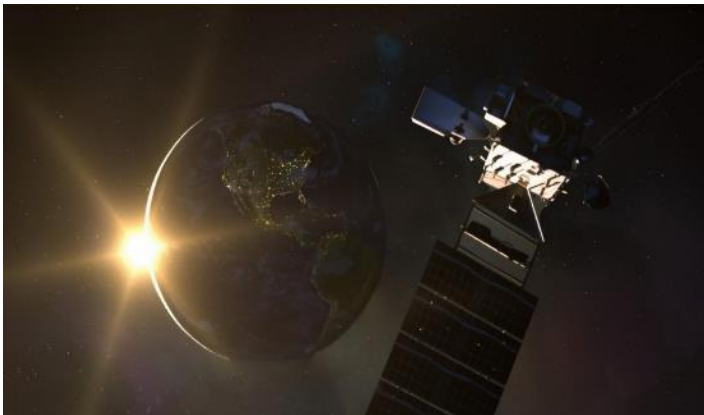


MARS STAR



MARS STAR has gone digital!!

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

Annual Picnic will be on September 11, Page 25
Marketing—Special Activities, Page 09

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

OFFICERS

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

DIRECTORS

Director Chair	Roger Rieger	303-912-6217
Director	Pete Munoz	720-308-1828
Director	Bill Wise	303-771-4887
Director	Jayne Brown	
Director	Monte Kopke	303-973-4301
Director	Kathy Hetzel	303-513-0796
Director	Debbie Carr	303-503-7113
Director	Heidi Urie	303-588-6762
Director	Vacant	

MARS STAR

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

CLUB CONTACTS

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

REMINDER:

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

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

IMPORTANT PHONE NUMBERS

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

OR

HR benefits mailbox, benefits.hr@lmco.com

MARS Important Phone Numbers

(Be sure to have your MARS ID available)

MARS Delta Dental of Colorado

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

Individual@ddpco.com

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

customer_service@ddpco.com

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

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

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

Aetna/Medicare Plus

1-888-562-8111

Kaiser Advantage Plus

303-338-3800

MARS Associates

P. O. Box 1128

Littleton, CO 80160-1128

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

MARS Facebook:

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

Cover:

Left – NOAA's newest satellite will complete the GOES-R series and provide critical weather and climate data.

Photo credit LM (See LM News)

Right – A United Launch Alliance (ULA) Atlas V rocket carrying Boeing's Starliner Crew Flight Test (CFT) for NASA's Commercial Crew Program lifts off from Space Launch Complex-41 on June 5, 2024 at 10:52 a.m. EDT. Photo Credit: ULA (See ULA News)

From the Editor's Desk

Dan Ellerhorst(dan.ellerhorst@gmail.com)

Tom Pighetti (tipighetti@g.com)

Linda Stearns (linda80120@comcast.net)

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

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

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



President's Corner

By Ken Marts
(martshouse2@aol.com)

We're in the Dog Days of Summer as I'm writing this, and it isn't even July yet. The year will be half over by the time you read this STAR issue. I hope you've had an opportunity to join us at one of our major yearly events, Happy Hours, Special Activity events, or participated with any of the six clubs MARS Associates offers. With half the year remaining, there are still plenty of opportunities to join your friends, or meet new ones. I hope to see you at one or more of these events. Look at our website (<https://marsretirees.org>) and/or Facebook for upcoming events and make your plans.

Let me share some GREAT news for the organization! After a stiff competition among several excellently qualified candidates, I want to introduce several new members of the MARS Associates leadership team: Kathy Hetzel and Jayne Brown are joining as new Directors and Jim Pennington will be joining as the President-Elect (YOUR next President in 2026). I'd like to thank both Jim and Mickey Clemons for their service as Directors this year.

Speaking of plans, 2025 will bring a major celebration in Florida for those associated with the Titan program and specifically the last launch in April 2005. Mark your calendars for April 26-27, 2025 for a Team Titan 20-year anniversary celebrating the last Cape Titan Mission B30 launched April 29th of 2005. Look for Kelly DeFazio's article in this STAR. Early pre-planning is underway for this Florida based celebration and information will be posted to the MARS website as well as a survey to list preferences for activities.

MARS Associates is continuing to grow and meet the needs and wants of our large organization. New members are joining to feed the pool of ideas we use in planning events, activities, and special topics. We're developing a new marketing campaign to attract new members of all ages to join us. For those of you that remember your proposal days at LM, this means "**Value Proposition.**" In other words, why join MARS and what does MARS offer? This value proposition is aimed at three groups of retirees; namely, pre-age 65 retirees with pre-Medicare needs and abundant energy and enthusiasm, retirees in the 65-75 age group, and age 75+ or Senior MARS members. Bill Wise's new PACESETTERS Club is an active group fitting this latter category. We welcome your comments and strongly encourage you to get engaged and involved in this effort. For those wishing to help develop the value proposition and didn't get enough of it

when you were working, contact myself or any our officers to offer your ideas. Look for the "**Value Proposition**" article in this STAR.

We're also looking for members to become Officers or Directors in the MARS Associates organization. The rewards for your service are immediate and you get to interface with like-minded, actively engaged members. Don't be shy about your abilities or contributions and you can get started (to get your feet wet) by working with the Marketing team in planning a Special Event. Roles and expectations are available for anyone interested, just reach out to any of the current Officers or Directors.

Another area of improvement for MARS Associates is what I consider key to any organization or our existence as humans: COMMUNICATION. My belief is there can never be too much communication if we want to understand each other. It's always easy to delete an unwanted email if you don't have any interest, but an occasional email may come across your screen that piques your interest. Properly titling the subject can allow you to quickly determine what you read... or don't read. With that in mind, we've enhanced the MARS Associates mass-mailer to inform our membership of all MARS happenings.

I hope you enjoy reading this issue of the MARS STAR and I look forward to seeing many of you at our future events.



Director's Notepad

By Roger Rieger
Chairperson, BoD
(rrieger10731@gmail.com)

Summer time is here and the living is easy! Hopefully you are getting a chance to enjoy this beautiful weather we are having, visiting with friends and family, both near and far. We certainly have been on the go lately, loving this retired life!

Usually, my news reports are all about the need for volunteers to keep our MARS Associates organization strong. And that is still always the case, if you have time and talent and a willingness to step in and step up, please contact either myself or one of the Officers or Board members, we'd love to hear from you!

I am happy to announce we have filled our President Elect vacancy, Jim Pennington, a current member of the BoD volunteered for this position, was nominated for the BoD and Officers consideration, and was selected for the position. Thank you, Jim! Jim's term as president elect

will run through 2025, at which time he will succeed Ken as our MARS President. This is a significant milestone in our succession planning and I am looking forward to Jim and Ken working together and continuing to make MARS a vital and valuable organization. We have also added two new members to the Board of Directors, join me in welcoming Kathy Hetzel and Jayne Brown to the MARS Associates leadership team. Also, please join me in thanking Mickey Clemons for his support to the MARS BoD as he steps down from the board and up to continuing the best job of all - grandpa!

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

By the time this edition of the STAR comes out, MARS will have held a happy hour on July 23 at the Platte River Bar & Grill. I will have more information on the event in the next issue of the STAR.

The next event is the Annual Picnic which will be on September 11, 2024. The picnic will be at Clement Park in Shelters A, B, and C, which is the same location as in the past few years. The food will be catered by Smokin' Outlaw Kitchen. Craft beer, wine, water, and cookies will also be served. The flyer for the event is included in this edition of the STAR. The electronic version of the flyer (electronic payment) is available on the MARS website (<https://marsretirees.org>). The deadline for reservations is August 30. All mail-in reservations must be received by August 30. The electronic link will be available until the evening of August 30.

The final event of the year will be the Holiday Celebration at the Wellshire Event Center on December 4. The flyer and more information on that event will be in the next STAR.



Activities Updates

By Linda Duby
(lindaduby@comcast.net)

The Summer Luncheon Honoring Senior Members was held on June 26 at the Manor House at Ken Caryl Ranch. Normally this event is held in July, but it was decided to try holding it in June. We had a good response this year – 101 reservations which is an increase from last year. The Manor House, as usual, did an excellent job with the food and the service. This venue has become our favorite for this event. It's a beautiful location for a summer luncheon and the Manor House management has been very good to the MARS organization.

Our annual MARS at the Rockies Game and Picnic for 59 members and guests held on June 5 began at noon with a buffet picnic, unlimited fountain drinks and a cash bar for beer and wine. Linda Stearns introduced Lisa Cox to the group. Linda and Lisa worked together this year to organize the event and Lisa will be the event organizer beginning next season. We had a beautiful, hot, sunny day for baseball but appreciated our seats on the 3rd base side in full shade. It was close, exciting game that ended the 8th inning with the Rockies ahead 7-6. Unfortunately, the Rockies lost to the Cincinnati Reds 7-12.



Business

By Gina Curet
(orion43@comcast.net)

What a hot Summer already! I am hoping everyone is staying hydrated and keeping cool. I plan to follow Ken's Value Prop this quarter and tell two member stories about the Pre-Medicare Age and Medicare Age. But first, I want to share some other important information.

Upcoming "Understanding Medicare" Seminar

Mark your calendars and sign-up on the MARS website under "Events" for the 2nd Understanding Medicare Seminar on Tuesday, September 17th; 10:00-11:00 AM at Red Rocks Credit Union located at 8195 Southpark Lane, Littleton.

Changes to Access Your Social Security Account

Soon you will no longer be able to sign in to your online Social Security account using your Social Security username and password. To access Social Security online service, including "my Social Security," you will need to create a [Login.gov](https://www.login.gov) or [ID.me](https://www.id.me). Follow the instructions. The change simplifies your sign-in experience and aligns with federal authentication standards while providing safe and secure access to online services.

Check Out the New Informational Documents Posted Under Benefits > Understanding Medicare

"Retirement Ready Fact Sheet for Workers Ages 49-60" - Social Security Administration (SSA)

"Checklist for Online Medicare, Retirement, & Spouses Applications" - SSA

My 3Q24 Discount Vendor of the Quarter on our Corporate Discounts Page is Ticketsatwork (Company Code LMC), which provides discounts for Brookdale Senior Living

Many members have aging parents and are addressing the 'right' level of care for them or may even be considering additional care for themselves. Whether it is Assisted Living, Independent Living, Memory Care, Skilled Nursing, Continuing Care Retirement Communities or At Home Care, Ticketsatwork offers discounted services with Brookdale Senior Living. Check out ticketsatwork.com website to learn more. They even have 'In the Know' Webinars on the subject

"If you have a family member who needs extra help beyond what you can provide, you don't have to go it alone. Thanks to your employer, you and qualifying family members are eligible for senior living, private duty home care and respite stay discounts that can help your family get the care they deserve. Discounts are available to your family members as well, including: Spouses, Parents, Stepparents, Siblings, In-Laws, Adult Children, Adult Stepchildren, Grandparents, Step Grandparents." They offer a 7.5% discount on senior living, 10% discount on private duty home care, and respite stay discounts which vary by community.

The Importance of MARS Pre-Medicare Age (before 65)

Gina Curet – I was very fortunate to retire from LMC at an early age...56 years old. As I was several years away from Medicare, I had to figure out how to obtain insurance coverages. The great news was that I had COBRA medical insurance for 18 months and only needed to find dental and eye insurance. I found out about MARS and their benefit offerings, became a member (1st year of MARS membership was free), and then signed up for Delta Dental and VSP. All of it was easy, online, inexpensive compared to many industry rates, and very comparable to what I was paying when I was a LMC employee. After the COBRA medical insurance coverage ended, I began to pull my pension and was eligible for LMC retiring medical. Being a MARS Member was extremely beneficial to me and I am thankful that the organization provides these great member benefits!

Post Medicare Age (65+)

Kathy Hetzel - Never having worked for Lockheed or ULA, I wasn't entirely clear on MARS benefits, VIA Benefits or how it all worked. Since I was still working, I let my

husband take the lead on retirement. When he joined MARS and then became Medicare eligible, I didn't listen intently as he researched Medicare options. After I retired, it became my turn to figure it all out! My husband had all his information handy and we knew that I needed to apply for my Medicare card as soon as allowable. I applied and the card came in a few weeks. I decided on a supplemental insurance plan, then out of nowhere, I received a call from a VIA Benefits representative. She called me on my phone (not my husband's), to let me know that as a LM spouse, that I was eligible to purchase my Medicare plan and get the premium subsidy through VIA Benefits. When I told her I was ready to enroll, she quickly switched gears, and in less than one hour, she led me through all the questionnaires, legalities, and information. I was enrolled with far less pain than I had imagined. I could have purchased my Medicare plan through my old PERA employer; however, it was ~50% more expensive. Being a spouse of a LM retiree enabled me to enroll through VIA Benefits, get all my questions answered with ease, receive the \$900 subsidy for myself, and make a positive financial difference for us!

MARS Associates "Value Proposition"

By Ken Marts

martshouse2@aol.com

Why be a MARS Associates member:

MARS Associates is an organization of ~1,300 diverse members sharing a common background (we all worked for Lockheed Martin, Martin Marietta, Lockheed Corporation, United Launch Alliance, or a myriad of companies acquired during our years of service (known as the Corporation hereon). I'd like to believe we also share a love of staying in contact with our friends and look forward to developing new friendships in MARS Associates. We also enjoy participating in our yearly events, special activities that we've been organizing the last three years, the six clubs MARS Associates offers, and the discounts **members only** get for health care, travel, and other Corporate and local discounts.

Our members come from all organizations within the Corporation: Business Operations, Engineering, Production, Contracts, Finance, Mission Success, and we ALL have our stories and histories during our time with the Corporation. Individually we can be proud of our accomplishments; as a team, just as during our working years, we can achieve and accomplish amazing things for our organization. Our members also include the spouses and partners of retired MARS Associate members who can participate in our activities and clubs, take advantage of Corporate discounts, and volunteer as Officers or Directors.

It's these thoughts and goals which propel us forward as we invite new members to join our fold and share in all that MARS Associates has to offer. Our members fit into one of the three following categories with the benefits listed:

Pre-Medicare Age (before 65) – you retired from the Corporation before the Medicare eligibility age (congratulations!) There are <200 current members in this group.

- MARS provides dental, eye, and hearing insurance coverage at competitive industry rates to eliminate the need for you to shop for alternative insurance when you retire and/or when your Cobra benefits expire. You cannot obtain this benefit **unless** you are a MARS member.
- We provide seminars twice annually to help you prepare to sign up for Medicare at age 65 twice annually so that you can get your questions answered.
- We keep you socially integrated and physically active with other retirees through many activities such as golf, hiking, the car club, and photography.
- There are also numerous events throughout the year that span from tours to train rides to a night at the opera.

Medicare Age (65+) – you're in the prime of your life! There are >400 current members in this group.

- VIA contacts you 3 months prior to your 65th birthday (Kathy's story). LM will have VIA reach out to you.
- You are eligible for LM's VIA health benefits which includes direct support through scheduled appointments.
- It includes a \$900 per participant stipend toward your annual insurance costs. You must use VIA to get your Medicare to get this money.
- We have fun clubs (6 to be exact), including a Bridge Club to keep the brain working, with a little competition on the side.
- We also have frequent happy hours, an Annual Picnic, Holiday Celebration, Summer Luncheon for all to honor our Senior members, and Annual Meeting for other opportunities to provide that connection.
- We're all about connecting people either through our events, our website (<https://MARSretirees.org>) or our quarterly MARS STAR newsletter.

Seniors (75+) you want to stay connected and share! There are >500 current members in this group.

- Our new "Pacesetters" club is a social club to share life experiences, camaraderie, meals, books, educational discussions, etc. via email interactions, "Zoom" calls, and periodic lunch gatherings.
- Their goal is to keep in touch and keep going!

- We also hold an annual summer luncheon where all attending members honor our senior and super senior (age 85+) members.
- You can also participate in all the activities and events listed above (Clubs, Happy Hours, Luncheons, etc.). We have fun clubs (6 to be exact), including a Bridge Club to keep the brain working, with a little competition on the side.

Why Become an Officer or Director

Officer and Director positions are open to all members and no-one is turned away from a volunteer position. Our website displays our current Officers and Directors and Roles/Responsibilities are described in our Policy Manual and By-Laws. Volunteering puts you behind the curtain where all the sausage making occurs, gives back to the community, and makes you feel good about your contributions. Annual Event planning, yearly budgets, communication with our members and LM Space/ULA, Happy Hour planning, Special Activity planning, back-office Business Operations, Website maintenance, etc. While the pay isn't spectacular (volunteer pay is never the goal), the positive energy you get and knowledge of what you're contributing to in helping the entire organization is the reward! You also get to work with great people whose organizational skills and uplifting personalities provide that "feel good" sensation when an event is successful and the thanks you get from participants.



Communications

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

I guess we are still getting smarter every day!

I have reported in previous articles on our journey to a new website and e-mail regimen that is based on popular commercial tools that are widely used on the internet. The good news is that we have not had to add or replace any of our commercial product suite. The less-good news is that we are still figuring out the ups and downs, ins and outs, plusses and minuses of the tools in our environment. These are quite robust commercial products and we generally only use a small percentage of their capabilities. None of us are what you would call "power users" so we are usually in learning mode. With time and practice we will get better.

In the meantime, your feedback is **critical**. For now, an e-mail to me or Steve Sande (stevensande@mac.com) will suffice. Or, you could use the suggestions page on the website (<https://marsretirees.org/suggestion-box/>). Bet you didn't even know that was there on the Home

Page! ;-)) One of our new endeavors is to set up a more detailed system (using our current tools) for reporting problems, suggesting improvements, or requesting services. This will be brought online on the website after we have done further prototyping and testing within the website team. Watch for it.

The success ratio of our bulk email capability using Zoho Campaigns is becoming quite high – usually at or just below 100%. We can occasionally get bounces due to traffic on the web or other server idiosyncrasies (translation = we don't know why), but they seem to be getting less frequent. If you are not receiving e-mails from MARS and would like to (or would like to find out why) let me or Carl Kaminski (carlkol66@gmail.com) know.

It was suggested to me that it might be time for another survey, this time focused on Communications. I think that is a good idea and so I am playing around with a free version of Survey Monkey to see if that would be a good way to do it. So far it looks promising. Look for information about this to roll out between this and the next STAR.

Finally, this month I was happy to welcome two new volunteers to our Website Team. Thank you to Gary Hetzel and Cindee Molnar for jumping in!

We Need Your Help

By Tom Pighetti
(tjpighetti@q.com)

The MARS STAR has been one of the jewels in the crown of MARS Associates since its founding over 35 years ago. Many volunteer editors have served over the years to make the STAR an effective and popular means of communication. Although, in recent years, we have introduced new communications paths based on modern technologies, and indeed we have even moved to a digital version of the STAR for the majority of our members, it is still a unique and valuable part of our communications strategy.

Putting together an edition of the STAR is not easy and takes a fair amount of time. We currently have two editors, so each has two issues per year for which they are responsible. We would like to add some volunteers to spread the work and to provide for a smooth succession when the time comes to change editors. We envision these volunteers as serving an "apprenticeship" for a year or so to provide time for learning and hands-on experience, before they take the full responsibility for editing an issue of the STAR.

A successful STAR editor will be familiar with Microsoft Word, be organized with a good attention to detail, and have good writing skills. If you have had work experience with technical writing, proposals, or corporate standards documentation, you will be a good candidate. Better still, if you have already worked as an editor or staff member for another newsletter or paper, or just have a love for the language and writing, you should consider volunteering your skills to MARS.

The editor's task begins with reminders to standing authors of input due dates and ends with the generation of the issue's proof copy. Intermediate steps include: collection of inputs, draft document development, draft review and incorporation of appropriate comments / corrections, addition of picture pages, final formatting, coordination of visit requests and repro work orders with the MARS/LMSS liaison, deliver final product to repro, and pass the seed to next editor. Issues uncovered during development are resolved with authors and MARS officers.

The last issue published serves as the seed/template for the document in development. We are formalizing our style guide and will distribute it to the newsletter contributors to lessen rework by the editors. A step-by-step guide is available for training and coaching.

Please contact either of our current editors, or any MARS Officer or Director if you would like to find out more about this opportunity.



Membership Report

By Carl Kaminski
(carlkol66@gmail.com)

MEMBERSHIP STATISTICS

As of July 1, 2024 there are 1,128 MARS Associates members, including 511 senior members. We have a total of 45 new members who have joined MARS for the 2024 CY to date.

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

Colorado

Castle Rock	Laura & Mike Dougan
Centennial	William Bennett
Conifer	Sherry Woodard & Brian Sompayrac

Denver	Michelle & Bradley Kipp
Estes Park	Jeremiah & Carole Connolly
Evergreen	Charles & Dawn Sagaser
Firestone	Timothy Weldon
Highlands Ranch	Robert & Carolyn Bauer
Littleton	Patrick Houle, John & Marsha LaRue, Matthew Lombardi
Loveland	Lynda & Ken Allen

Other States

Arizona

Surprise Jeffrey & Bobbie McCown

Florida

Cocoa Jerry Mills & Leslie Caron

Cocoa Beach Joseph Hohman

Merritt Island Katherine Duncan

Rockledge Kelly & Dan DeFazio

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 7th. 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 2024. Direct them to the website for more information or have them contact one of the Officers or Directors.

MARS Associates is charged for forwarded mail!!

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

In Memoriam

By Norma Emerson
emer801@msn.com

Please contact me at the above address or at 303-646-1137 with information about the passing of a member the spouse of a member or other MM/LM retirees so they can be acknowledged in the Memoriam section.

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

Booth, Falo (D: October 2023)
 (Survived by Van Booth)
 Berthoud, CO
 No obituary published

Bunch, Walter (D: March 2024)
 (Survived by Carole Bunch)
 Lake Arrowhead, CA
 No obituary published

Carroll, Joe (D: June 2024)
 Naples, FL
<https://tinyurl.com/53upys2v>

Hines, William "Bill" C. (D: April 2024)
 (Survived by Kay Hines)
 Highlands Ranch, CO
<https://tinyurl.com/2s43ye8k>

Jones, Thomas "Tom" (D: May 2024)
 Littleton, CO
<https://tinyurl.com/43c42tpv>

Kannady, Anita (D: April 2024)
 Littleton, CO
<https://tinyurl.com/2acx6pyt>

Kelly, William "Bill" (D: May 2024)
 Golden, CO
 See MARS website for details.

Lecker, Jean "Jeani" (D: May 2024)
 (Survived by Fred Lecker)
 Aurora, CO
<https://tinyurl.com/334zfd5b>

Perkins, Lawrence "Larry" (D: April 2024)
 (Survived by Diana Perkins)
 Highlands Ranch, CO
<https://tinyurl.com/yt56hdp6>

Reynolds, Charles "Buck" (D: May 2024)
 Littleton, CO
<https://tinyurl.com/2zjt4stc>

Wells, Alfred "Al" (D: January 2024)
 (Survived by Helen Wells)
 Littleton, CO

<https://tinyurl.com/bdza2rn>

Woodin, Dorothy "Dot" (D: October 2023)
(Survived by Vernon "Vern" Woodin)
Lakewood, CO
<https://tinyurl.com/3f7hwceh>

Non-Members

Bartlett, Douglas (D: June 2024)
(Survived by Karen Bartlett)
Arvada, CO
<https://tinyurl.com/ycj883k7>

Caravella, Roseanne (D: February 2024)
Denver, CO
<https://tinyurl.com/yjxtj5ck>
Hall, Violet "Vi" (D: March 2024)
(Survived by Robert Hall)
Littleton, CO
<https://tinyurl.com/ysmaa9su>

Howard, Robert "Bob" (D: May 2024)
(Survived by Holly Howard)
Larkspur, CO
<https://tinyurl.com/mr2hadvj>

McCloskey, Alex J. (D: March 2024)
(Survived by Ginny McCloskey)
Austin, TX
<https://tinyurl.com/mvynu5hx>

Neal, Joneita "Joni" (D: April 2024)
(Survived by Ricky Neal)
Littleton, CO
<https://tinyurl.com/4smn6sdy>

Penta, James "Jim" (D: April 2024)
(Survived by Patty Penta)
Menifee, CA
<https://tinyurl.com/mun5683d>

Pierce, Larry (D: June 2024)
Bella Vista, AR
<https://tinyurl.com/ynmbme8r>

Rimbey, William (D: March 2024)
(Survived by Judy Rimbey)
Tucson, AZ
<https://tinyurl.com/3v9kspa2>

Schwartzberg, Fred (D: No date given)
Denver, CO
<https://tinyurl.com/2f9776tr>



Marketing Committee

By Richard Sosnay
(richardsosnay@gmail.com)

The 2024 MARS Special Activities have started off great this year, and it looks like they will continue to be fun.

The following is a summary of our activities planned for 2024

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

Planned 2024 Special Activities		
Activity (Lead) [Participants]	Cost	When
Wine Tasting (Terry Lilly) [41]	\$25 per person	Tues, Apr 23
Colorado Railroad Museum (Robin Zen) [19]	\$11 per person	Tues, Apr 30
The Wild Animal Sanctuary (Carolyn Malaby) [27]	\$20 – \$50 Per person	Tues, May 14
State Capitol/History Museum (Kathy Hetzel) [27]	\$14 per person	Tues, Jun 11
Central City Opera (Sue Janssen) [29]	Dep on Seating	Weds, Jul 24
ULA Plant Tour (Terry Lilly) [21]	Free	May 21
LM Plant Tour (Judy Nielsen)	Free	Aug 28
Denver Mint Tour (Robin Zen)	TBD	Sept
Highlands Ranch Mansion (Carolyn Malaby)	TBD	Sept or Oct
Kansas Cosmosphere (Bill Edwards)	TBD	Aug or Sept
State Capitol/History Museum #2 (Kathy Hetzel)	\$26 per person	Sep 24
Glenwood Springs Train Trip (Ralph Pacheco)	\$108 per person	Oct 9-11
Air Force Acad Planetarium & AFA Tour. Lunch after. (Doug Tomerlin)	TBD	Early to Mid-Summer
Wine Tasting #2 (Terry Lilly)	\$30 per person	Oct

Completed Activities:

Wine Tasting

This function was coordinated by Terry Lilly and Robin Zen. We had a great group of 41 members and guests of MARS Associates participate in the wine tasting on Tuesday, April 23. We sampled six different wines from

the previous tasting. Following the tasting, attendees received a full glass of any wine on the menu.

Water2Wine, located in the Oakbrook Shopping Center (on County Line Road, near Broadway), offers over 40 different wines for tasting. This is a fully operating winery where all their wines are blended, oaked and fermented onsite. They start with grapes sourced from vineyards around the world. Melissa, the owner, explained each of the six wines before we tasted them.

Terry and Robin provided a nice assortment of fruit, cheese, crackers, and chocolates that worked well with wine.

Thank you to everyone who joined the tasting!

Colorado Railroad Museum Tour

On Tuesday, April 30th, a group of 19 MARS members and guests enjoyed a tour of the Colorado Railroad Museum in Golden, led by Robin Zen. We viewed and stepped aboard a variety of locomotives, passenger, and freight cars, dating from the 1880s to the 1980s. These included the Galloping Goose, a rotary ice breaker, and a turntable. Several of the guys participated in moving the railway turntable used for moving locomotives or cars so they face a different direction or change tracks. A handful of us enjoyed an extra tour of the inner workings of the large indoor HO/HOn3 scale model train display, with a full circus, a large city, mountains, trestles, tunnels, rivers, mining camps and more, all replicating the various types of Colorado mountain railroading.

Following the museum tour, we headed to the Yard House for happy hour food and drinks, and great conversation! Thank you to all the attendees for making this a fun and educational event!

The Wild Animal Sanctuary (TWAS)

Our next event was a return trip to the Wild Animal Sanctuary in Keenesburg on Tuesday, May 14, led by long-time sanctuary supporter Carolyn Malaby. Our group of 27 MARS attendees met at the Welcome Center at 9:00, and after the introduction, we were free to explore this amazing place at our own pace. The weather was nice and cool, with a cooling breeze. We enjoyed a tour of the world's largest carnivore sanctuary, home to over 550 lions, tigers, bears, wolves, leopards, and other animals. The Wild Walkway is ABOVE the animals, such that they don't feel threatened and don't pace like they do in zoos -- we saw arctic foxes, red foxes, lots of bears, lions, tigers, wolves, lynxes, a jaguar, a few camels off in the distance and had a great time. The world's largest carnivore sanctuary (including its Texas facility, The Wild Animal Refuge near Springfield, CO and the new Wild Horse Refuge near Craig, CO) is home to over 550 bears, wolves, wild horses, and large cats. Begun in 1980 by my friend Pat Craig, it's an amazing place to see these and

other animals including camels, mountain lions and foxes. I think I speak for all who enjoyed the time and are glad to support the sanctuary with our entrance fee.

You may have seen the sanctuary on the news as Pat Craig was asked by the US Government to coordinate the move of all the animals from the Puerto Rico Zoo as it closed. The zoo was damaged by hurricanes, and the animals were suffering. TWAS took in many cats but is not suitable for the elephant, rhino, snakes, and other animals. Imagine the paperwork and logistics involved! Hats off to Pat and his staff for their unending love of animals. Or, you might have seen the news about Lake Tahoe problem bear "Hank the Tank" who's actually a female so now known as Henrietta. This large bear had been getting into homes and trouble for a long while and gained a following in California and the Internet. The Colorado Division of Wildlife approved a request to move the bear to Colorado – to The Wild Animal Refuge – where she can live out her life without breaking into cars and homes. Yay! Also, Pat took in many of the animals from the infamous Tiger King show. For more info on this amazing place, check out their website or Facebook page. www.thewildanimalsanctuary.org.

ULA Tour

The function was coordinated by Terry Lilly. On Tuesday, May 21, there was an impressive ULA tour given to 21 MARS retirees and guests. ULA had a presentation followed by a tour of the DOSC, SIL, and the Mission Success wall. The enthusiastic tour leads did a nice job educating the group with ULA updates. Attendees received parting gifts and to top the afternoon off, there was a drawing for a couple to return to view a launch in the DOSC, oh my, what a treat! Following the ULA Tour was a Happy Hour at Max Taps. Seven energetic MARS retirees and guests continued the afternoon, by enjoying further discussion on LM and ULA activities from the past.

State Capitol/History Museum

We had another new activity for this year, a visit to our State Capitol and a tour of the History Colorado Museum, on Tuesday, June 11, led by Kathy Hetzel. We met at the state capitol at 10:45 for an 11am 30-minute guided tour. We then enjoyed lunch (at our own expense), either as a group, or on your own if you prefer, before exploring the History Colorado Museum for the rest of the afternoon. The Colorado State Capitol Building, located at 200 East Colfax Avenue in Denver, Colorado, United States, is the home of the Colorado General Assembly and the offices of the Governor of Colorado, Lieutenant Governor of Colorado, and the Colorado State Treasurer. The History Colorado Museum has many permanent exhibits about the Sand Creek Massacre, 10th Mountain Division, history of the Ute tribe, as well as a new exhibit featuring the photography of John Fielder.

Central City Opera

This activity will be completed by the time that this MARS STAR is issued. The event was a return to the Central City Opera on Wednesday, July 24, led by Sue Janssen.

This year, we saw *The Pirates of Penzance*, a comedic operetta with swashbuckling adventures and harmonious hijinks. It is a wonderful experience to drive up through our foothills in the middle of summer to visit this old mining town with its historic opera, grab lunch, see a wonderful operetta, and enjoy the ambience of Central City. Come early, and roam around this old west city and enjoy lunch.

Upcoming Activities:

LM Waterton Plant Tour

"This event is tentatively planned for August 28. Details are still in development for this activity, a mass mailer and reservations will be taken when this event is finalized."

Denver Mint Tour

The Denver Mint tour will be led by Robin Zen. The tour is only one of two available in the US and lasts about 30 minutes. A Denver Mint employee (& armed police guards) will guide visitors through a few areas showcasing historical machinery previously used to craft coins. All the while you can watch today's coins being stamped through glass windows on the floor below. Also included is a fascinating historical lesson on currency. We are currently planning on sometime around September.

Highlands Ranch Mansion tour

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

Kansas Cosmosphere Tour

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

Glenwood Springs Train Tour

Ralph Pacheco has graciously stepped up and volunteered to lead this activity. This trip will take a train ride on Amtrack's California Zephyr through the Rocky Mountains to Glenwood Springs, leaving on Wednesday, October 9 and returning on Friday, October 11. The train goes through the Moffat tunnel and then follows the Fraser River and the Colorado River. We will stay 2 nights at the Antlers in Glenwood Springs so that you can spend 2 evenings and a full day enjoying the sights and activities in Glenwood Springs, including the world-famous hot springs, the adventure park, and the shopping and dining opportunities. If you need a shuttle while traveling around Glenwood Springs, enjoy the friendly service of **High Mountain Taxi**. Shuttle cost from the Glenwood train station to the hotel is \$5 per person each way (cash only!).

Air Force Academy Planetarium and AFA Tour

Doug Tomerlin, who leads the Lockheed Martin Colorado Springs Retiree group and is also a MARS member, has volunteered to lead an activity in Colorado Springs this summer. The activity will include a visit to the Air Force Academy Planetarium and a tour of the Air Force Academy. For those interested, depending on the number of attendees, we will reserve seating for lunch afterwards at a restaurant not too far from the Academy. The timeframe we are looking at is in September to October. We will provide additional details when they are set up.

State Capitol/History Museum Tour #2

The first capital tour proved so popular that we have scheduled a second tour on September 24. Kathy Hetzel will also lead this tour. This tour will include a visit to both the Colorado State Capitol and History Colorado Museum. Lunch is included and will be at the History Colorado Museum -- the Café Rendezvous at History Colorado is providing a boxed lunch for us. You may choose from a half wrap, bag of chips, and a drink or a salad and a drink.

The museum is providing a curator to give a talk on the Glenn L. Martin Corporation and its impact on Colorado. After the presentation, you will be free to do your own exploring in the History Colorado Museum for the rest of the afternoon. The History Colorado Museum has many permanent exhibits about the Sand Creek Massacre, 10th Mountain Division, the history of the Ute tribe, and a new exhibit featuring some of the photography of John Fielder.

Cost for the State Capitol/History Colorado Museum is \$26 per individual and space is limited to 30 individuals.

Wine Tasting #2

This activity also proved to be so popular that we have scheduled a second wine tasting in October. Terry Lilly will also be leading this activity.

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

Volunteer Efforts

YMAW Writeup- Beth King

Beth and Neal King volunteered with Young Minds at Work (YMAW) day at Lockheed Martin Space on April 25th. We had a great time helping the fitness team facilitate an outdoor obstacle course at LSTTB. The hundreds of young scientists were tasked with navigating an obstacle course, shooting moon weighted basketballs, and trying out their long jump skills across the planets in our solar system. It was a delight to see so many bright young minds and catch up with some LM friends throughout the day.

Bike-To-Work Day- Ken Marts

Several of us volunteered for a second year to support Lockheed Martin's Bike to Work Day on June 26; yes, the same day as our Summer Luncheon. Robin Zen, Judy Nielsen, and Ken Marts welcomed the bikers in the morning as they made their commute of 5-35 miles onto LM property and into work. It was a nice cool morning ride but we felt sorry for those having to ride home in the heat of the afternoon. Forty riders participated this year and were welcomed with healthy breakfasts and showers near Building 200 (EMF-III for those of us using building names) before going to work.

Volunteer Activities

By Judy Nielsen

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If you serve your community, we'd like to hear from you. As Uncle Sam used to say – WE WANT YOU!

Each quarter, we would like to highlight a volunteer and their organization in the MARS STAR. If you are interested in sharing your volunteering experience(s), please send your write-up to Judy Nielsen, MARS Volunteer Activity Coordinator, at jniel129@gmail.com. Not only will this provide recognition for the good work being done, but it will also encourage others and will provide information for those looking for volunteer opportunities. Additionally, we will donate \$50 to that volunteer's charity/organization.

There are other volunteer activities you can become involved in within MARS, so please contact Judy Nielsen, or any officer/director to find out more.

Happy Volunteering!

Historian Corner

By Barb Sande

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Program Profile

This issue completes a multi-part series on the Skylab orbiting laboratory and the crewed missions for their 50th anniversaries.

Planned Articles:

Skylab Part I: History of a Space Station Concept; Skylab is Born – COMPLETE, in 2023 Q2 MARS STAR

Skylab Part II: Mission Objectives and Plan, Technical Features of the Skylab Design; Integration and Test, Launch of Skylab 1; Skylab Anomalies – COMPLETE, in 2023 Q3 MARS STAR

Skylab Part III: Skylab 2 – Skylab Anomaly Resolution; Crew Selection and Training, First Crew; Skylab 2 Launch, Workshop Repairs and First Mission – COMPLETE, in 2023 Q4 MARS STAR

Skylab Part IV: Skylab Memories – Memories from Martin Marietta Retirees – COMPLETE, in 2024 Q1 MARS STAR

Skylab Part V: Skylab 3 – SMEAT, Station keeping between Crews, Second Crew, Experiments; COMPLETE in the 2024 Q2 MARS STAR with editorial corrections in Part VI

Skylab Part VI: Skylab 4 – SMEAT and Station Keeping (correction), Final Crew; Potential Plans for Skylab Rescue, Demise of Skylab in 1979 – **IN THIS ISSUE**

Corrections to Part V from the 2024 Quarter 2 MARS STAR:

[Due to an inadvertent editing error in the last MARS STAR, most of the sections in Part V about the SMEAT and Station Keeping between crews were omitted after the article was submitted. Here are those sections again:](#)

Skylab Medical Experiment Altitude Test (SMEAT)

On September 20, 2022, NASA released a 50-year commemorative article about the SMEAT, which was a 56-day simulation in an altitude chamber at the Manned Spacecraft Center in Houston that started on July 26, 1972 and finished on September 20, 1972. The SMEAT served to obtain baseline medical data on the crew and test some of the hardware and experiment procedures that were planned for the orbital workshop, prior to its launch in April 1973.

The three astronauts (Robert Crippen, Dr. William E. Thornton, and Karol "Bo" Bobko) were placed in a 20-foot diameter altitude chamber. The altitude chamber was at a pressure of five psi, with a 70% nitrogen and 30% oxygen mix. In addition to the medical experiments, the crew followed a typical workday plan that was being developed for the Skylab crews; they also participated in leisure activities (including several classes) and housekeeping chores. The lessons learned, including improvements to the urine handling system that were praised by the later crews, were beneficial to the success of the missions. The only notable medical outcome was the fact that Dr. Thornton lost 19 pounds consuming the designated Skylab diet prior to, during and after the SMEAT test. The first two crews also lost significant weight during the mission, leading NASA to change and correct the diets for the third crew.

NOTE: The Crew biographies for the SMEAT were included in the article in Part V (Q2 2024 MARS STAR) so please refer to that issue.

Unmanned Station Keeping of Skylab

Extensive planning and design of systems were established to ensure that the station was kept running efficiently when the crews were not on board. The following activities were done:

1. Electrical power requirements were reduced but power was still needed for transmission of technical data to ground controllers. Spacecraft attitude and environments were maintained. Power Management in all phases of workshop usage (manned and unmanned) was an essential part of mission success. Internal workshop atmospheric pressures were reduced from 5 psi to 2 psi. This reduced the dewpoint to about 35-degree F and prevented condensation in the workshop.
2. Throughout the mission, for both manned and unmanned segments, ground controllers needed continuing monitoring of instrumentation and communications systems. More than 2,000 measurements were in place for temperatures, pressures, displacements, flow, voltage, current, vibration, positions, and other necessary information. Two separate command systems made it possible to control the laboratory either on-board or from the ground, through 540 distinct digital commands. Data

was stored on tapes and then transmitted to the 13 ground stations when an overhead pass was done.

3. Solar observations continued during the unmanned periods. These observations were limited in comparison to the efforts that the crew could perform and were limited to the daylight portions of each 93-minute orbit.
4. Concerns were noted with degradation of gyroscopes onboard the workshop and possible degradation of the thermal shield, accelerating the timeline for the launch of Skylab 3.

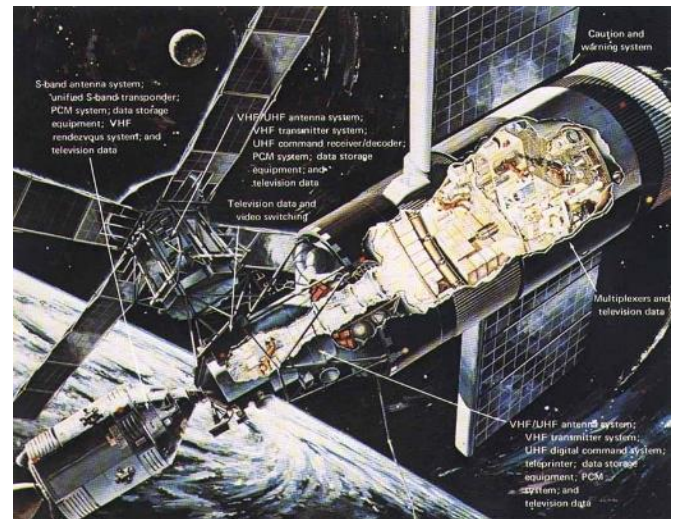


Diagram of Skylab Communications Systems Image Credit: NASA

Introduction to Part VI

After the success of the second crewed mission (Skylab 3), it was obvious to the Skylab team that humans could work for longer periods in space, so the third crewed mission to Skylab was extended. There were other benefits from Skylab that also became apparent:

1. The scientific investigations were a demonstration of partnerships between the crews and ground science teams. While Skylab was unoccupied, work continued with studying their observations. When the crews were on-board, simultaneous observations became what was known as "ground truth" data, allowing for better calibrations of the instruments.
2. Skylab offered unique opportunities for materials processing specialists to evaluate materials under extended weightless conditions.
3. The Skylab simulators were increasingly valuable tools for training flight crews and working scenarios during crewed missions to make processes more effective and efficient.

Obviously, Skylab began paving the way for the labs that flew on many shuttle missions and the eventual establishment of the International Space Station. NASA

moved forward with the plans for the longer third crewed mission.

Skylab 4 Mission Preparations, Launch, Crew Trouble

The crew assigned to Skylab 4 was composed of three space rookies: Commander Gerald P. Carr, Science Pilot Edward G. Gibson, and Pilot William R. Pogue (see crew biographies at the end of this article). The backup crew was Commander Vance D. Brand, Science Pilot William Lenoir, and Pilot Don L. Lind. It was unusual to have a three-person crew that had no flight experience, but NASA was convinced that the excellent simulator training and the experiences of the first two crews allowed for the flight assignments of the rookies. The plan was for the Skylab 4 mission to last for 84 days and many additional tasks were added to the mission plans for the crew.

Several problems arose with Saturn 1B SA-208 launch vehicle before launch. Inspection crews discovered hairline cracks in the bases of the eight stabilizing fins; those fins were replaced. This delayed the launch by five days. Another inspection found similar cracks in seven of the eight support beams in the Stage I/Stage II connecting structure. These cracked areas were beefed up with aluminum plates. Then, during fuel drainage after testing, two of the fuel tanks buckled slightly. Refueling was done under pressure, which forced the dome-shaped tanks back into the proper shape. Metallurgy inspections ruled the tanks safe for launch.

The command module was stuffed with supplies for the mission, including more food, photography supplies, communications improvements, and other support equipment. The normal vibration padding used for packing equipment was replaced with crew clothing.



Launch of Skylab 4. Photo Credit: NASA

At 14:01:23 11 GMT on November 16, 1973, Skylab 4 was launched from LC-39B at Kennedy Space Center. The mission used Command/Service Module (CSM) 118, another block II CSM modified for the Skylab mission parameters. Ascent to orbit was uneventful.

Seven hours after launch, Carr and his crew spotted the orbiting workshop and Carr remarked "She looks pretty as

a picture." The CSM was expertly docked to Skylab. The crew had taken preventive medication for motion sickness, but ironically Pogue (a former member of the Thunderbirds Aerobatic flying team) became ill. Carr also experienced some symptoms and they spent their first sleep period in the command module. NASA intended for them to get a night's rest before starting work in Skylab.

After Skylab went out of radio range, Carr and Gibson debated about what they would say about Pogue's illness during the evening status report due in an hour. Carr was inclined to stay quiet about the vomiting and nausea that Pogue was experiencing (he was not getting better). They postponed the status report to strategize what to do. Unfortunately for the three crew members, they forgot that there was an on-board tape recorder that recorded all conversations and noise in the CM. They decided to minimize the illness by saying that Pogue didn't feel like eating.

Carr and Gibson discussed throwing the bag that Pogue had blessed down the airlock. At the evening status meeting Carr told NASA that Pogue was nauseated and didn't eat the evening meal. They all felt better after a good night's sleep, then the proverbial you-know-what hit the fan. The downloaded conversation was transcribed and the crew got a good chewing out by the medical team, followed by a public and official reprimand by Alan Shepard, chief of the Astronaut office. Carr accepted the rebuke for the team. There was hope that communications would be improved and candor would be the word of the day.

Boarding Skylab, Workload Issues, EVA

When the crew finally entered the workshop, they immediately found the handiwork of the mischievous Skylab 3 crew. Bean, Lousma and Garriott had created three dummies in flight suits, complete with name tags and Skylab 4 mission emblems.

During activation of the workshop, the crew had many tasks to unload and stow thousands of items needed for the lengthy stay. The crew was immediately behind schedule on the first day, but the ground controllers insisted on keeping with the flight plan. They made errors on setting up several experiments and complained that some of the new medical experiments had not been seen in training. They talked openly to Mission Control about the concerns and they were given more time to relax between time-consuming tasks. Carr was reluctant to speak freely, however, after the Pogue illness debacle. The ground controllers apparently expected this crew to keep up the ridiculous pace that the first two crews managed.

On Thanksgiving Day (November 22, 1973), Gibson and Pogue performed a 6 ½ hour EVA (extravehicular activity)

to replace film in the solar observatory and repair a malfunctioning antenna for the Earth Resources Experiment Package. This antenna was mounted outside on the airlock truss. The antenna began acting up during the Skylab 3 mission. Pogue cleaned the potentiometers, but that did not fix the problem (oscillations). He then installed a pin to lock the pitch gimbal and a jumper to bypass it. The unit worked again, but only in side-to-side operations. The EVA was long, but both crew members had no issues. The crew returned inside to enjoy a large Thanksgiving dinner.



Edward Gibson During an EVA
Photo Credit: NASA/Gerald Carr

Gyroscope Problem, Repair Work

Several days into the mission, a serious problem developed in the control-moment gyroscope system, which threatened early termination of the mission. During the first eventful days of Skylab on-orbit, the control system had been used extensively. As a result, the propellant had been depleted for the attitude control thrusters to the extent that it they could not be depended on to control Skylab attitude throughout the remainder of the third manned period.

The system depended on three gyroscopes, sized so that any two of them could provide sufficient torque to control and maneuver Skylab as desired. Unfortunately, ground controllers observed a severe rise in the bearing temperature of one of the gyroscopes, forcing a shutdown and initiation of a two-gyro operation. Because of the propellant depletion, experts at Huntsville and Houston went to work to devise more accurate ways to assess the workshop's momentum state and create new maneuvering programs that were much more complicated. Many maneuvers would be required for the science observations and the planned observations of Comet Kohoutek. These new procedures were put to the test over the next few weeks and many modifications had to be made.

Problems were also seen with the Star Tracker during the mission and it was lost about halfway through the manned period, requiring the use of telemetered position data and an old-fashioned manual sextant used by the crew to measure star positions.

The crew made repairs to correct some of the problems from the previous two missions. They replaced the solar observatory television monitor in the control and display panel, repaired the laboratory tape recorders, replaced an electronic unit in the videotape recorder, and replaced a defective seal in the washcloth squeezer.

The crew also repaired the leaking primary airlock coolant loop system, using special tools that they brought with them and the creativity of the ground support crews who worked with them prior to the mission.

First Month Accomplishments; Crew Concerns

On the 28th day of the mission (12/13/73) program officials delineated the accomplishments of the crew and looked ahead for the complete 84 days. Through that first 28 days, the list of accomplishments were noted:

1. 84 hours of solar observations
2. 12 Earth resource passes
3. 80 photographic and visual Earth observations
4. All scheduled medical experiments
5. Student experiments
6. Science demonstrations
7. Three major repair jobs and many minor ones

Concerns were noted for the solar X-ray telescope, which had a jammed filter wheel and possible signs of distress were seen in one of the two remaining gyros.

The reporters attending the review immediately raised questions about the crew and their slowness compared to the previous crews and the mistakes they had made. The crew was defended by program managers, citing the complexity of the gyro and thruster-saving procedures and the honesty that had come into play during medical discussions. Reporters dropped the subject.

However, the crew was overstressed and this showed in angry comments from each crewmember to ground controllers that very week in December. The complaints centered on how little things could knock schedules awry and the fact that flight planners left out the time it would take to put changes into checklists. Every attempt by some of the program scientists to increase workload was also stymied. There will be more about these concerns later in the article.

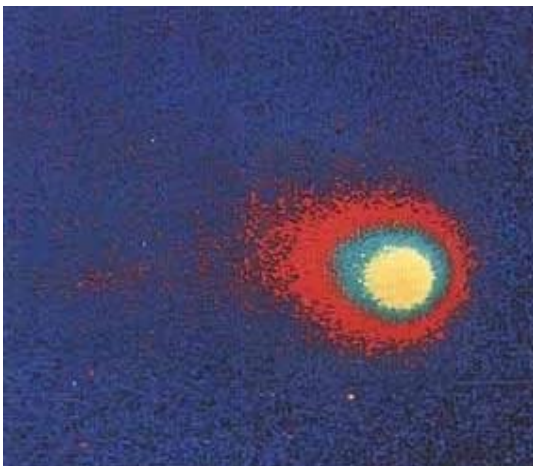
Comet Kohoutek

In March 1973, a Czech astronomer named Lubos Kohoutek discovered a new comet while looking for Biela's

comet; the new comet was named after him and astronomers predicted that it would be extremely bright at perihelion (passing by the sun) on December 28 1973. Observations of this new comet were considered a priority by the Skylab 4 crew, who would be in the workshop during that critical time. Comet Kohoutek never did become nearly as bright as predicted, with observations only possible with scientific instrumentation and by the crew on Skylab. The hype became a disappointment (it was certainly not the comet of the 20th century – that honor probably belonged to the spectacular Hale-Bopp comet in 1997).

The crew began systematic comet observations on November 23. Pogue used one of the new instruments, a photometric camera that measured the comet's intrinsic brightness. Other instruments including a new electrographic camera were also used to measure ultraviolet radiation emitted by oxygen and hydrogen atoms as a means of indirectly measuring the amount of water ice in the comet. The instruments operated through the scientific airlock and required maneuvers of the workshop. Seventeen observations had been made by 12/20/73.

The solar telescopes on the ATM (Apollo Telescope Mount) were brought into the observation of the comet as it approached the sun. Two EVAs were also part of the observing plan, one done on Christmas day by Carr and Pogue to reload the ATM camera film and to perform manual photography using the two new cameras outside of the workshop. Their attempts were not very successful as they couldn't see the comet itself. Carr also attempted to fix the filter wheel on the telescope mount, then had a screwdriver slip and bend one of the filter metal blades; he worked with ground controllers on a fix that just opened the aperture permanently and bent the blades out of the way.



False Color Image of Comet Kohoutek Using the Electrographic Camera Photo Credit: NASA

The crew had an amusing 11-minute public communications talk with Lubos Kohoutek on December 28, although he was not really a comet expert but he was

quite popular with the media because of his discovery. On December 29, during the third EVA just for comet observation, Gibson and Carr were able to get excellent views of the comet. They used the ATM instruments for more observations until the comet began to journey away from the sun on January 5, 1974 (if it does return, it will be in about 75,000 years).

Calls for an Assessment; A Communications Failure

Although the crew was performing admirably, the rhythm of activity was still felt to be a disconnect between them and the ground controllers. The crew believed that the system was not responsive to their needs and had too much busywork instead of meaningful tasks. On the evening of December 28, Carr told CAPCOM Richard Truly that he was preparing a special message for Mission Control that would be on Channel B of the in-flight recorders. He taped a six-minute plea for a frank discussion about the mission's status at the halfway point. They had an open and substantial discussion about the issues on December 30 and the flight controllers were surprised to note that the crew was performing nearly as well as the second crew in terms of workload. Free time was also an issue that was discussed. Everyone walked away from the meeting with a sense of relief that such candor could be shared between crews and ground controllers with all the world listening.

Prior to this discussion on December 30, the "infamous" communications break had occurred during a portion of an orbit in late December when Skylab was in range of tracking stations. Both Carr and Gibson apparently forgot to turn on their radios for the daily briefing, so no communications were received. It was considered a mistake by NASA although the media blew it up into controversy by calling it the "Skylab mutiny."

It was a subject of the discussion on December 30 and subsequent studies noted that a work stoppage in a space mission incurred great expense, regardless of the intent of the stoppage (intentional or not). This led to major changes in mission planning for long-term missions for the Shuttle program and ISS.

Records Set; Skylab 4 Returns

After the summit meeting, things settled into a much better routine. The crew closed in on a record for time in space for humans while they made several important scientific contributions besides the special studies of Comet Kohoutek. They spent many hours studying the Earth with the Earth Resources Experiment Package, watching vegetation changes, finding new resources and observing pollution and strip-mining effects, and studying the Falkland ocean current and its river of plankton. They

took over 20,000 photographs and recorded data on 19 miles of magnetic tape.

Solar observations continued, with about 75,000 new images of the sun recorded in all phases. Gibson watched the sun surface patiently for many days and finally, near the end of the mission, was able to capture the birth of a solar flare. Their work output was considered exemplary by the end of the mission. Many tasks were up-linked for them to close out by the end of the 84 days, with the possibility of future crew mission still uncertain at that time.



Carr "Balances" Pogue During a Demonstration of Zero-G. Photo Credit: NASA/Edward Gibson.

On February 3, the last EVA was performed by Gibson and Carr to retrieve the ATM film canisters and some particle collection experiments. On February 8, the crew moved into the command module, separated from the workshop, fired the service module engine, and had to switch to a backup attitude control system after discovering that four circuit breakers had been opened accidentally. Re-entry was nominal and Skylab 4 splashed down in the Pacific off the coast of the US. The USS New Orleans was the designated recovery ship; the crew members bobbed in gentle waters awaiting pickup and noting how difficult it was to get used to gravity again. The command module from this mission is currently on display at the Oklahoma History Center after being on display for many years at the National Air and Space Museum.

The End of Skylab

After bidding farewell to the workshop, the Skylab 4 crew closed the hatch but didn't lock just in case there would be an opportunity for future visits. The workshop would need a lot of repairs and refueling if it was to be used again, especially with the failing gyroscope systems. Budget constraints and work on the developing Shuttle program and the Apollo/Soyuz Test Program led to neglect of potential missions to Skylab. Increased solar activity also caused a reduction in the stable time that the workshop had in its orbit because of increased drag from the upper atmosphere.

However, in 1977, Marshall Space Flight Center awarded a letter contract to Martin Marietta to conduct analysis and design studies for a teleoperator retrieval system that would be carried in the Space Shuttle's cargo bay and used to attach a propulsion module to Skylab's docking port. This, of course, relied on a system that was yet to be operational and on designs that were in the "miracles happen" phase. Work continued, however, and plans were made for the completed teleoperator system to be delivered to the Cape for launch on the third orbiter test flight in 1979 (you might recall that the Space Shuttle first flight wasn't until April 1981).

Communications were still possible with Skylab and some commands were sent to systems on-board. Ground controllers were assigned to manage the workshop systems. Work also continued the teleoperator system, but by the end of 1978 it was clear that the plans to save the workshop were not possible. Now NASA turned to the difficult public relations problem of controlling hysteria around the world when Skylab would re-enter. NASA and NORAD worked together (sometimes) to ensure that re-entry estimates were coordinated. On July 9, 1979, the Skylab Coordination Center was opened at NASA Headquarters and the estimates came out that the Skylab would come down through the atmosphere on July 11, 1979 between 2:10 and 10:10 pm, most like on its 34, 981st orbit.

The controllers executed some tumble maneuvers as Skylab slipped lower and lower in the upper atmosphere to try and get it to miss land masses and enter the ocean off the southwest coast of South Africa. The workshop did not break apart as much as they hoped (drag had been miscalculated by about 4%) and the target ellipse moved eastward. Debris did shower down on sparsely inhabited regions of western Australia with minimal property damage and no injuries. The Skylab program was over. The map shows the trajectory during re-entry.

The Legacy of Skylab

Listed below are the accomplishments of the Skylab program. This is a very top-level overview and I

recommend reading some of the links at the end if you want more information:

1. Human adaptability to long-duration spaceflights was proven beyond a doubt. The three missions totaled 171 days 13 hours, 12 minutes and 10 EVAs were performed totaling 41 hours 56 minutes.
2. Inner ear function tests noted that humans undergoing weightlessness conditions have a much greater range of movement than on Earth.



Re-entry Profile of Skylab. Image Credit: NASA

3. The Sun was studied extensively from orbit for the first time with many new discoveries about the behavior of solar energy and its activities.
4. Comet Kohoutek became history's best observed comet at the time of its appearance, thanks to Skylab 4.
5. The Earth was studied in incredible detail with precision instruments, creating a mass of taped data and over 40,000 photographs.
6. Materials processing studies in orbit were extremely useful in determining the effects of gravity (or its absence); these experiments included crystal formation from vapors, alloy formation from components of different densities, diffusion in liquid metals and solidification of molten metals.
7. The crews performed experiments suggested by students including the studies of the two spiders on Skylab 3.
8. Observations of the solar system were also carried on outside of the Earth's atmosphere.
9. Ground controllers and the crews worked very well together and discovered (especially on Skylab 4) ways to improve those relationships for future missions.
10. Scientists from a variety of disciplines lauded the research on Skylab. Leo Goldberg, at that time the Director of Kitt Peak National Observatory said: "Many of us had serious doubts about the usefulness

of men in space. But these men performed near miracles in transforming the mission from near ruin to total perfection....They have proven the value of men in space as true scientific partners in space science research."

Crew Biographies Skylab 4

Gerald P. "Jerry" Carr



L to R: Gerald P. Carr, Edward G. Gibson, William R. Pogue Photo Credit: NASA

Carr was born in Denver, Colorado on August 22, 1932 but was raised in Santa Ana, California, which he considered his home town.

Carr began his military service with the US Navy and was appointed a midshipman to the NROTC detachment at USC. Carr received a Bachelor of Engineering degree in mechanical engineering from the University of Southern California in 1954. He received a commission in the US Marine Corps and received flight training at Naval Air Station Pensacola, Florida and Kingsville, Texas. Carr also earned a BS degree in Aeronautical Engineering from the Naval Postgraduate School and a Master of Science degree in Aeronautical Engineering from Princeton University.

Carr was selected by NASA in a group of 19 astronauts in April, 1966. He served as a member of astronaut support crews and as CAPCOM for the Apollo 8 and Apollo 12 missions. He was in the rotation to be the lunar module pilot on Apollo 19 before it was canceled.

Carr was named the commander of Skylab 4 and was the first rookie astronaut to command a mission since Neil Armstrong on Gemini 8. After the Skylab 4 mission, Carr was named the head of the design support group within the Astronaut Office responsible for some of the STS

systems that were being developed. He retired from the USMC as a colonel in 1975 and from NASA in 1977.

Carr worked at several consulting firms after leaving NASA, including founding CAMUS, Inc in 1984 based in Vermont. This corporation provides technical support services in zero-gravity human factors engineering, procedures, operations analysis, and training. CAMUS was a support subcontractor to Boeing during design of the International Space Station.

Carr married his high-school sweetheart Joann Petri in 1954; they had six children. They were later divorced and he married an artist, Patricia Musick in 1979. Carr passed away in Albany, New York on August 26, 2020. He was inducted into the Astronaut Hall of Fame in 1997 and receive many other honors and awards.

Edward G. Gibson

Edward G. Gibson was born on November 8, 1936, in Buffalo, New York. As a child, he suffered from Osteomyelitis, a softening of the bones and spent many months in hospitals and nearly lost a leg. He became active in sports to strengthen his body.

Gibson graduated from the University of Rochester and the California Institute of Technology with degrees in Propulsion engineering and, also received a PhD in Engineering from Caltech in 1964. He did research in jet propulsion, plasma physics and solar physics and he also logged more than 4,300 hours of flying time.

Gibson was selected by NASA in Group 4 in 1965, the first group of scientist-astronauts. He was on the support crew for Apollo 12 and worked on development of Skylab before being selected for the crew of Skylab 4. He retired from NASA in 1974 but returned for a few years in 1977 to supervise selection of scientist astronauts; he also served as CAPCOM for STS-1. He also spent significant time analyzing the solar data from the Skylab missions.

After leaving NASA in 1982 he worked for TRW as a project manager and then began his own consulting firm. He has written and published several books (a text book on solar physics, two novels, and a compilation of stories from space missions). Gibson is married to Julianne Volk and they have four children. He was inducted into the Astronaut Hall of Fame in 1997 and has numerous other awards and honors. He is still living as of June, 2024.

William R. Pogue

Willam "Bill" Pogue was born in Okemah, Oklahoma on January 23, 1930. He received a BS degree in Education from Oklahoma Baptist University and then enrolled in the USAF, serving for 24 years. He also received a MS degree

from Oklahoma University and served as a mathematics professor at the USAF Academy. He became a test pilot and flight instructor and flew 43 combat missions in the Korean war and was also an acrobatic pilot in the USAF Thunderbirds.

Pogue was one of 19 astronauts selected by NASA in Group 5 in 1966. He served as a support crew member for Apollo 7, Apollo 11, and Apollo 14. He was the likely command module pilot on Apollo 19 before it was canceled. He was then selected as the pilot for the Skylab 4 mission.

Pogue retired from the USAF as a colonel and from NASA in 1975. He became vice president of the High Flight Foundation, a Christian organization that was founded by astronaut Jim Irwin. He was also self-employed as a consultant for various companies and co-wrote a science fiction novel with Ben Bova. He lectured at over 500 schools and civic clubs.

Pogue was married three times. He had three children with his first wife Helen Dittmar, whom he married in 1952. He married his second wife, Jean Baird, in 1979 and the marriage lasted until her death in 2009. He married for a third time in 2012. Pogue passed away on March 3, 2014. His ashes were sent into Earth orbit on a Celestis mission in 2019.

He was inducted into the Astronaut Hall of Fame in 1997 and has numerous other awards and honors.

Additional resources and links:

SP-400 Skylab, Our First Space Station

<https://history.nasa.gov/SP-400/contents.htm>

SP-4208 Living and Working in Space: A History of Skylab

<https://history.nasa.gov/SP-4208/ch12.htm>

SP-4011 Skylab: A Chronology

<https://history.nasa.gov/SP-4011/part3a.htm>

SP-701: Skylab, A Guidebook

<https://history.nasa.gov/EP-107/contents.htm>

Wikipedia Article about Skylab

<https://en.wikipedia.org/wiki/Skylab>

Wikipedia Article about SMEAT

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

NASA Article About SMEAT for the 50th anniversary:

<https://www.nasa.gov/history/50-years-ago-56-day-skylab-medical-experiment-altitude-test-ends-successfully/>

Skylab Program Description

<https://ntrs.nasa.gov/api/citations/20160013588/downloads/20160013588.pdf>

Next Edition

The next MARS STAR article will summarize the Mercury-Atlas 7, 8 and 9 missions with astronauts Scott Carpenter, Wally Schirra and Gordon Cooper. This will be followed by a multi-part series on the Gemini program. Hopefully, my timing will be just right to follow Gemini with a multi-part series on the Viking 1 and Viking 2 missions for the 50th anniversary of the landings.

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

NEW: Pacesetters Club

By Bill Wise
wisewj@aol.com

The Pacesetters held their first informational meeting of the year on July 10 at the Lansdowne Arms.



Cheery Attendees at the First PACESETTER Informal Meeting

Dr. Mark Sheehan spoke on the topic of cardiac and oncology technology and held an excellent Q & A session. At our Pacesetters' request, he also made five recommendations for keeping our hearts healthy.

1. Get your LDL below 50.
2. Take a magnesium supplement for Cardiovascular health. "The body needs magnesium to maintain the health of muscles, including the heart. Research has found that magnesium plays an important role in heart health."
3. Get a minimum of 150 minutes of cardiovascular exercise per week. A brisk walk where you can still carry on a conversation is sufficient.

4. Minimize cheese and ice cream in your diet.
5. Have love and faith in your life.

Our next PACESETTER event is scheduled for Wednesday, **August 14** at 11:30, @ Lansdowne Arms. The subject is "Joy" with our speaker being Janet Kester. Janet is a retired special education teacher who tried to bring as much joy as possible to her students as they struggled with the academic world. She is involved with DU's OLLI program where she teaches the "JOY" course. The Osher Lifelong Learning Institute at the University of Denver (OLLI at DU) is a membership program designed for adults 50 and over, who wish to pursue lifelong learning in a relaxed non-competitive atmosphere.

Bridge Club

By Dave & Kathy Martz
martz20@comcast.net

The Bridge Club is having fun in 2024. Come join us! It is open to all MARS members and their guests. We play social, not tournament bridge, with light conversation while we play. All seem to like it that way. We play on the **3rd Friday of each month at the Buck Community Recreation Center in Littleton from 10 AM to 2 PM**. There is no fee to join the Bridge Club. The next quarter, we are scheduled to play on 19 July, 23 August, & 20 September 2024.

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

Contact us to be added to the email list. Each month, an email will be sent to Bridge Club members about play that month. We ask that you respond to the email to reserve a place at the tables. There is always room for more players, as the room will accommodate 6 tables. You can also check out the MARS website under "Clubs/Bridge Club", for more details.

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

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

Presidents:

Dave & Kathy Martz, 303-683-9524

Vice-President:

Bill Kacena, 303-973-2685

The 2nd Quarter 2024 winners are as follows:

19 April (4 tables)

- 1st – Bill & Mavis Kacena
- 2nd – Sandy Mossman & Tammy Maccalous
- 3rd – Curt & Phyllis Brudos
- 4th – Leo Johnson & Joni Rosenberger

17 May (4 tables)

- 1st – Mark & Jan Ugale
- 2nd – Bill & Mavis Kacena tied with Ernie & Cecile Berliner
- 4th – Leo Johnson & Joni Rosenberger

21 June (4 tables)

- 1st – Bart & Diane Wright
- 2nd – Dave & Kathy Martz
- 3rd - Mark & Jan Ugale tied with Bill & Mavis Kacena

Car Club

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

Hope you are getting some miles in with this beautiful weather! I always look forward to road trips - there is so much of this beautiful state and Country I have not yet seen, but I'm trying!

We had our annual kick off meeting in May, hosted by fellow club members Beth and Neil King at their new beautiful car condo, and set up events for the coming year. Liquid refreshments were enjoyed by all as we shared car tales and camaraderie. By the time this newsletter comes out, we will have already enjoyed a "walk down memory lane," a tour of a private collection of 50's memorabilia in Highlands Ranch. Plans for an August function are in work - keep an eye out on the Webpage and Facebook page for announcements! And of course, the annual car show will be held concurrently with the MARS Picnic on Sept 11. Please plan on joining us!

If you have not yet joined the club - please do! Owning a unique car or motorcycle is not a requirement, just a love of all things transportation. We have a club link on the MARS website, as well as a Club Facebook page where you will find club pictures, interesting links to other events in the Denver Metro area, as well as announcements for upcoming Car Club events. Look forward to seeing you out on the road in 2024!



Golf League

Sandy Mossman
(smoss5592@gmail.com)

Its mid-way through our golf league season and play is continuing in both the cool and 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 October. The remaining 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 15th and 22nd the league will have a combined two week annual league 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. 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 and socialization.

Sadly, the course's bald eagles did not produce any off spring so the difficult hole 13 is once again back to being a Par 5. We hope the eagles return next year - it has been a treat watching them through the spring.

Our league (61 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 activates, 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.



Photography Club

By John Chapter
(johnchapter@msn.com)
303-986-8277

The Mars Photo Club meets January, February, March, April, May, September, October, and November.

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

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

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

Colorado Springs Lockheed Martin Retiree Group News

By Doug Tomerlin
(dougincs@aol.com)

The Colorado Springs Lockheed Martin Retiree Group held a luncheon at the La Casita Mexican Grill at 4295 N. Nevada Ave, in Colorado Springs on April 18. Thirty-six retirees attended, with several first-time luncheon attendees. The restaurant did an excellent job of serving everyone in a reasonable amount of time.

We were honored that Ken Marts, the MARS Associates president and Dan Ellerhorst, MARS Vice President of Communications attended the luncheon.

An outing to the Air Force Academy to include a special event at the Air Force Academy Planetarium is still in the planning stages. The event will most likely occur in September or early October. This will be a combined outing for both the Colorado Springs Retiree Group and the MARS Associates retirees.

We were sad to hear that one of our Colorado Springs Lockheed Martin retirees, Flo McKiernan passed away in April 2024. Our deepest condolences go to her family and friends.

If you would like more information about the Colorado Springs Lockheed Martin Retiree Group or luncheons, please contact Doug Tomerlin at dougincs@aol.com.

Cape Canaveral News

By Dick Olson
(olsons5145@aol.com)

Luncheons

May 2024 – Present Thursday were regulars Don Bollinger, Lynn Johnson, Roger Wright, Abe Smith, Ken Webb, and Cecil Snipes. Heard from Bob Matschner who is attending his grandson's college graduation, Laverne Jones who has a doctor's appointment and Wendell McDaniels who is not feeling well.

Hope Wendell is feeling better, Laverne's doctor appointment went ok, and Bob enjoyed the graduation. Doesn't it make you feel a little old when you attend a grandchild's college graduation? I know the feeling well as I have attended 5 of them and have great grandchildren not too far away from high school graduation.

Don't forget Mother's Day on the 12th and Memorial Day on the 27th. Have a good summer and hope to see you next month.

June 2024 -- Present today was Wendell McDaniels with his grandson as chauffeur, Don Bollinger, Laverne Jones, Abe Smith, Cecil Snipes, Sylvia Sansing, Larry Johnson, and Kelly and Dan DeFazio.

Kelly and Dan discussed the Titan 20th reunion since the last Cape Mission planned for April 26th and 27th 2025. They are looking for volunteers and ideas. Please sign on to the reunion site at "TeamTitan2025@gmail.com" for progress reports.

Received word from Amy Teague that her father Jerry Teague passed on April 9th. Jerry worked in Repro and Procedures as part of the Titan Team for many years. A Celebration of Life will be held on June 22 at 2:00 PM at the Light House Church on Merritt Island.

When I went to pick up Lynn Johnson to bring her to the luncheon there was no one home and I was concerned. Turns out her husband Paul had an appointment and both are ok.

Next month's luncheon would fall on the Fourth of July so have rescheduled it for July 11th.

Have a good summer and patriotic 4th.

July 2024 – Regulars in attendance today were Wendell McDaniels, and his grandson chauffeur Richard, Abe Smith, Ken Webb, Lavern Jones, Sylvia Sansing, Roger Wright, Larry Johnson, Dan and Kelly DeFazio and Don Bollinger.

Discussed the planning efforts for next year's Titan 20th last launch anniversary. If you have not already added your info to the contact list, please enter your info at "TeamTitan2025@gmail.com". This will get you on the distribution list for the reunion details, activities, registration and, memento items.

In regards to the late notification of Walt Starkey's passing, I would ask all of you to please let me know about the passing of any of our Titan Team members. The Today newspaper no longer prints a reliable list of death notices.

Wish everyone a great summer and stay healthy,

Recent Obituaries

Walt Starkey, 85, passed on Feb 22nd. Walt worked several different programs at the Cape and after retirement served as a tour guide at both NASA and the Cape. Another of our Team is gone.

Jerry Teague, 77, passed on April 9th. Jerry worked in Repro and Procedures as part of the Titan Team for many years.

Edwin (Eddie) Yoshida, 97, passed away on 5 May. Another Cape Titan Team member is no longer with us. Eddie worked in the Finance Group on the Titan II, Gemini, Titan III, and the External Tank programs. He retired as Manager of Finance on the NASA External Tank program.

Pat Murphy, 62, passed on 3 June. He was a payload tech hired in 1988.

Lockheed Martin (LM) News

Lockheed Martin Awarded Contract To Develop AI Tools For DARPA

LITTLETON, Colo., July 08, 2024 – Lockheed Martin (NYSE: LMT) has been awarded a \$4.6 million contract by the Defense Advanced Research Projects Agency (DARPA) to develop [Artificial Intelligence](#) (AI) tools for dynamic, airborne missions as part of its Artificial Intelligence Reinforcements (AIR) program. This project aims to provide advanced Modeling and Simulation (M&S) approaches and dominant AI agents for live, multi-ship, beyond visual range (BVR) missions. It is a critical step in prioritizing and investing in breakthrough technologies for national security and to meet the evolving needs of customers.

DARPA's AIR program will improve the government-provided baseline models' speed and predictive performance to better match how the Department of Defense's systems perform in the real world. During the 18-month period of performance, Lockheed Martin will apply AI and Machine Learning (ML) techniques to create surrogate models of aircraft, sensors, electronic warfare and weapons within dynamic and operationally representative environments.

"In complex airborne missions, our customers need access to advanced technologies that connect critical systems quickly across all domains. The DARPA AIR program will use state-of-the-art scientific ML technology and Lockheed Martin's [ARISE™](#) infrastructure to deliver unprecedented amounts of data that service members can use to make faster and more informed decisions," said Gaylia Campbell, vice president of Engineering and Technology for Lockheed Martin Missiles and Fire Control. "This will provide significant cost savings opportunities for the Department of Defense and serve as a foundation for future AI defense solutions, ensuring the U.S. and its allies maintain their competitive advantage no matter the circumstances."

Lockheed Martin has a long history of successfully developing and integrating AI and ML technologies into its products and services. This is part of our 21st Century Security® vision, which aims to build a more advanced, resilient and collaborative defense industry, so we can deliver more cutting-edge capabilities faster and more affordably to the United States and our allies.

Sentinels in the Sky: The Lasting Legacy of the GOES-R Weather Satellite Series

KENNEDY SPACE CENTER, Fla., June 25, 2024 /[PRNewswire](#)/ -- An advanced weather satellite built by Lockheed Martin [NYSE: LMT] for the National Oceanic and Atmospheric Administration (NOAA) launched today from NASA's Kennedy Space Center at 5:26 p.m. ET. Lifted to space aboard a Space X Falcon Heavy rocket, the [GOES-U](#) satellite successfully deployed its large solar array to generate electrical power and has established communications with mission operators.

GOES-U is the final satellite in NOAA's Geostationary Operational Environmental Satellites (GOES) - R series of four satellites. After it reaches geostationary orbit, approximately two weeks after launch, GOES-U will be renamed GOES-19. Once in operations over the East Coast of North America, the satellite be known as GOES East, and will provide advanced weather imagery, atmospheric measurements, and real-time mapping of lightning activity, in addition to critical space weather observations.

"The launch of GOES-U is the culmination of more than 16 years of designing, building and launching four important weather satellites for our nation," said Jagdeep Shergill, GOES-U program manager and director of Geo Weather Programs at Lockheed Martin. "Since the launch of the first GOES-R satellite, our nation has had more accurate weather forecasts and more timely severe storm warnings, and this critical service has positively affected everyone in the U.S."

NOAA's GOES-R satellites, and soon GOES-U, provide crucial data for weather forecasting, severe storm tracking and climate monitoring. With their advanced instruments and rapid updates, they improve detection of atmospheric phenomena like hurricanes, wildfires and lightning. This real-time data aids the National Weather Service and meteorologist in early warnings, disaster preparedness and resource management, ultimately saving lives and mitigating economic losses.

The GOES-U spacecraft features two high-tech instruments built by Lockheed Martin's [Advanced Technology Center](#) in Palo Alto, California:

- Geostationary Lightning Mapper ([GLM](#)), which is a first-of-its-kind operational lightning mapper that tracks lightning across the U.S. in real-time. GLM allows meteorologists to quickly identify intensifying storms and take appropriate action. In 2020, GLM captured [a lightning megaflash](#) nearly 500 miles long that broke the world record for longest lightning flash.
- Solar Ultraviolet Imager ([SUVI](#)), focuses on space weather and measures the sun in extreme ultraviolet wavelength range. SUVI is essential to understanding active areas on the sun and predicting solar events that may disrupt power utilities, communication, or navigation systems here on Earth.

GOES-U is the final satellite of the GOES-R series which will provide critical weather and climate data into the 2030s. Following GOES-U, Lockheed Martin [was selected by NASA](#) to develop the nation's next generation weather satellite constellation, Geostationary Extended Observations ([GeoXO](#)), for NOAA. GeoXO's new capabilities will deliver more accurate weather forecasting and address emerging environmental issues and challenges. GeoXO, the GOES-R series and the nation's weather satellites are vital infrastructure for national resilience.

[NOAA](#) funds, manages and will operate the GOES-R series satellites. NASA oversees the acquisition and development of the GOES-R spacecraft, instruments and launch vehicles. The program is co-located at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

Check out additional GOES-U imagery [here](#) and b-roll video [here](#)

United Launch Alliance (ULA) News

United Launch Alliance Successfully Launches First Crewed Starliner

The inaugural human spaceflight launch marks the beginning of a new era for ULA

Cape Canaveral Space Force Station, Fla., (June 1, 2024) – For the first time in history, a United Launch Alliance (ULA) Atlas V carrying NASA astronauts aboard Boeing's CST-100 Starliner lifted off on June 5, 2024 at 10:52 a.m. EDT from Space Launch Complex-41 (SLC-41) at Cape Canaveral Space Force Station, Florida. The launch of NASA astronauts Barry "Butch" Wilmore and Sunita "Suni" Williams marks the return of human spaceflight to Cape Canaveral and extends the Atlas legacy, echoing the launch of U.S. astronaut John Glenn aboard a heritage Atlas LV-3B rocket from Cape Canaveral, Florida, in 1962.

"Safety is a critical part of the ULA decision-making process, and we are deeply honored to have been entrusted with the responsibility of starting the astronauts on their journey to the International Space Station, one that we will be watching throughout their mission," said Gary Wentz, ULA vice president of Government and Commercial Programs. "ULA has performed a tremendous amount of work in conjunction with our partners at Boeing and NASA to ensure our designs provide the highest level of safety to the crew and we will continue to prioritize our dedication to safety as we look forward to future launches in support of NASA's Commercial Crew Program."

While the mission is continuing, the Atlas V rocket's job is complete and safely delivered the Starliner and crew to a 98-nautical mile (nmi) sub-orbital trajectory. Following separation from the Atlas V, the Starliner engines ignited to place the crew on their orbital path to the space station.

"My congratulations and sincerest gratitude to our unrivaled team and exceptional partners on the launch of a new era in human spaceflight aboard one of the most reliable rockets in the world," said Tory Bruno, ULA's president and CEO. "It's a profound honor to assist in enabling assured reliability and redundancy of crewed launches."

About United Launch Alliance

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



Join Us for the Annual Rite of Summer....

2024 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 11, 2024**, at **Clement Park**. 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 \$33.00 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 click the link below or visit the MARS website at <https://marsretirees.org>.

STRIPE (ctrl+click): <https://marsretirees.org/2024-mars-annual-picnic/>

Reservations and cancellations must be received by August 30, 2024. If you must cancel, please notify Linda Duby at 303-249-1665 or lindaduby@comcast.net; Carl Kaminski at 303-726-1546 or carlkc066@gmail.com; or Charlie Haupt at 303-725-7595 or gcrfccoach@gmail.com. Please notify one of these persons **by August 30 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)** -----

2024 Annual Picnic Reservation Form – September 11, 2024. Please print clearly.

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

Member _____ Spouse/Companion _____

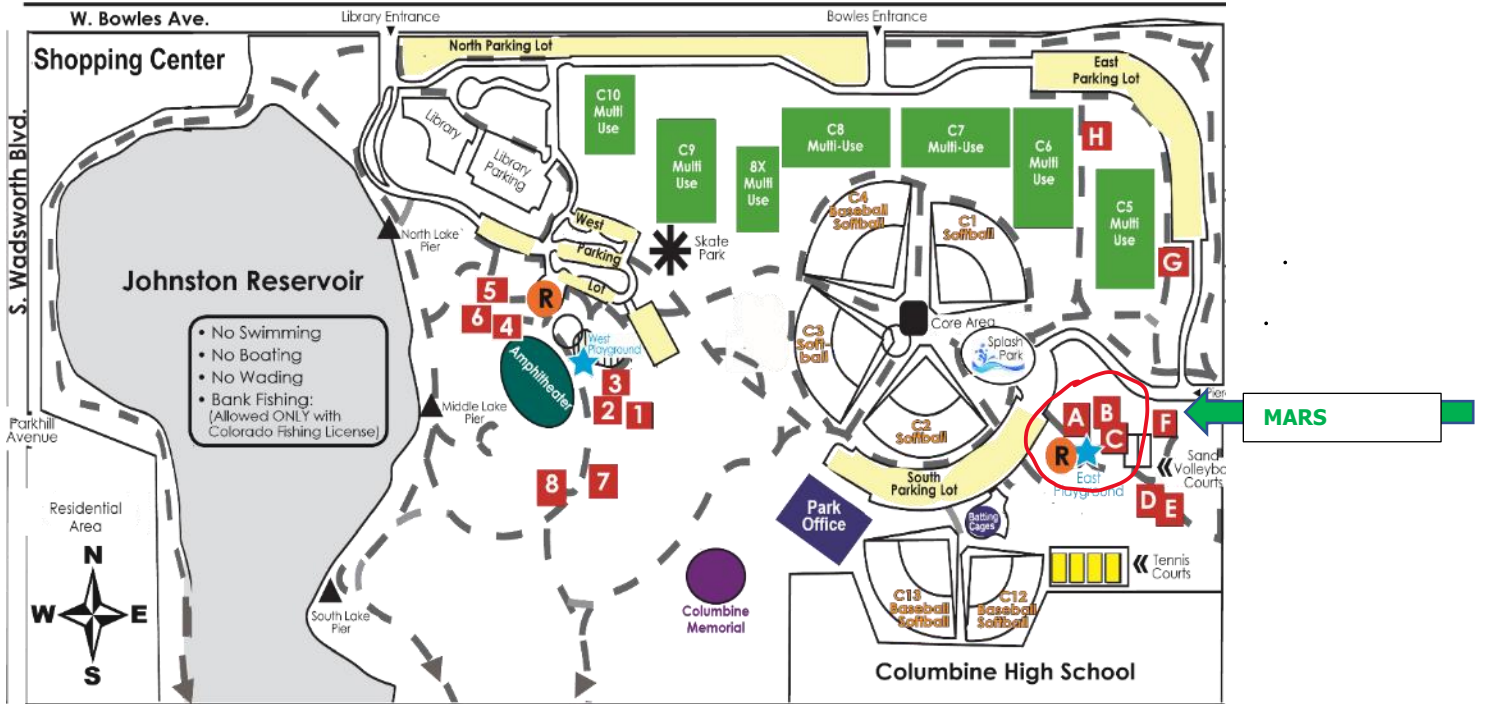
Non-MARS Guests _____

Member Phone No. _____ Email address _____

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

Non-MARS Guests @ \$33.00 per person = _____

Total enclosed \$ _____ Check Number _____



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

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 [beats Q1 expectations](#) on strong demand, sees supply chain improvements (Reuters)
Lockheed Martin [projects potential \\$1 billion loss](#) on classified program (Breaking Defense)
Lockheed Martin [Space segment increases sales and profit](#) in Q1 2024 (Via Satellite)
Ukraine, Israel bill to [bolster Lockheed Martin, RTX profits](#) (Reuters)
Ukraine aid lifts defense industry as [debate over profits reignites](#) (The Wall Street Journal)
U.S. may allow military contractors to [work inside Ukraine](#) (Aviation Week Network)
[China sanctions Lockheed Martin](#) over Taiwan arms sales (Reuters)
Opinion / [Egregious Pentagon delays](#) reflect problem the military is just starting to solve (Washington Post)
Pentagon [weapons testing chief recuses himself](#) from projects with largest U.S. defense contractor (Daily Caller)
Lockheed Martin sets \$3.15 dividend, elects [new lead director](#) (Investing.com)
Lockheed Martin [appoints Heather Wilson to board](#) (Investing.com)
Defense companies keep up momentum on [share repurchases](#) despite Navy leader's criticism (Breaking Defense)
Lockheed Martin [drops bid](#) to acquire Terran Orbital (Space News)
Terran Orbital confirms [new satellite deal](#) with Lockheed Martin ahead of earnings (Space News)
Why the U.S. hasn't joined the race for [deep sea mining](#) in international waters (CBS News)
Lockheed Martin invests \$3 million in technology company to [automate wire harness manufacturing](#) (Assembly Magazine)
The 15 employers U.S. engineering students most [want to work for](#) (Business Insider)
Global defence groups [hiring at fastest rate in decades](#) amid record orders (Financial Times)
Fort Worth's [Lockheed Martin Armed Forces Bowl](#) will be played Dec. 27 (Fort Worth Business Oress)
Lockheed Martin could probably [use its planes a little more efficiently](#) (Financial Times)
Federal judge says Harvard Medical School professor engaged in "[rampant plagiarism](#)" for Lockheed Martin trial (FOX News)
Lockheed Martin's [AI-powered content strategy](#) saves time, boosts creativity (PR Daily)

HYPERSONICS NEWS

U.S. Army awards Lockheed Martin \$756 million contract for [hypersonic weapon system enhancement](#) (Huntsville Business Journal)
Lockheed Martin's [new Mako hypersonic missile](#) breaks cover (Naval News)
Air Force to make first of 13 [HACM hypersonic tests](#) this fall (Air & Space Forces Magazine)
Pentagon slows and adapts [long-range hypersonic defense](#) plan (Aviation Week Network)

SPACE SYSTEMS NEWS

Lockheed Martin beats Northrop Grumman for [\\$17 billion U.S. interceptor deal](#) (Bloomberg News)
Video / Missile Defense Agency [opts for Lockheed Martin](#) on \$17 billion interceptor deal (Military Times)
Aerojet Rocketdyne to [supply propulsion](#) for Pentagon's next-generation interceptor (The Defense Post)
Next-gen homeland defense [interceptor plans are risky](#), watchdog says (Defense News)
Lockheed Martin wins \$2.1 billion award for [next-generation NOAA satellites](#) (Aviation Week Network)
NOAA's upcoming GeoXO satellites could be "[weather monitoring platform of the future](#)" (Space.com)
Lockheed Martin secures \$977.5 million contract extension for [missile-warning satellites](#) (Space News)
Falcon Heavy [launches GOES-U](#) weather satellite (Space News)
U.S. Air Force flight tests [future ICBM reentry vehicle](#) (The Defense Post)
NASA inspector general report highlights [issues with Orion heat shield](#) (Space News)
Space Force [opens bidding](#) for classified communications satellites (Space News)
Lockheed Martin pitches [RF detection demo](#) using Pony Express 2 satellites and F-35 (Aviation Week Network)
Aerospace giant [Lockheed Martin thinking small](#) – small satellites that is (Colorado Springs Gazette)
NASA funds [studies for Mars sample return](#) mission options (Aviation Week Network)
Hubble goes to single-gyro operating mode as [NASA passes on private servicing mission](#) (Space News)
Voyager 1 is back online; [NASA's most distant spacecraft](#) returns data from all four instruments (Space.com)
Lockheed Martin to [buy up to 25 rocket launches](#) from Firefly Aerospace (Reuters)
Pentagon worried its [primary satellite launcher can't keep pace](#) (The Washington Post)

Lockheed Martin-Boeing alliance told it [must launch more U.S. satellites](#) (Bloomberg News)
Lockheed Martin-Boeing alliance hit with U.S. [penalties for launch delays](#) (Bloomberg News)
Pentagon's longtime rocket launcher [races to catch SpaceX](#) (The Wall Street Journal)
Blue Origin, SpaceX, ULA to compete for [\\$5.6 billion in Pentagon launch contracts](#) (Space News)
U.S. Space Force plans to [boost competition](#) for launch business. Will it work? (Defense News)
United Launch Alliance to fly [second Vulcan mission in September](#) (Defense News)
ULA [changes payloads](#) for second Vulcan launch (Space News)
BE-4 engines arrive for [ULA Vulcan Cert-2](#) (Aviation Week Network)
Starliner mission to be [first crewed Atlas 5 flight](#) (Space News)
SpaceX congratulates Boeing, ULA on [first crewed Starliner launch](#) (Space.com)
With last launch for NRO, [Delta rockets end 63 years of flight](#) (Aviation Week Network)

AERONAUTICS NEWS

F-35 deliveries set for [third quarter resumption](#) in interim "combat training" standard, Lockheed Martin says (FlightGlobal)
F-35s are [piling up on Lockheed Martin tarmacs](#), presenting "unique" risks to the Pentagon (Defense One)
F-35 program could [reshuffle long-term upgrade plan](#), deliver TR-3 jets early without full capability (Breaking Defense)
F-35 office targeting July for [long-awaited avionics upgrade](#) (Aviation Week Network)
Congress inches toward [reining in struggling F-35 program](#) (The Hill)
House passes [defense spending bill](#) amid F-35, submarine purchase spats (Defense News)
F-35 program's [lifetime price tag tops \\$2 trillion](#), Pentagon wants jets to fly longer (Breaking Defense)
Air Force confirms its F-35As [were mission capable about half the time](#) in 2023 (Air & Space Forces Magazine)
Marine unit found [metal shavings in F-35 fuel](#), plastic tool in wing (Defense News)
Lockheed Martin, Howmet [settle lawsuit over F-35 titanium](#) (Breaking Defense)
Lockheed Martin, Maxar ink agreement to [enhance F-35 flying simulator](#) (C4ISRNet)
Lockheed Martin [F-35B crashes after refueling](#) while en route to California from Fort Worth (Fort Worth Star-Telegram)
Netherlands first to declare [F-35s performing nuclear role](#) (Jane's)
Lockheed Martin to roll out [first F-35s for Poland](#) this summer (Defense News)
Poland, Italy are [unfazed by F-35 upgrade snags](#) (Defense News)
Denmark to bring home F-35 jets from Arizona [amid upgrade delays](#) (Defense News)
F-35 upgrade [customers in Asia-Pacific](#) monitor Lockheed Martin upgrade saga from afar (Defense News)
Switzerland will [domestically assemble four F-35](#) stealth fighters in deal with Lockheed Martin (FlightGlobal)
South Korea to establish [F-35 maintenance depot](#) by 2027 (Aviation Week Network)
Israeli Defense Ministry to acquire nation's [third F-35 fighter squadron](#) (The Jerusalem Post)
Germany looking into buying [8 additional F-35 jets](#) (Reuters)
German F-35 production ready to take off as Lockheed Martin eyes [further European sales](#) (FlightGlobal)
[Emirati F-35 prospects languish](#) amid high-stakes Chinese, U.S. courting (Defense News)
Commentary / For F-35, Congress must [heed history](#) (Defense News)
Podcast / The F-35 has a [history of long COVID](#) (Aviation Week Network)
"Trainwreck" tells other side of [F-35's complicated story](#) (Aviation Week Network)
U.S. Air Force awards Lockheed Martin F-16 [Viper Shield EW contract](#) for allies (The Defense Post)
[Fighter industry rebuilding capacity](#) after dismal streak (Aviation Week Network)
NASA's X-59 "quiet" supersonic jet passes [key safety review](#) ahead of first test flight (Space.com)
Photo Gallery / C-130 begins its [eighth decade](#) (Aviation Week Network)
Lockheed Martin [delivers 2,700th Hercules](#) (Air Force Technology)
Super Hercules makes Air Force history with [marathon flight](#) from Texas to Guam (Stars & Stripes)
Lockheed Martin considers [India unit](#) amid three-firm race to bag cargo aircraft deal (Hindustan Times)
Budget strain [pauses MC-130J amphibious project](#) for special forces (Defense News)
Another [dead end for airborne lasers](#): Air Force scraps effort to mount directed-energy weapon on fighter jet (Military.com)
Anduril, General Atomics to develop [new Collaborative Combat Aircraft](#) for USAF; Lockheed Martin, Boeing, Northrop Grumman eliminated (Air & Space Forces Magazine)
Lockheed Martin demonstrates [AI-enabled air-to-air tactical intercepts](#) (The Defense Post)
Skunk Works boss details [AI approach for air combat](#) (Aviation Week Network)
Private [mid-tier companies best primes](#) in U.S. Air Force competitions (Aviation Week Network)
Next-gen fighter not dead, but [needs cheaper redesign](#), Kendall says (Defense News)
Next-gen doubts? Air Force chief of staff [won't commit to fielding NGAD](#) (Breaking Defense)
U.S. Navy [pushes back T-45 replacement](#) timeline (Aviation Week Network)
Funding crunch creates [uncertainty for USAF's next-gen tanker](#) plans (Aviation Week Network)
Hundreds of people apply for [Lockheed Martin jobs in Fort Smith](#) (40/29 TV News, Rogers, AR)

MISSILES AND FIRE CONTROL NEWS

U.S. Army awards Lockheed Martin [\\$4.5 billion multi-year Patriot missile contract](#) (Reuters)

Lockheed Martin's PAC-3 missile registers [first kill using Aegis](#) system (The Defense Post)
White House [redirects air defense interceptors](#) to embattled Ukraine (Defense News)
How companies plan to [ramp up production of Patriot missiles](#) (Defense News)
Lockheed Martin eyes [Patriot interceptor production in Spain](#) (Defense News)
U.S. Army increases [HIMARS order](#) from Lockheed Martin to \$1.9 billion (The Defense Post)
U.S.-made HIMARS "ineffective" in Ukraine due to [Russian jamming](#), report says (The Defense Post)
U.S. Army sends [HIMARS rocket launcher island-hopping](#) in the Philippines (Defense News)
Video / [How does the HIMARS work](#) and why is it so useful? (Military Times)
Rheinmetall, Lockheed Martin [unveil GMARS](#), in talks with European customers (Breaking Defense)
Citing missile mismatch, [Lockheed Martin snarls at HIMARS challenge](#) in Europe (Defense News)
Extended range version of Army guided rocket [enters production](#) (Defense News)
Finland to acquire [JASSM-ER cruise missiles](#) (Jane's)
Poland to buy \$735 million of [long-range missiles](#) from U.S. (The Defense Post)
Lockheed Martin [offers Poland a seat](#) at its rocket launcher table (Defense News)
Lockheed Martin secures \$451 million U.S. Army contract for [M270 upgrades](#) (Army Technology)
U.S. Missile Defense Agency takes [fresh look at airborne lasers](#) (Aviation Week Network)
U.S. Army deploys [midrange missile](#) for first time in Philippines (Defense News)
Military plans up to 20 missile [tests for Guam defense system](#) over next decade (Stars & Stripes)
U.S. Army's [new precision missile](#) hit moving target in Pacific exercise (Defense News)
Marine [sink moving vessel at sea](#) with new missile in Pacific training (Military Times)
Army ["prohibited" soldiers from using Hellfire](#) with M-SHORAD on Strykers due to safety concerns (Breaking Defense)
Video / See an Apache helicopter unleash a [Hellfire missile](#) at a truck during live-fire exercise (Military Times)
Lockheed Martin and Boeing seal deal with Malaysia for [targeting pods](#) (Air Force Technology)
U.S. Army debates path to buy [long-range precision munitions](#) (Defense News)

ROTARY AND MISSION SYSTEMS NEWS

Missile Defense Agency awards Lockheed Martin [\\$4.1 billion contract](#) to upgrade battle command system (Defense News)
Lockheed Martin to supply Australia with [air battle management system](#) (C4ISRNet)
Lockheed Martin ties [digital C2](#) into Joint Fires Network at Valiant Shield (Defense News)
GA-ASI and Lockheed Martin developing [net-enabled weapons capability](#) for MQ-9B SeaGuardian (Seapower)
Missile Defense Agency officially [accepts long-range radar](#) from Lockheed Martin (The Defense Post)
SPY-7 radar tracks live space objects ahead of [delivery to Japan](#) (C4ISRNet)
Lockheed Martin SPY-7 radar hits milestone for [Spain's F-110 frigate](#) (Naval News)
Marine Corps [delays deployment of new heavy-lift helicopter](#) to 2026 (Marine Times)
Next U.S. Army Black Hawk [contract to cover 255 helicopters](#) (Aviation Week Network)
Lockheed Martin to build [micro-electronics suite](#) for U.S. Navy's MH-60R helicopter (The Defense Post)
Black Hawk charts a course toward a [digital, all-domain future](#) (Breaking Defense)
[Next-gen helo engines](#) delivered to Sikorsky for Black Hawk integration (Defense News)
Lockheed Martin helicopter program gets [boost with funding, Intel partnership](#) in Owego (Binghamton Press & Sun Bulletin)
Lockheed Martin [protest delayed future U.S. Army assault aircraft fielding](#), official says (The Defense Post)
Sikorsky to rival Bell, Leonardo for [NATO's new medium lift helicopter](#) (The Defense Post)
U.S. Navy starts requirements definition for [Seahawk replacement](#) (Aviation Week Network)
After Army canceled helicopter program, [industry had to pivot](#) (Defense News)
DARPA picks six concepts for [naval VTOL uncrewed aircraft](#) X-plane (Aviation Week Network)
DARPA's ancillary X-plane program aims to [raise the bar for VTOL UAS](#) (Aviation Week Network)
Sikorsky begins flight tests of new ["rotor blown wing" drone](#) (The Defense Post)
[Biden's new chopper is demoted](#) after scorching White House lawn (Bloomberg News)
Lockheed Martin's Sikorsky Support Services, Derco Aerospace to pay \$70 million to [resolve False Claim Act allegations](#) (Dow Jones / MarketWatch)
[New leadership at Sikorsky](#) amid Lockheed Martin leadership shuffle (FlightGlobal)
Sikorsky to [lay off hundreds in Connecticut](#) after Army helicopter decision (Breaking Defense)
Connecticut [lawmakers to grill Army, Lockheed Martin](#) about job cuts at Sikorsky helicopter unit (Breaking Defense)
Gov. Ivey [cuts the ribbon](#) on Lockheed Martin facility (WAFF48 News, Huntsville)
USS St. Louis begins its [first deployment](#) (Stars & Stripes)
U.S. combat ship caused \$2.5 million in [damage to dock and seawall](#), lawsuit says (Stars & Stripes)



Group Photo - Mike Ochs, Dick Shaw, Mark Nash, Larry Price, Robin Zen, Brigid O'Brien, Carolyn Malaby, Paula Pinkley, Jerry Lillard, Dick Sosnay, Mike Bartlett, Joe Wuest & son, Sharon Harr, Cal Harr



Narrow Gauge Train



Big Boy" Engine



Cal Harr Investigates a Galloping goose



Big Red Snow Blower



Union Pacific Steam Engine

ULA Tour



The MARS Group at the ULA Tour



Joe Wuest, Tess Freeman, Nels Freeman, Carolyn Malaby, Brigid O'Brien, Cal Harr, Sharon Harr, Larry Price, Mike Barlett at the Yard House



Terry Lilly, Dick Sosnay Brigid O'Brien, Darren O'Brien, Leo Johnson, Joan Rosenberger, and Sue Frank at Max Taps



The MARS Group at The Wild Animal Sanctuary



Red Fox



Katie Cooke, Luanne Sosnay, Gloria Rosener, Carolyn Malaby, and Larry Stearns Brave Early Morning Wind



King of the Jungle



Two Grizzlies wait for Lunch



Two Tigers



Grizzly Bear



Jaguar



MARS Members tour the Colorado State Capitol and the Colorado History Museum, June 11, 2024
Photo: Kathy Hetzel



Looking west at Mt. Blue Sky previously known as Mt. Evans from the Capitol observation deck.



Henry Cordes Brown's attic museum. Capitol dedicated July 4th, 1900



Only the State Senate Chambers has the stain glass.



State Representative Chambers have original desks and "lifts" were added to them to accommodate today's men and women.



The chambers have the original podiums. The chandeliers are lowered from the attic twice a year for cleaning.



Colorado History Museum, Anschutz Hamilton Hall



The Colorado History Museum has walls dedicated to John Fielder and his images.



Rockies Welcome MARS Associates LM & ULA Retirees



2024 MARS at the Rockies



Bill & Angie Matthias



"Moon" Luckow & Sandy Thimmig



Dan & Lucy Ellerhorst



Gerry Barck & Barb Ward



Lisa Cox, Glenda & Charlie Haupt



Dick & Patty Shaw



Kameron Ritz, Mollie Christensen



Michael Hewitt, Leslie Hildebrand
Beth & Neal King



Pat & Ellen Albert, Danielle Kamp



Rick Martinac & Diana Belfiore-Martinac
Pete Munoz, Dick Sosnay



Brantley Kamp, Grayson Ritz, Owen Kamp



Debbie Baldwin, Paula Pinkley, Carolyn Malaby



Linda & Larry Stearns



Rob Richmeier & Bridgid O'Brien



The Manor House, Highlands Ranch, CO



Bob & Norma Crosby



Roger & Barb Chamberlain



Ernie & Cecile Berliner



Linda & Bob Berry



David Clair, Horace Clair



Phyllis & Curt Brudos



Cherie & Vincent Conca



Mike Davis & Mary Stirling



Gary & Margie Flora



Ralph & Carole Dergance



Tess & Nels Freeman



Lucy & Dan Ellerhorst



Ron & Maureen Gedeon



Bob & Darlene Gammill



Matt & Livie Grogan



Connie Heisler, Cal & Sharon Harr



Paul Jones, Livie Grogan, Lonnie Jones



Charlie & Glenda Haupt



Carl Kaminski, Linda Duby



Shirley & Mike Pfister



Annette Marstiller, Lauri Sweet
John Marstiller, Alan Sweet



Joni Rosenberger, Leo Johnson



Tom & Jan Redfield



Barb & Steve Sande



Geo & Dave Stealy



Allen & Sally Sanders



Bob Stevenson, Bridgid O'Brien



Bill Schrott, Jim & Lee Kummer



Linda & Larry Stearns



Jeff & Claire Wead



Bill & Jan Todd



2024 Super Seniors, L to R
 Front: Bill Wise, Ernie Berliner, Horace Clair, Maureen & Ron Gedeon, Leo Johnson, Bill Todd, Bart Wright, Larry Major, Bob Stevenson
 Middle: Margie Flora, Jan Redfield, Tess Freeman, Norma & Bob Crosby, Darline Gammill, Stan & Jan Hightower, Vera Kolb,
 Mike Davis, Mary Stirling, Phyllis & Curt Brudos
 Back: Gary Flora, Matt Grogan, Tom Redfield, Nels Freeman, Dave Steele, Bill Oliver, Fred Luhman, Bob Gammill, Mike Kess,
 Ben Clark, Mike & Shirley Pfister



Seniors (L to R):
 Front: Linda Berry, PJ Slovikoski, Luanne Sosnay, Cherie Conca, Carole Dergance
 Back: Livie Grogan, Lonnie Jones, Paul Jones, Bob Berry, Ron Slovikoski, Allen Sanders,
 Larry Stearns, Dick Sosnay, Ralph Dergance, Vincent Conca, Mary Krohnfeldt,
 Linda Stearns, Carl Kaminski

Schedule Addendum (See last page)

NOTES:

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

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



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

PRESORTED STANDARD
 US POSTAGE
 PAID
 LITTLETON, CO
 PERMIT NO. 245

' ADDRESS SERVICE REQUESTED



DATE: Jul 2024												
EVENT/MONTH	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Officers/Directors	3	7*	4	2	6	3	8	5	5	2	7	4
Bridge Club	19	16	20	18	15	20	17	21	21	18	16	20
Car Club	6	3	7	5	2	7	4	1	1	5	3	7
Golf Club	Thur	Thur	Thur	Thur	-	-	-	-	-	Thur	Thur	Thur
Hiking Club	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
PaceSetters Club	10	14	18	9	13							
Photo Club			12	10	14	12	9	13	13	10	8	
Website Team	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed	as-needed
Marketing Committee	31	28	25	30	27	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MARS Events												
Happy Hour	23			TBD				TBD				TBD
2024 Annual Picnic			11									
Holiday Celebration						4						
Meeting									TBD			
Summer Luncheon Honoring Senior Members												TBD
Annual Rockies Game												TBD
MARS Special Activities NOTE 8												
Understanding Medicare			17									
Wine Tasting				TBD								
Capital Tour/History Museum			24									
Central City Opera	24											
Glenwood Springs Train				9 to 11								
MARS STAR Schedule												
Items due for MARS STAR												
STAR Input to Editor	11			10			9			10		
STAR Repro. Deadline	22			21			20			21		
STAR Mailing	31			30			29			30		