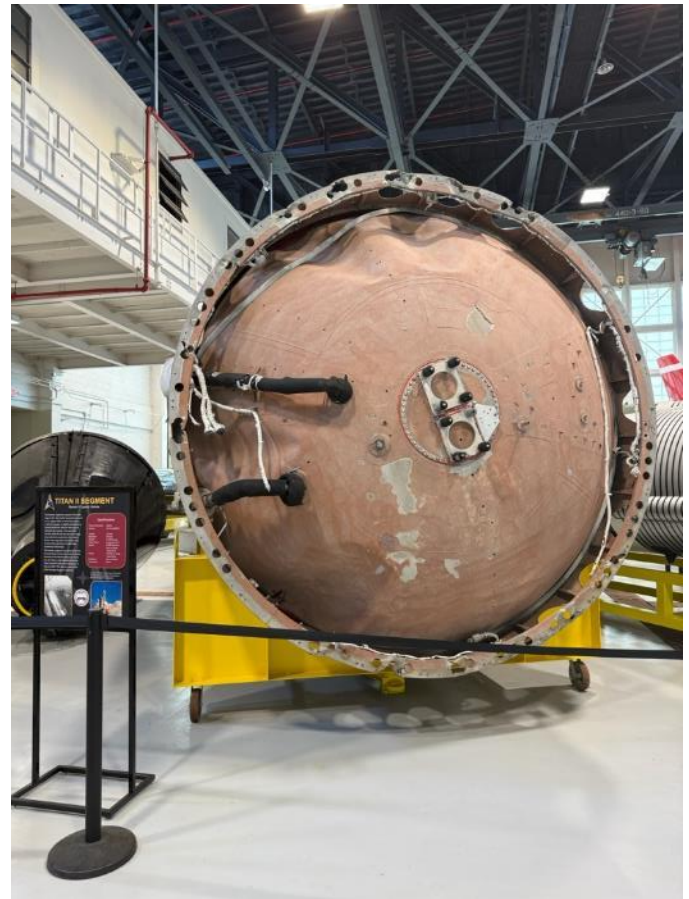
The launch was initially planned for 08/19/1965, but weather forced a 48-hour delay because of a nearby lightning strike. On 08/21/1965, McDonnell Pad operations lead Guenter Wendt hustled to get Cooper and Conrad into their seats again in the spacecraft. At 13:59:59 UTC (08:59:59 ET) Gemini V launched from LC-19. The launch was picture-perfect except for a few seconds of pogo oscillation during Stage I flight, measured at +0.38 g (the maximum criterium was +0.25 g). Cooper and Conrad both found their vision and speech momentarily impaired. The pogo acceleration was traced to improper gas levels in an oxidizer standpipe. The spacecraft separated and entered an initial orbit of 101 by 216 miles. Interestingly, a naval crew on the USS *DuPont* later recovered the top half of the first stage of the Titan II/GLV-5 found floating in the Atlantic (the oxidizer tank). The partial stage was retrieved and is now on display at the Cape Canaveral Space Force Museum Hangar C (we viewed it on our tour there in April for the Titan reunion).



Launch of Gemini V on Titan II/GLV-5. Photo Credit: NASA.

The REP (Rendezvous Evaluation Pod) was ejected at two hours 13 minutes into flight. This small pod was designed to provide a visible target for the crew to practice close rendezvous maneuvers. However, just after deployment, the crew noticed that the pressure levels for one of the fuel cells had dropped from 850 psi to 65 psi. This pressure measurement is measuring the pressure of the oxygen used in the cell. Cooper decided to shut down the fuel cells, going onto batteries. This decision precluded any tests with the REP, as it was rapidly moving away from the vehicle. The fuel cell problem also jeopardized the intended mission duration.

Tests on the ground found that it was possible for the fuel cell to work, even with low oxygen pressure. It was decided to turn the fuel cells back on and test them by using equipment that required more and more power. These showed that the fuel cells were stable and the crew could continue the mission. The crew was very cold during spacecraft drifting and the rotation of stars in the windows caused disorientation, so they placed covers over the windows when trying to sleep. Sleep was difficult to come by during the entire mission for both Cooper and Conrad.



Recovered Stage I Oxidizer Tank from Titan II/GLV-5. Photo Credit: Steven and Barbara Sande

Meanwhile, Mission Control tasked a very bright USAF test pilot who was selected in Astronaut Group 3 to come up with phantom rendezvous techniques for the crew. This new astronaut, named Buzz Aldrin, had a doctoral degree in orbital mechanics from MIT and he would later fly on Gemini XII and walk on the moon on Apollo 11. The phantom rendezvous came on the third day. It went perfectly, even though it was the first precision maneuver on a spaceflight. They tried four maneuvers—apogee adjust, phase adjust, plane change, and a co-elliptical maneuver—using the OAMS. The co-elliptical maneuver simulated a co-elliptic orbit of two spacecraft.

Another problem was found with the fuel cells on the fourth day. The wastewater from the cells was not suitable for drinking, because it was too acidic. The cells discharged into a storage tank on board used for both potable and non-potable water, separated by a bladder wall. However, as the astronauts would be draining the potable water for drinking, it was soon determined that there would still be room left over at the end of the mission. In general, the fuel cells were successful at producing cool drinking water, but the astronauts reported that it had a high quantity of gas bubbles in it.

On day five of the mission, one of the OAMS thruster blocks (with four thrusters) malfunctioned repeatedly.

This required cancellation of any further experiments using the thrusters. The crew also did not eat much during the entire mission, only consuming about 1,000 calories a day (budgeted for 2700 calories).



Cape Canaveral seen from Gemini V. Photo Credit: NASA

The following experiments were planned for Gemini V, with the results noted:

- Cardiovascular conditioning - Determine effectiveness of pneumatic cuffs on Conrad's legs to prevent blood pooling. Cuffs malfunctioned before full mission was complete. Limited success.
- Inflight exerciser - Similar to Gemini IV
- Inflight phonocardiogram - Similar to Gemini IV
- Bone demineralization test - Cooper had greater bone demineralization than a person at bed rest; Conrad showed equivalent changes.
- Human otolith - Special goggles were used to measure the ability of the astronaut to orient himself during flight. Results were considered adequate.
- Cardiovascular effects of spaceflight - Compared pre-flight and post-flight blood pressure, blood volume, pulse rates, electrocardiogram - Very few changes noted.
- Spacecraft electrostatic discharge - Readings were higher than expected; Gemini V did not use a redesigned sensor.
- Zodiacal Light Photography - 14 usable images obtained
- Synoptic terrain photography - 170 usable terrain study photos obtained.
- Synoptic weather photography - 250 excellent photos obtained.

- Cloud-top spectrometer - Measured tops of clouds using a diffraction grating and infrared film - considered successful enough to warrant new instruments of a similar design for new weather satellites.
- Visual acuity and astronaut visibility- Tested the ability of the astronauts to see and recognize features on Earth using a binocular optical device. Partial success - crew was able to see a few features. Weather and orientation of the spacecraft prevented some observations.
- Basic object photography - successful
- Nearby object photography - loss of the opportunity to rendezvous with the REP led to cancellation of this experiment
- Celestial radiometry and space object radiometry - Mirror optics measured radiant intensity of objects through the spectrum. Three hours and 20 minutes of data recorded
- Surface photography - Equipment was the same as the basic object photography and functioned properly, but weather hampered many observations.

At 190 hours, 27 minutes and 43 seconds elapsed mission time retrofire was initiated over Hawaii. There was some discussion about adding another day to the time in space for Gemini V, but Hurricane Betsy was rapidly growing in the Atlantic and might interfere with reentry and recovery operations. Gemini V, with its nearly 8 days in orbit, broke the record previously set by Vostok 5 in 1963. The astronauts controlled reentry, creating drag and lift by rotating the capsule. The spacecraft splashed down 80 miles short of the targeted point due to a programming error in the computer; the rate of the Earth's rotation was set at 360 degrees per 24 hours instead of the sidereal day value of 360.98 degrees. The crew and the spacecraft were picked up by rescue crews from the USS *Lake Champlain*. Gemini V completed 120 orbits and traveled 3,257,652 miles.

The astronauts passed their physicals, although there was concern for dry skin damage and some abnormal circulation system values that corrected themselves after several days on Earth. Gemini V (with the informal nickname of "8 days or bust") is currently on display at the Space Center in Houston. This was Gordon Cooper's last flight; his career at NASA stalled out primarily because of his racing hobbies and he retired from the USAF and NASA in 1970. Cooper passed away on October 4, 2004. Conrad went on to be the commander pilot for Gemini XI, commander of Apollo 12 (lunar landing) and commander of the first Skylab mission (Skylab 2). After leaving NASA he worked for various contractors. Conrad died in a motorcycle accident in California on July 8, 1999.

My next profile examines the Gemini VI, Gemini VII and Gemini VI-A missions. Gemini VI was intended to

rendezvous with the Agena D target vehicle, but a an Agena D failure led to big changes in mission plans. The actual launch attempts for Gemini VI-A are also a fascinating (and nerve-wracking) story.

Resources and Links:

On the Shoulders of Titans: A History of Project Gemini

<https://ntrs.nasa.gov/citations/19780012208>

Project Gemini: A Chronology

<https://www.nasa.gov/history/SP-4002/contents.htm>

Project Gemini (NASA Overview)

<https://www.nasa.gov/gemini/>

Wikipedia Article about Project Gemini

https://en.wikipedia.org/wiki/Project_Gemini

Wikipedia Article about Titan II GLV

https://en.wikipedia.org/wiki/Titan_II_GLV

Wikipedia Article about Gemini 3

https://en.wikipedia.org/wiki/Gemini_3

Wikipedia Article about Gemini IV

https://en.wikipedia.org/wiki/Gemini_4

Wikipedia Article about Gemini V

https://en.wikipedia.org/wiki/Gemini_5

Article about the Corned Beef Sandwich

<https://spaceexplored.com/2023/07/12/the-legend-of-the-john-youngs-infamous-corned-beef-sandwich/>

SCRIBD, Flight Crew Training Plan Document:

<https://www.scribd.com/document/49445020/Flight-Crew-Training-Plan>

Wikipedia Biography of Virgil I. "Gus" Grissom:

https://en.wikipedia.org/wiki/Gus_Grissom

Wikipedia Biography of John W. Young:

[https://en.wikipedia.org/wiki/John_Young_\(astronaut\)](https://en.wikipedia.org/wiki/John_Young_(astronaut))

Wikipedia Biography of James A. McDivitt:

https://en.wikipedia.org/wiki/James_McDivitt

Wikipedia Biography of Edward H. White:

[https://en.wikipedia.org/wiki/Ed_White_\(astronaut\)](https://en.wikipedia.org/wiki/Ed_White_(astronaut))

Wikipedia Biography of L. Gordon Cooper:

https://en.wikipedia.org/wiki/Gordon_Cooper

Wikipedia Biography of Charles "Pete" Conrad:

https://en.wikipedia.org/wiki/Pete_Conrad

*Note: The book "Marooned" by Martin Caiden (both the first edition or the revised edition with movie tie-in) is no longer available that I could find except for expensive rare copies. The movie, with an all-star cast, can be viewed for free on Tubi and for a rental fee (rental or purchase) on Apple TV, Amazon Prime, and Fandango.

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

Pacesetters Club

By Bill Wise

wisewj@aol.com

Are you ready for PACESETTERS? We were made for you. Okay fasten your seatbelts!

PACESETTERS club is a free club for MARS members 75+ years old. The club promotes continuing education through reference quality informational sessions including: important status on senior medical care, aerospace, senior living options, and other technologies as well as what the future holds. Topics are requested through member feedback. Of course, the sessions close with Q & A and resounding old friends' camaraderie.

Following is a snap shot of what PACESETTERS has been up to since the last STAR. The club held sessions on senior medical care for Dermatology, Ophthalmology and Ears Nose and Throat (ENT). A quick snapshot follows:

April 16, 2025: Dermatology Speaker: Dr. Caroline Hagan, Dermatologist. Dr Hagan gave a wide-ranging presentation discussing skin diseases common to seniors and various ways for seniors to care for their skin. There was a strong focus on the various types of skin cancer, how to recognize them, how they are treated, and how to avoid them.



May 14, 2025: Ophthalmological Senior Eye Care Speaker: Dr. Shane Nau, Ophthalmologist. Dr Nau provided an informative talk about eye issues that are

common to seniors and various remedies and treatments that are available today.



June 11,2025 ENT (Ears, Nose, Throat) status

Speaker: Dr. Nicolette A Picerno, MD. Dr. Nicolette Picerno (ENT) and Audiologist Eliza Cioffi held a very informative session on Ears, Nose and Throat Senior Care. Dr. Picerno and Ms. Cioffi answered unending PACESETTER questions.



FOLLOWING IS A PREVIEW OF REMAINING SESSIONS FOR 2025:

July 16 - Subject: Artificial Intelligence. History of AI, current techniques/status, current use cases of AI, and what the future holds.

Speaker: Professor AD Alghourabi (DU Faculty) AD is a fellow adjunct faculty member at the University of Denver, as well as a practitioner, leveraging AI in creating applications. He created and led the DU University College inaugural course in AI a couple of terms ago.

August 13 - Subject: Senior living Options

Speaker: Marnie Biln, Certified Senior Advisor (CSA), Certified Placement & Referral Specialist (CPRS), Colorado Placement Referral Alliance President (COPRA). Marnie has compiled and organized information on hundreds of senior living options in the Denver metro area. The presentation will include the following:

- Independent living communities,
- Large assisted living communities,
- Small assisted living communities (often referred to as "board and care" or "residential care facilities"),

- Memory care facilities,
- Nursing homes,
- Multi-level-care communities,
- Continuing care retirement communities (often referred to as "Life Care Communities")

September 17 Subject: Advancing our Understanding of Earth, our Solar System and Beyond

Speakers: Tonya Ladwig and Paul Anderson

Mrs. Ladwig is Vice President & Deputy for the Commercial Civil Space line of business for LM. In this role she is responsible for overseeing the management of commercial and civil space programs for human and robotic deep space exploration, weather and remote sensing and other cutting-edge technologies. She is a strong advocate of NASA's ARTEMIS mission with LM design, building and testing the ORION spacecraft. Mr. Anderson is Spacecraft Engineering Senior Director for LM

October 15 Subject: Fraud and Scams Targeting Colorado

Speaker: Officer Scott Moore, Crime Prevention Specialist, Louisville, Co. Police Department. This presentation will address the top 10 scams facing older adults in Colorado. Learn how to recognize these scams, and what to do to protect yourself from being a victim.

November 12 Subject: Neurological Science

Speaker: Dr. Adam Wolff

Dr. Adam J. Wolff most recently hails from the prestigious Stanford University where he completed a fellowship in Neurophysiology. He is a Chicago native who graduated from the Rush Medical College and completed his neurology residency at Northwestern University. He is board certified in Neurology, Neurophysiology and serves as the Director of Neurology and Stroke at Porter Adventist Hospital. Dr. Wolff welcomes patients with all neurological problems and as a Neurologist has special interests in EMG and Botox therapy. An electromyography (EMG) is a medical test that measures the electrical activity of muscles and nerves. It helps diagnose conditions that affect the neuromuscular system, such as muscle weakness, numbness, tingling, and muscle spasms.

NO MEETING IN DECEMBER

Finally, PACESETTERS was organized to provide support for those seniors who have needs. No one need stand alone in PACESETTERS. Let us never hear the words "No

one noticed her.” If you need support please call Bill Wise, President to chat (720 636 5823).

Thanks to the PACESETTERS advisory board, Gene Dionne, Matt Grogan and Al Nemes for their awesome insight and support to our club. Thanks also go to Jim Pennington, Dan Ellerhorst, and Steve Sande for providing the real time PACESETTER articles on Facebook and the MARS Associates website.

Carpe Diem,
Bill

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 during play, as that’s what most prefer. We play **at the Buck Community Recreation Center in Littleton on the 3rd Friday of each month, from 10 AM to 2 PM.** The next quarter, we are scheduled to play on 18 July, 22 August (4th Friday), and 19 September 2025.

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-South Suburban 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).

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.

Contact us to be added to the email list. Each month, an email is sent to Bridge Club participants about the 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’s always room for more players, as the room will accommodate up to 6 tables. Check out the MARS website under “Clubs/Bridge Club” for more details.

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

Presidents:

Dave & Kathy Martz, 303-229-1331

Vice-President:

Bill Kacena, 303-973-2685

The 2nd Quarter 2025 winners are as follows:

18 April (3 tables)

1st – Bill & Mavis Kacena

2nd – Mark & Jan Ugale

3rd Tied – Tammy Maccalous & Sandy Mossman
and Dave & Kathy Martz

16 May (3 1/2 tables)

1st – Ernie & Cecile Berliner

2nd – Mark & Jan Ugale

3rd - Dave & Kathy Martz

4th – Mike Davis & Mary Stirling

20 June (5 tables)

N/S 1st – Mark & Jan Ugale

N/S 2nd – Ed & Laurie Bock

E/W 1st Tied – Betty Hirst & Wayne Jackson
and Bill & Mavis Kacena

Car Club

By Roger Rieger

(rrieger10731@gmail.com)

303-912-6217

Dave Ernst

(Dave.Ernst.157@gmail.com)

(303)-588-2747

Five thousand miles in 6 weeks! Yup, I’ve been getting the new (to us) “silver” car out for some road trips! Arizona for golf with my FROG’s group of retired LM/ULA friends, a trip with our car club to Taos and Santa Fe, and several road trips to Steamboat, enjoying the beautiful Colorado mountain scenery. I hope you’ve been putting some fun, recreational miles on your “steeds”!

For those in town, the car club continues to get together at the Lonetree Cars and Coffee, held the first Saturday of every month at the Rio parking lot in Park Meadows. You don’t need to be a club member to come out and show off your ride, just have an interest in cars and like-minded car nuts! Also, the Car club will have its annual show in conjunction with the MARS picnic on September 10 at Clement Park so don’t forget to sign up for the picnic, clean up your ride, and show it off at the picnic! We always have a good time, and the voluntary “entry fee” is donated 100% to the Toys for Tots program. Hope to see you there!

Stay in touch with the Car Club through our MARS Car Club Facebook page, MARS Associates website link, or by contacting either Dave or myself to get added to our email distribution. There is nothing special you need to do to join the MARS Car Club, all it takes is to be a MARS member in good standing, and a desire to have fun! If you are interested in joining the club, please drop either Dave or myself an email, we’d love to have you!



Golf League

Sandy Mossman
(smoss5592@gmail.com)

Its mid-way through our golf league season and play is continuing through both the windy cool and windy hot weather we have had. Luckily, the first tee time has been dropped to 8:00 to help beat the heat but will jump back up in Sept. and Oct. The remainder of the season, from July through the month of October, should provide us good weather and we look forward to continuing to enjoy our weekly events including variations of best ball: 2 and 4 team best ball, Cha Cha Cha, Lone Ranger; as well as shambles, scrambles, and individual play events. On August 14th and 21st the league will have a combined two week annual championship tournament paying low net winners, closest-to-the-pin winners on Par 3 holes, and also awarding the medalist trophy to the low gross score player. In order for a tournament member to win placement prize money (top six places), they must play in both weeks of the tournament. There is also a celebratory picnic scheduled post-golf in September for prize awards



From a nature aspect, a third bald eagle has made Broken Tee his (her?) home. This one is on the east side of the river and has entertained the league with perching on the tree by the lake on hole 4. Of course, this has been a bit risky as he is in the path of errant tee shots from the back tees. The pair of eagles on the back nine have been a little more secretive and moved their nest to the back of hole 17. We heard they did have young ones but we have yet to see any. They are fun to watch for and make the round just a little more fun.



Our league (68 members) is a good mix of men and women who enjoy golf and the company of each other. If you and/or your spouse enjoy playing golf and would like to join our league, or experience play as a guest player, please feel free to contact me at the email addresses listed above. We encourage you to log on to our MARS website www.marsretirees.org and click on "Golf" to get a complete update on our league activities, membership and much more. You will see that our past weekly result shows women and men throughout our high to low handicap index system have won prize money in varying flight categories.

Hiking Club

By Beth King
(bethking80111@hotmail.com)

The weather is finally cooperating for hiking! We've had two amazing hikes this spring. The first was coordinated by Mike Bartlett. A group of 10 MARS hikers enjoyed a nice 3.2-mile hike at Sandstone Ranch Open Space on Friday, April 11, 2025. The weather was a perfect, sunny Colorado day and the hike was an easy to moderate hike with diverse terrain, junipers, rock outcroppings and beautiful views. We finished up the hike by having a great lunch at the Wide-Open Saloon in Sedalia.



Left to Right - Jeff Schnackel and Lynn Schnackel, Rich Reynolds, Jerry Boisvert, Neal and Beth King, Joe Wuest, Mike Bartlett, Jim Crocker



Jayson Cowley, Paula Pinkley, Rich Reynolds, Debbie Mues



Clockwise - Rich Reynolds, Jeff Schnackel and Lynn Schnackel, Neal and Beth King, Mike Bartlett, Jim and Barbara Crocker, Joe Wuest,

On May 23 Debbie Mues, Paula Pinkley, and Rich Reynolds joined host Jayson Cowley for the Mt Galbraith hike a mile west of Golden. The AllTrails app ranked it as moderate - but some would challenge that rating given the occasional steep, rocky steps on the trail. Although there were lots of other hikers, many accompanied by their 4-legged friends, it was a serene and beautiful day with just enough clouds to keep us cool. Plentiful wildflowers, hummingbirds, and a few skunks provided excuses to pause and catch the panorama of the front range below. Afterwards, the group enjoyed lunch from the quirky menu at 49th State restaurant.



Debbie Mues, Paula Pinkley

We continue to need volunteers to organize hikes in 2025. It's very easy to organize and we have a great "how to" guide available. If you wish to join the MARS Hiking Club, contact Beth King at bethking80111@hotmail.com who will add you to the club distribution list. Please provide your email address, home phone and cell phone for the roster. The schedule of hikes is posted on the MARS website (<https://www.marsretirees.org/>). We are planning a hike in July in the cool foothills with details to follow.



Photography Club

By John Chapter

johnchapter@msn.com

The MARS Photo Club meets monthly, 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. Last year, we had our holiday luncheon at Cafe Jordano.

We meet on the second Thursday of each month. The meetings are at 1 pm, virtual via ZOOM. 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 with members taking turns acting as the judge for the competition. The club's schedule is posted on the club's webpage, in the club section of 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. The ZOOM attendance can be accomplished via cellphone, tablet, or desktop computer, with or without attached video camera.

For more information, you may contact the club vice-president, Jim Kummer, via email at jkummer@comcast.net.

Colorado Springs LM Retiree Group News

By Doug Tomerlin
dougincs@aol.com

The Colorado Springs LM Retiree Group is an organization for retirees from LM and from heritage companies Philco, Philco-Ford, Ford Aerospace, and Loral. A large percent 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 LM Retiree Group is in the planning stage to hold a luncheon in mid to late September **in Colorado Springs**.

If you would like more information about the Colorado Springs LM Retiree Group, luncheons, and other activities, please contact Doug Tomerlin at dougincs@aol.com.

Cape Canaveral News

By Dan & Kelly DeFazio

[\(defazio321@yahoo.com\)](mailto:defazio321@yahoo.com)

Luncheons

May 2025 – A nice turnout this month with the reunion bringing us some new faces. Regulars Abe Smith, Ron Price, Roger Wright, Kathy Klein, Dan and Kelly DeFazio and Bob Matschner joined us as well as first timers George and Kathy Avis, Jim Simmons, Cindy Olsen, Sean Ryan, and Ben Duesenbery here from New Mexico.

Lots of discussion about the events last weekend and how well everything went and how organized all the activities were. Hats off to the reunion committee. It was so nice to see co-workers that we haven't seen for ages and to catch up and reminisce about old times on the Titan Program. I was surprised at the number of people from out of state that attended.

I want to let you know that starting next month Dan and Kelly will be taking over the luncheon and will be the main contacts for any Titan Retiree's news. I think it was time for some younger blood. I have enjoyed being your scribe and still plan to attend the luncheons and provide any help that I can.

June 2025 – Good morning, it was great seeing the usual retiree lunch crowd today plus a new face or two as well. Among the crowd were: Dick Olson, Ken Webb, Jim Simmons, Judy Biancone, Roger Wright, Abe Smith, George and Kathy Avis, Laverne Jones, Dave Austin (aka Big Ugh), Kelly DeFazio and me.

We were still talking about the 20th Anniversary celebration with new ideas brought forward for the NEXT big anniversary that could even be aboard a cruise in a large group reunion style celebration. We won't be planning that for a while, so we're letting the idea "cook"! Maybe there'll be another survey in our future 😊.

We talked about just how fast each of us have driven our cars in various places. I'm not sure who had the record but I'm glad the statute of limitations has run its course.

In case you were wondering where the best snorkeling in the world is -- we decided it is off the Florida Keys; how lucky we are to be so close.

We ended our table talk reminiscing about how many of us at the table had actually "blown" something up while at work. There was mention of an explosion in the Clean Lab, a Meltdown in the Clean Lab, and oh yeah, an explosion of the HVAC at one of the Launch pads. But we aren't telling who did what! You know what they say.... once you have something crazy like that happen, you are

the best employee ever because you DEFINITELY make sure nothing horrible like that will happen again.

Take care and mark your calendar for July. Our lunch will be the SECOND Thursday in July the 10th. We moved it out a week to accommodate any 4th of July weekend plans.

July 2025 – Meeting cancelled due to lack of availability of the meeting facility.

Recent Obituaries

None to report.

LM (LM) News

CAPE CANAVERAL SPACE FORCE STATION, Fla., May 30, 2025 /PRNewswire/ -- At 1:37 p.m. EDT today, the eighth GPS III space vehicle—designed and built by LM (NYSE: LMT) —successfully launched from Cape Canaveral Space Force Station, Florida. It achieved signal acquisition shortly thereafter.



GPS III SV08 is seen in Colorado cleanroom, alongside a photo of its liftoff. Credit: Lockheed

Similar to its [rapid response predecessor in December 2024](#), GPS III SV08 executed an accelerated launch call-up, shipping from its cleanroom in Colorado and undergoing launch preparations in Florida in just over three months, compared to the typical timeframe of several months.

"Our team is thrilled to support another launch of a critical GPS satellite, just five months since the last liftoff," said Malik Musawwir, vice president of Navigation Systems for LM Space. "This demonstrates LM's ability to rapidly launch and deploy national security space assets, and we look forward to putting the next two GPS III satellites on orbit to further enhance this critical constellation."

These GPS III satellites will play a vital role in providing accurate and resilient positioning, navigation and timing (PNT) capabilities to both civilian and military users,

enabling critical applications such as aviation, maritime, and land transportation, plus search and rescue operations. For military users, the advanced security features and anti-jamming capabilities of GPS III – and the follow-on GPS IIIF – satellites are particularly crucial, as they will ensure uninterrupted access to precise navigation and timing data, even in contested or denied environments, thereby supporting national security and defense operations.

SV08 is now under operational control at LM's Denver Launch & Checkout Operations Center until its official acceptance into the current operational GPS network.

Ground Operations for Space Security

In addition to building the spacecraft at its Littleton, Colorado facility, and providing early on-orbit operations, LM plays a major role in the continuation and maintenance of the modernized GPS ground segment—also known as the Architecture Evolution Plan.

This architecture is core to operating the 31 active GPS satellites on orbit, enabling them to provide life-changing PNT capabilities that our modern world relies.

The ground segment underpinned by LM is responsible for monitoring and controlling the GPS satellite constellation, as well as providing navigation data to its users. It consists of a network of monitoring stations, master control stations, and ground antennas located around the world.

Most recently, LM has further enhanced GPS' ground segment by incorporating M-Code Early Use into the system, which allows for worldwide use of a specialized, secure military communications signal by American and allied troops.

Once declared operational, GPS III SV08 will be the eighth GPS III satellite in space with boosted M-code, strengthening navigation, precision, and anti-jamming for critical military operations.

LM was also [recently awarded](#) a contract modification for two additional future GPS IIIF satellites to further enhance the constellation.

United Launch Alliance (ULA) News

Atlas V precisely delivers the first grouping of operational broadband satellites for Amazon's Project Kuiper constellation.



Atlas V rocket carrying the Kuiper-1 mission lifts off from Space Launch Complex-41. Photo by ULA.

Cape Canaveral Space Force Station, Fla., (April 28, 2025) – A United Launch Alliance (ULA) Atlas V rocket carrying the Kuiper-1 mission for Amazon’s Project Kuiper lifted off on April 28 at 7:01 p.m. EDT from Space Launch Complex-41 at Cape Canaveral Space Force Station. The Kuiper 1 launch marks the beginning of full-scale deployment of the Kuiper constellation and a new chapter in the commercial launch industry as Amazon partners with ULA to deliver a majority of its advanced satellites in low-Earth orbit (LEO).

“This launch is an incredible milestone in Amazon’s ambitious initiative to provide fast, reliable broadband service to unserved and underserved communities around the world,” said Gary Wentz, ULA vice president of Government and Commercial Programs. “We have worked diligently with the Project Kuiper team to place this important mission on orbit and are grateful for the opportunity to continue building upon this dynamic partnership.”

In addition to the successful launch of two Kuipersat prototypes in 2023 and another seven launches aboard Atlas V, Project Kuiper will leverage the next-generation Vulcan rocket for 38 high-cadence, rapid-fire launches, positioning ULA to deliver more than half of the constellation’s more than 3,200 satellites through the world’s largest commercial launch agreement.

“This launch marks the first step towards the future of our partnership and increased launch cadence. We have been steadily modifying our launch facilities in Cape Canaveral to support the capacity for future Project Kuiper missions in a manner that will ultimately benefit both our commercial and government customers as we endeavor to save lives, explore the universe and connect the world,” said Tory Bruno, ULA president and CEO. “The addition of a second launch processing capability allows for dual, simultaneous launch processing between both integration facilities seamlessly.”

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’s (LM) [quarterly profit rises](#) on resilient defense demand (Reuters)
- LM appoints [new CFO](#) as predecessor exits (Investing.com)
- Boeing taps [veteran aerospace CFO Malave](#) to take role (Aviation Week Network)
- New Boeing CFO [barred from defense, LM matters](#) for now (Bloomberg News via MSN)
- Retirees fight LM’s quick appeal push in [annuity suit](#) (Law360)
- LM and workers in Colorado, Orlando [reach new contract](#) (The Denver Post)
- [Whistleblower](#) says LM favored race over merit (The Times of India)
- Protestors call for [removal of LM CEO](#) from Mass General Brigham board (The Boston Globe)
- LM [stock falls](#) after Pentagon slashes F-35 request (Investor’s Business Daily)
- RTX, LM, other [defense stocks rise](#) after Israel hits Iran (The Wall Street Journal)
- LM shareholders [elect board, approve proposals](#) (Investing.com)
- LM declares [third quarter 2025 dividend](#) of \$3.30 (Investing.com)

Tech giants including Oracle, LM quietly [fund Trump's military parade](#) (New York Post)
 Trump wants a record \$1 trillion for defense; the [stocks that could win, and lose](#) (Barron's via MSN)
 Video / LM COO: We are probably at the beginning of a [3- to 5-year surge in defense spending](#) (CNBC via MSN)
 Trump estimates "Golden Dome" will cost [\\$175 billion over 3 years](#) (Defense News)
 Video / LM exec says Trump's ["Golden Dome" will be built domestically](#) (FOX News)
 LM [CEO shares path](#) to making Trump's "Golden Dome" missile shield a reality (FOX News)
 U.S. Army delays decision on [LM's Golden Dome candidate](#) for more tests (Bloomberg News via MSN)
 LM, Boeing [tout Golden Dome credentials](#) at Paris Air Show (Reuters)
 Musk's SpaceX is frontrunner to build Trump's [Golden Dome missile shield](#) (Reuters)
 LM's CEO responds to Trump's [acquisition overhaul orders](#) (Washington Technology)
 Defense firms [closely watching tariffs](#), but split on potential sting (Defense News)
 LM speeds up [European defense tie-up talks](#) amid EU push to buy local (The Wall Street Journal)
 LM, KAI add [drones, rotorcraft, space](#) to expanded partnership (The Defense Post)
 LM to Boeing: How India's Operation Sindoor may [loosen the grip of U.S. defence giants](#) (The Economic Times)
[Anduril is aiming to do to LM](#) what Tesla did to Ford (Barron's)
[Pulling back the curtains](#) on McCarthy's Boeing digs (Politico)
 Greek court [rules against LM](#) in Greek pilots deaths (The National Herald)
 LM launches ["AI Fight Club"](#) to test algorithms for warfare (Space News)
 Established defense contractors lend tech startups a [helping hand](#) (Defense One)
 LM uses IBM's quantum processor to [crack "open shell" puzzle](#) in chemistry (Interesting Engineering)
 LM [increases investment](#) in solid rocket startup X-Bow Systems (Space News)
 LM CEO says government, tech collaboration could ["eliminate" threat of catastrophic wildfires](#) in U.S. (Daily Energy Insider)
 Amentum agrees to [sell unit to LM](#) for \$360 million (Investing.com)
 LM [hires former Pentagon AI lead](#) as tech chief (Washington Technology)
 LM [hires Trump vet](#) Drummond (O'Dwyer's)

HYPERSONICS NEWS

LM to move forward on [developing hypersonic weapons](#) for Navy submarines and surface warships (Military-Aerospace Electronics)
 Hypersonics on the Hill: [ARRW back in Air Force quiver](#), Army to seek new munitions (Breaking Defense)
 Army names new hypersonic missile ["Dark Eagle"](#) (Stars & Stripes)
 Blackbeard ["cheap" hypersonic strike missile](#) being developed for U.S. Army (The War Zone)
[Mystery missile test](#) launched from Cape Canaveral (Aviation Week Network)
 Navy [axes its hypersonic anti-ship cruise missile](#) plans (The War Zone)
 Reduced funding slows MDA's [hypersonic interceptor](#) development (Defense News)

SPACE SYSTEMS NEWS

LM [delivers completed Orion](#) to NASA for Artemis 2 (Space News)
 White House moves to [end NASA's SLS, Orion and Gateway](#) (Aviation Week Network)
 NASA budget would [cancel dozens of science missions](#), lay off thousands (Space News)
 Massive [cuts to NASA science](#) proposed in early White House budget plan (The Washington Post)
 LM has a plan to [bring samples of Mars to Earth](#); it could save NASA billions (Autoevolution)
 DARPA says decreasing launch costs, new analysis led it to [cancel DRACO nuclear propulsion project](#) (Space News)
 Space Force's first next-gen missile warning [launch pushed](#) to 2026 (Defense News)
 LM [loses experimental satellite](#) after Firefly launch mishap (Defense News)
 What LM learned from [lost tech demo](#) (Aviation Week Network)
 Space Force FORGEing ahead with [missile warning ground system](#) (Breaking Defense)
 Space Force [orders two more GPS IIIF satellites](#) for \$509.7 million (Space News)
 SpaceX launches [latest GPS III satellite](#) for U.S. military (Space News)
 Space Force demos [rapid turnaround](#) on latest GPS III launch (Space News)
 U.S. Space Force taps 12 firms for \$237 million [small-satellite procurement](#) (Space News)
 Pentagon to consider [SpaceX alternative](#) for Space Force satellite program (Space News)
 Navy seeks to fast-track [nuclear weapons systems](#) (Defense News)
 Amazon Project Kuiper deployment begins with first [ULA launch](#) (Via Satellite)
 First Kuiper launch down, [79 to go](#) (Aviation Week Network)
[Atlas 5 launches](#) second set of Project Kuiper satellites (Space News)

SpaceX replaces ULA as the Pentagon's [top launch service provider](#) (Aviation Week Network)
SpaceX scoops up another national security launch while [ULA faces scrutiny](#) (Military.com)
SpaceX scores \$81.6 million Space Force contract to [launch weather satellite](#) (Space News)
NASA, Pentagon [push for SpaceX alternatives](#) amid Trump's feud with Musk (The Washington Post)
ULA testing OpenAI's [government-compliant chatbot](#) (Space News)
Podcast / ULA CEO Tory Bruno on [navigating the space race](#) (Aviation Week Network)

AERONAUTICS NEWS

USAF [slashes F-35 buy](#), boosts next-gen fighter in unconventional 2026 budget proposal (Defense One)
[What might the future hold](#) for the F-35? (Air & Space Forces Magazine)
The F-35, mocked by Musk, finally [shows what it can do](#) (Newsweek)
13 retired [4-stars urge Congress](#) to fund E-7 and more F-35s (Air & Space Forces Magazine)
LM [will not protest NGAD](#) award to Boeing, looks to "supercharge" F-35 instead (Air & Space Forces Magazine)
LM champions [fifth-gen-plus](#) standard after F-47 loss (Aviation Week Network)
What a ["Ferrari" version of the F-35](#) might look like – and what the Pentagon thinks (Air & Space Forces Magazine)
Possible LM F-35 upgrades provide [hints of NGAD priorities](#) (Aviation Week Network)
Plans to finally give [F-35 external fuel tanks](#) emerge in new Air Force budget (The War Zone)
LM has path to [pilot-optional F-35](#), CEO says (Breaking Defense)
Trump floats major new [upgrades for F-35 and F-22](#) (Aviation Week Network)
Trump wants a twin-engined F-35; experts say it's ["not feasible"](#) (Breaking Defense)
[Pentagon silent](#), aviation experts baffled by Trump's fighter comments (Defense News)
Eyeing risk of radar "delays", LM proposes [new F-35 fuselage design](#) (Breaking Defense)
Honeywell preparing derivative, clean-sheet designs for [F-35 upgrade](#) (Aviation Week Network)
F-35 [contracts slip](#) in delays unrelated to radar woes (Air & Space Forces Magazine)
LM believes it has [finished F-35 TR-3 upgrade](#), executive says (Breaking Defense)
[F-35 Block 4](#) will be "most aggressive upgrade" (National Defense)
The world's top jet fighter is about to get [more expensive](#); foreign parts may now be subject to tariffs (The Wall Street Journal)
U.S.-China [rare earths deal](#) may omit LM's F-35 (Investor's Business Daily)
[Maintenance costs will spike](#) as militaries add advanced planes, report says (Defense News)
LM gets \$180 million to [convert three F-35 jets](#) to test aircraft (Air & Space Forces Magazine)
Commentary / It's time for the Air Force to [embrace the F-35](#) (Air & Space Forces Magazine)
Marine aviator describes [historic F-35 combat sortie](#) in mission against Yemen's Houthis (Military.com)
F-35's [close call over Yemen](#) raises questions about how it's used (Task & Purpose)
Two elite Marine Corps pilots reveal [what it's like to fly an F-35B](#) fighter jet (Military.com)
With [new jets](#), Marines need new weapons for future fights (Defense News)
Carney vows to [retool Canada's weapons sourcing](#) amid Trump threats (Defense News)
Canada faces dense defense-acquisition docket as [F-35 review looms](#) (Defense News)
Carney says [Canada met with European suppliers](#) amid F-35 review (Bloomberg News)
Audit projects Canadian F-35 acquisition [costs will nearly double](#) (FlightGlobal)
F-35 cues ground artillery in "minutes" with [new data gateway](#) at major NATO exercise (Air & Space Forces Magazine)
UK [confirms F-35A order plans](#) to boost nuclear mission (Aviation Week Network)
UK F-35 plans clarified, but [no timeline for 138 jets](#) (UK Defence Journal)
New British nuclear strike jet [can't be refueled by RAF](#) (UK Defence Journal)
RAAF [connects F-35 simulators](#) to LM network (Australian Defence Magazine)
Denmark receives [four more F-35s](#); half of fleet now home after delays (Defense News)
Belgium braces for [first F-35 delivery](#) this fall (Defense News)
Belgium gets approval for its remaining [F-35s to be assembled in Italy](#) (FlightGlobal)
Switzerland in talks with U.S. as [cost of F-35A fighter jets rises](#) (The Straits Times)
German Air Force looks to ease [F-35 dependence concerns](#) (Aviation Week Network)
LM strikes [F-35 deal in Portugal](#) despite jet purchase doubts (The Defense Post)
F-35 nations prize spare parts, as [U.S. dismisses kill-switch angst](#) (Defense News)
Commentary / S-400s or not, [don't give Turkey the F-35](#) (Breaking Defense)
Video / Watch a pair of [F-35s hover](#) over the USS America (Military Times)
F-21 a ["stepping stone" for India](#) to acquire F-35 stealth jets, LM CEO says; hints Delhi, Riyadh likely customers (The EurAsian Times)
Video / Hop inside the [cockpit of an F-35](#) for touch-and-go landings (Military.com)

New [F-22 upgrade package](#) to keep the jets viable laid out (The War Zone)
 Video / Watch an [F-22 Raptor drop flares](#) over Miami during an air show (Military Times)
 Air Force chief responds to possibility of buying [new "Block 80" F-16s](#) (The War Zone)
 Air Force won't renew [F-16 depot contract](#) with LM (FOX Carolina)
 LM [announces layoffs](#) (FOX Carolina)
 LM sees F-16 conformal fuel tanks, offsets boosting [offer to Philippines](#) (FlightGlobal)
 Philippines defense boss [throws cold water on large F-16 buy](#) from U.S. (Defense News)
 Tech transfer pledge steers Thailand to [pick Sweden's Gripen](#) warplane (Defense News)
 Climb inside LM's [latest F-16 flight simulator](#) (FlightGlobal)
 LM advances [synthetic aviation turbine fuel](#) capacity for F-16, C-130 (The Defense Post)
 LM [expands C-130J wing lifespan](#) by 40% with new test campaign (FlightGlobal)
 Choice of C-130 for new Navy "Doomsday Plane" [questioned in watchdog report](#) (The War Zone)
 LM [C-130 missile-carrying role](#) nears operational status (Aviation Week Network)
[Buying KC-130Js](#) key to Navy's ability to fight in Pacific, Reserve boss says (The War Zone)
 Vietnam kicks off trade talks with U.S. as [plane deal](#) takes shape (The Straits Times)
[Vietnam minister meets LM](#), SpaceX on U.S. visit for tariff talks (Reuters)
 Competitors for [U.S. Navy's new trainer](#) praise requirements change (Aviation Week Network)
 Video / Watch a [C-5 Galaxy open its mouth](#) and spit out three AH-64 Apache helicopters (Military Times)
 Skunk Works starts [flight tests for CMMT-X](#) vehicle (Aviation Week Network)
 NASA's X-59 goes through grounded [flight simulations](#) (Military-Aerospace Electronics)
 NASA chief voices [support for supersonic X-59](#) at Paris Air Show (Aviation Week Network)
 LM, IBM unveil [smart drone swarms](#) to adapt and evolve in live battle zones (Interesting Engineering)
 LM, Red Hat partner on [drone swarm technology](#) (The Defense Post)
 LM partners with Electra to boost [eSTOL EL9 development](#) (Aviation Week Network)
 Was it scrap metal or an alien spacecraft? The Army asked an [elite defense lab](#) to investigate (Wall Street Journal)

MISSILES AND FIRE CONTROL NEWS

LM wins [\\$1.7 billion deal](#) for "eyes of the Apache" (Defense Blog)
 LM to manufacture [sensors for Polish Air Force](#) AH-64E Apache helicopters (The Defense Post)
 Dutch [Apaches to gain JAGM](#) weapons capability (FlightGlobal)
 Army asks LM to build [launchers for artillery rockets](#) with multi-mode guidance in \$742 million deal (Military-Aerospace Electronics)
 Army unveils plans to acquire two different sizes of [autonomous launchers](#) (Breaking Defense)
 LM awarded \$214 million to [upgrade M270 MLRS](#) for U.S., allies (The Defense Post)
 Final batch of [British MLRS launchers funded](#) (UK Defense Journal)
 U.S. Army, LM demonstrate [joint integrated fires](#) (The Defense Post)
 U.S. Army, LM conduct [first PrSM flight from MLRS](#) M270A2 launcher (Army Technology)
 PrSM ballistic missiles loaded with [Coyote drones, Hatchet mini smart bombs](#) eyed by Army (The War Zone)
[Australia joins](#) U.S. Precision Strike Missile program (Asian Military Review)
 U.S. helps Israel [shoot down barrage](#) of Iranian missiles (The Associated Press via Military.com)
[Saudi Arabia activates U.S. THAAD](#) to deter looming Iran missile threat (The Jerusalem Post)
 LM [offers UK missile shield](#) amid growing Russian aerial threats (Army Recognition)
 Mysterious [shipping container rocket launcher](#) spotted at Trump's visit to Fort Bragg (The War Zone)
 Everything we learned about LM's [QuadStar missile](#) aimed at replacing FIM-92 Stingers (The War Zone)
 LM drawing on European partnerships to handle [weapons demand surge](#) (National Defense Magazine)
 Navy leaders look to [expand munitions options](#) as supplies run low (Defense News)
 British Army tests lightweight [Javelin antitank weapon](#) at record range (Defense News)
 Israel in advanced talks with U.S. to buy [JASSM missiles](#) (Globes)
 LM, Rheinmetall renew [missile collaboration](#), eye European "center of excellence" (Breaking Defense)
 LM sees "sense of urgency" supporting [munitions JV talks](#) (Aviation Week Network)
 Poland delivers first [Patriot PAC-3 MSE launch tubes](#) (Kyiv Post)
 Taiwan toughens air defense by forming [fourth Patriot battalion](#) (The Defense Post)
 Taiwan [test-fires U.S.-furnished HIMARS](#) for first time (Stars & Stripes)
 First U.S.-made [HIMARS launchers](#) arrive in Estonia (Stars & Stripes)
 Video / Watch two M142 [HIMARS hurl rockets](#) downrange during training in Estonia (Military Times)
 Marines deploy [drone-killing MADIS system](#) for Balikatan drills (Defense News)
 Updated Sniper pod to [help F-35 share data](#) with other aircraft (FlightGlobal)

New details on F/A-18 Super Hornet's [troubled IRST pod](#) (The War Zone)
LM to lay off 64 workers at [Andover clean energy facility](#), citing "program changes" (The Boston Globe)
LM, Romania's Sinteza [cancel battery production project](#) (SeeNews)

ROTARY AND MISSION SYSTEMS NEWS

LM secures \$3 billion [Aegis missile defense contract](#) (Investing.com)
LM delivers first [SPY-7 radar antennas](#) to Japan (Breaking Defense)
Sweden to purchase LM [radar systems](#) for \$104 million (Investing.com)
Sweden's stealthy Visby corvettes getting [Mk 41-based vertical launch systems](#) for air defense missiles (The War Zone)
LM pitches [containerized launchers](#) to help close Australia's air and missile defense gaps (The War Zone)
Missile Defense Agency's [long-range radar tracks ICBM test target](#) for first time (Breaking Defense)
Poland [cancels acquisition](#) process for 32 Black Hawk helicopters (The Straits Times)
State Department approves \$1.4 billion [helicopters, F-16 parts sale to UAE](#) (The Hill)
U.S. Navy MH-60Rs get serious about [counter-UAS mission](#) (FlightGlobal)
New "Marine One" becomes first helo with [SpaceX Starshield](#) (Aviation Week Network)
[Uncrewed rotorcraft](#), clean-sheet designs vie for contested logistics (Aviation Week Network)
Sikorsky set to fly [second rotor-blown wing design](#) (Aviation Week Network)
U.S. Army, GE, Sikorsky complete [T901 hover test](#) (Aviation Week Network)
Sikorsky and Bristow sign agreement supporting [world's largest S-92 helicopter fleet](#) (Aviation Pros)
Sikorsky sees [growing role for AI, automation](#) in helicopter operations (FlightGlobal)
LM "looking for partners" on [NATO next-gen helo bid](#), will build in Europe (Breaking Defense)
LM outlines "turnkey" bid for U.S. [Army helicopter training](#) contract (FlightGlobal)
LM to [cut Fort Bliss jobs](#) as Texas layoffs extend (The Dallas Express)
Video / An exclusive look at the [LM S-97](#) (Aviation Week Network)
LM plans [layoffs in a Sikorsky division](#) in southern Maryland (Maryland Business Journal)
Britain to upgrade [military pilot training](#) with \$400 million package (Defense News)
LM Canada wins [Chilean Navy contract](#) (The Santiago Times)
Navy finally finds [something the LCS is good at](#): Stopping drug smuggling (Task & Purpose)



Join Us for the Annual Rite of Summer...

2025 MARS ANNUAL PICNIC

The Officers and Directors of MARS Associates invite you, your spouse or companion, and your friends to celebrate the end of summer with an old-fashioned barbecue picnic complete with BBQ pork, chicken, and brisket plus all the trimmings, provided by Smokin' Outlaw Kitchen. There will also be cookies, ice tea, lemonade, water, wine and beer, and door prizes. The event will be **Wednesday, September 10, 2025**, at **Clement Park**, 7306 West Bowles Avenue, Littleton, CO 80123. The event will be in Pavilions A, B, and C located on the east side of the park (map of the park is on the reverse side). The picnic will be held rain or shine. **The BBQ line will open at 12:00 noon.**

Special dietary needs? Please contact Linda Duby at 303-249-1665 or lindaduby@comcast.net with the details.

The cost of the picnic is \$25.00 per person for members and spouse/companion and \$35.00 per person for non-MARS guests. **There are two payment options.** To pay by check, please complete the form at the bottom of this flyer and mail it with your check (**made payable to MARS Associates**) to the address on the form. To make your reservation and pay electronically, please use the link below:

STRIPE (ctrl+click): <https://marsretirees.org/2025/07/08/2025-mars-annual-picnic/>

Reservations must be received by August 29, 2025

If you must cancel, please notify Linda Duby at 303-249-1665 or lindaduby@comcast.net; or Charlie Haupt at 303-725-7595 or qcrfccoach@gmail.com by August 29 to receive a refund. **Admission is by reservation only.** Pick up name tags and drawing tickets as you enter the picnic area. The name tags will be available at 11:00 a.m.

----- **Reservation Form (detach here)** -----

2025 Annual Picnic Reservation Form – September 10, 2025. Please print clearly.
Mail to: MARS Associates, PO Box 1128, Littleton, CO 80160-1128

Member _____ Spouse/Companion _____

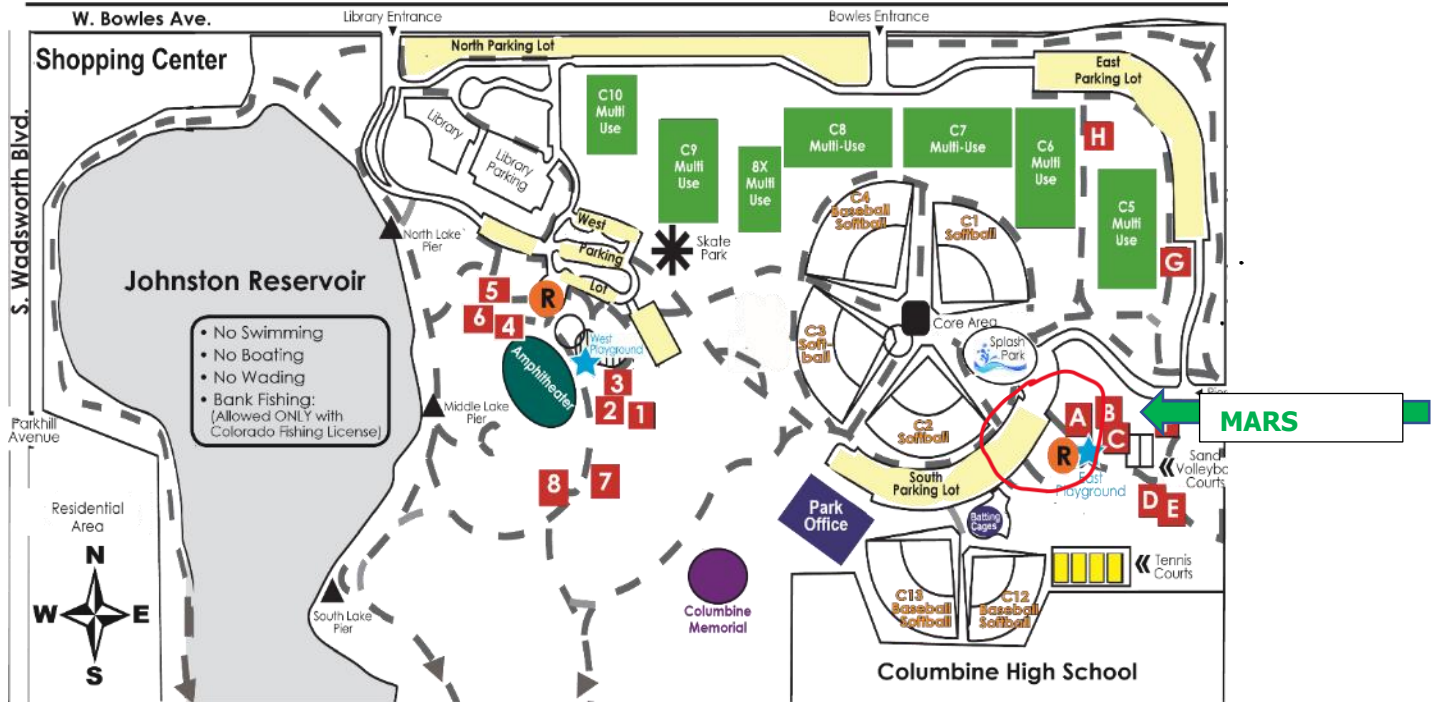
Non-MARS Guests _____

Member Phone No. _____ Email address _____

Member/Spouse or Companion @ \$25.00 per person = \$ _____

Non-MARS Guests @ \$35.00 per person = _____

Total enclosed \$ _____ Check Number _____



The picnic will be held in Pavilions A, B and C.

Summer Luncheon Honoring Seniors at The Manor House -- Photos by Carol Lovelace



The Manor House, Littleton, CO



Dave Steele, Bill & Marj Wise



Diane & Bart Wright



Linda & Larry Stearns



Beverly Warren, Jim & Ruth Miles



Dick & Luanne Sosnay



Bob Stevenson, Larry Major



Susan & Carl Schultz



Sally & Allen Sanders



Janice & Tom Redfield



Barb & Steve Sande



Susan Dozier, Joel Porter



Joni Rosenberger, Leo Johnson



Cheryl & Ken Marts, Jim Pennington



Roger Rieger, Kathy & Gary Hetzel



Karen Paulson, Beth Worthington, Shar Petty



Laurie O'Shea, Mike Lohaus



Shannon Maginn, Shar Petty, Beth Worthington



Bill Oliver, Shirley & Mike Pfister, Fred Luhman



Carol Lovelace, Karen Paulson, Judy Nielsen, Char Noble



Al & Marilyn Nemes



Matt & Judy Lacy



Bud & Cathy McAnally



Kevin & Linda Kiefer



Tammy Bank, Mike Kess, Lynn Cain



Richard & Carolyn Hurley



Bill & Mavis Kacena



Lois & Bill Heppler



Lonnie & Paul Jones



Glenda & Charlie Haupt



Nancy Isaacs, Cheryl Borgen



Sharon & Calvin Harr



Jane Farrell, Penny Denny



Mary Stirling, Mike Davis



Gary & Becky Englebright



Lenni & Chuck Curless



Peggy & Gene Dionne



Dave Clair, Horace Clair



Ralph & Carol Dergance



Curt & Phyllis Brudos



Bob & Jayne Brown



Bob & Linda Berry



Dave & Kathy Beach

Visit the MARS Associates Website

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



Seniors:

Front L-R: Carole Dergance, Linda Stearns, Jane Farrell, Penny Denny, Mary Stirling, Luanne Sosnay,
Linda Berry, Ruth Miles, Laurie O'Shea
Back L-R: Ralph Dergance, Al Nemes, Larry Stearns, Cathy McAnally, Bud McAnally, Dick Sosnay,
Bill Kacena, Bob Berry, Allen Sanders, Carolyn Hurley

Schedule Addendum (See last page)

NOTES:

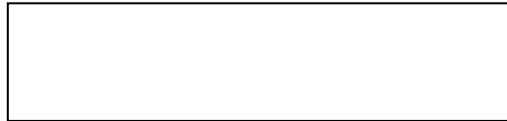
1. Board of Directors has their meetings, as required
2. Officers/Directors meet 1st Wednesday every month at 09:30 am. Zoom meetings may be used at discretion of Officers
3. Special Activities Committee will meet every fourth Thursday or Friday each month.
4. Bridge Club meets 3rd Friday of every month at 10:00 am at Buck Recreation Center.
5. Car Club meets 1st Sat of every month, and as noted on their website.
6. Golf club meets every Thursday from April through Oct of each year.
7. Hiking Club: No planned Hikes at this time
8. Pacesetters Club meets the 2nd or 3rd Wednesday of each month at Landsdowne Arms
9. Photo Club meets 2nd Thursday every month (except Jun, Jul & Aug) at 1:00 pm on Zoom or meet at the Columbine Lib. (Bowles)
10. Marketing Comm. meets monthly and encourages members to call in and participate (contact Kathy Hetzel, if interested)
11. 2025 Picnic Sep 10, 2025 at Clement Park 11AM (Second Wednesday in September)
12. 2025 Holiday Celebration Dec 3 (Lone Tree Golf Club & Hotel)

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



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DATE: July 2025

MARS 2025 / 2026 EVENT CALENDAR

EVENT/MONTH	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Officers/Directors Meeting at RRCU	2	5	3	1	5	3	7	4	4	1	6	3
Bridge Club	18	22	19	17	21	19	16	20	20	17	15	19
Car Club	5	2	6	4	1	6	3	7	7	4	2	6
Golf Club	Thur	Thur	Thur	Thur	-	-	-	-	-	-	Thur	Thur
Hiking Club	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
Pacesetters Club	16	13	17	15	12	---	21	18	18	15	20	17
Photo Club	--	--	11	9	13	11	8	12	12	9	14	--
Special Activities Committee	31?											
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
MARS Events												
2025 15th Annual Rockies Picnic & Game		6										
2025 Annual Picnic			10									
2025 Holiday Celebration						3						
2025 Happy Hour Events		25		TBD	TBD							
2026 Spring Event / Annual Meeting									11			
2026 Summer Luncheon												24
MARS Special Activities												
Wild West Walking Tour - Golden												
Denver Center for Performing Arts (Behind	7											
Central City Opera	23											
Bowling at Crown Lanes		13										
Wine Sommelier Event					TBD							
MARS Informational Sessions												
Taxes in Retirement (Zoom Call)												
Understanding Medicare (Red Rocks CU)			16									
Your Retirement, Your Way (Zoom Call)				7								
Strategic Wealth & Estate Plan'g - Retired Aerospace Professi			24	(new date)								
MARS STAR Schedule												
Items due for MARS STAR												
STAR Input to Editor	10			9			8			9		
STAR Repro. Deadline	21			20			19			20		
STAR Mailing	30			29			28			29		