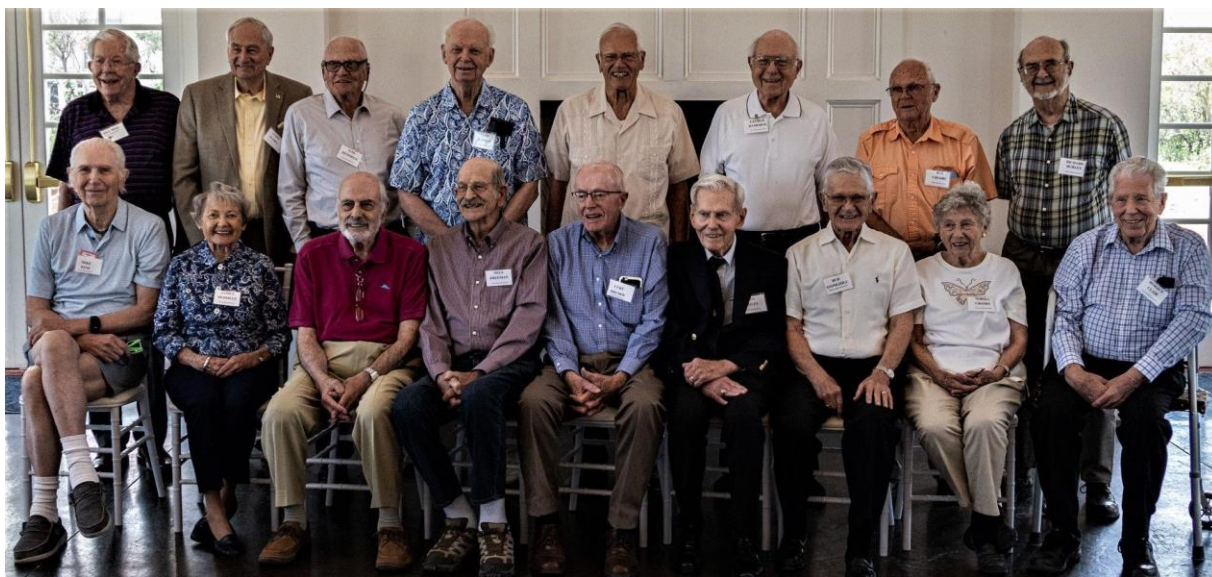


MARS STAR



2023 Super Seniors: (Back row, L to R) Bill Wise, Gary Flora, Tom Redfield, Fred Luhman, Leo Johnson, George Dameron, Bob Crosby, Richard Hurley (Front row, L to R) Mike Kess, Jan Redfield, Mike Davis, Nels Freeman, Curt Brudos, Jim Miles, Bud Stodghill, Norma Crosby, Horace Clair

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 carlkc066@gmail.com

Holiday Celebration Luncheon, Dec 6, Page 31
Special Events Planned, page 8

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

OFFICERS

President	Ken Marts	303-868-2168
President-Elect	TBD	
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	Robin Zen	303-335-6443
Director	Monte Kopke	303-973-4301
Director	Daniel Crumb	303-909-0490
Director	Debbie Carr	303-503-7113
Director	Heidi Urie	303-588-6762
Director	Mickey Clemons	720-470-0883

MARS STAR

Editor	Tom Pighetti	303-979-7933
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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
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@apc.com) 303-226-0177

[Jon Elmore](mailto:Jon.Elmore@apc.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:

Super Seniors (85 and more) at the Luncheon Honoring Seniors, held at Ken Caryl Manor House, July 12, 2023. More photos are in this issue and on the MARS Associates website.

From the Editor's Desk

Dan Ellerhorst(dan.ellerhorst@gmail.com)

Tom Pighetti (tipighetti@q.com)

Linda Stearns (linda80120@comcast.net)

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

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

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



President's Corner

By Ken Marts
(martshouse2@aol.com)

We're heading into the last days of Fall and getting ready for the Holidays. Thanksgiving and Christmas (or Hanukah, or whatever you celebrate) will soon be upon us. These holidays are spent with family and friends to celebrate the season and to look at ALL the things we have to be thankful for. You can look back on this year with pleasant memories of what you've done or accomplished and what you've put off to accomplish in the coming years. First and foremost is our life and health that we are still alive and wandering this wonderful Earth. Second are the heartfelt emotions we have in our beliefs and positive emotions as we infect others with that positivity. Third is our abilities to help others who may not be as fortunate as we are. When you look around, there are always others in need of a helping hand to get back on their feet. Think of this as you read this issue of the MARS STAR. There is an article on Operation Santa Claus in this issue where you can help needy kids with your purchases at Kroger stores in this vein.

As we head into winter, we're also closing out another successful year by our Marketing team led by Dick Sosnay with our Special Activities being enjoyed by close to 300 of our members. Dick's write-up in this MARS STAR summarizes the results of 2023 and what we have to look forward to in 2024 as we gather interest for about 30 different activities. Please respond to Dick on what you'd like to see MARS Associates offer next year. We encourage your feedback to provide the type of activities you'd like to see. PLEASE, no input on the World Championship Pickleball Tournament to be held on the Big Island of Hawaii in May. This is a bit out of our league for scheduling.

Thanks also to all the members who volunteered to lead these Special Activities. Check out the website for pictures of what your fellow MARS people are doing.

Next, I'd like to give a shout out to Gina Curet for all the work she's done in updating the MARS Associates Benefits page and updating all the links and offerings. Pete Munoz had a HUGE hand in validating the links and discounts offered (must be his Quality background). Read her article in this issue on what to expect in the future. Oh....and if you have any questions about insurance, Gina has recently become an expert in this area on how it impacts our MARS Associates organization. Her head is still spinning with all this information so don't ask her about personal insurance.

Dan Ellerhorst and his Communications team continue to work thru the bugs in the new website to make the transition as smooth as possible for everyone. Please sign up for mass mailings from us if you haven't already. If you have trouble making this happen, contact either Dan or myself. Steve Sande is slowly realizing what his new part-time task of webmaster involves. He gets daily challenges that he bats away with a savvy technique only he has mastered (think Star Wars Jedi master). Rick Gonzales thought he could run away by moving to Sante Fe, NM but has been in constant touch with us during the website maturation cycle as well.

Carl Kaminski continues to update our membership lists and has been challenged to keep up with our dynamic organization! Carl's article is also in this STAR issue and his efforts are greatly appreciated.

Enough cannot be said of Linda Duby and her main event planning to juggle multiple balls in the air between the Annual Meeting in March, Summer Luncheon in July, Summer Picnic in September, and the Holiday Celebration in December. Each of these events requires a lot of advance planning to pull off so our members can enjoy themselves. At each of these events please let Linda know you appreciate the hard work she puts into planning and implementing them. Linda's shoulders are big enough to humbly handle your appreciation! Read her article on what we've done and what we have planned herein.

Charlie Haupt continues to work admirably keeping our finances in order and making sure our dues money (our only source of income) is wisely spent for the betterment of all members.

I failed to mention Al Nemes in last quarter's STAR, but Al keeps us honest in our monthly meetings and captures our meeting minutes and actions. Al is our Chief cat herder in moving us forward during our meetings and capturing what needs to be done to keep our organization healthy.

In addition to those mentioned, there are many other people who keep our group running and keep you informed. Check out the website for Special Activities and the leaders of these. In addition, Volunteering, In Memoriam, Historian (Barb Sande), and the Directors (led by Roger Rieger) help our organization run smoothly.

In closing, please email me if you have suggestions to improve our communication, recommend events, or ideas to enhance our organization. We welcome your comments! Thank you and I hope to see you at our upcoming events!

MARS STAR Hard Copy Mail to Members

By Ken Marts, President
(martshouse2@aol.com)

MARS Associates has been working towards a fully digital communications format for our members. These include the quarterly MARS STAR, membership renewal, MARS activity sign-ups, and keeping members up to date with the latest news. We've supplemented the digital content with hard copies of the MARS STAR postal mailed to those members requesting it. We've been able to do this using the services of Lockheed Martin and their internal permit for bulk mail mailings. This service may no longer be available to the Club, and the cost of mailing will come out of MARS Associates general funds.

About 250 hard copy STARS are mailed out quarterly to members. These costs are not currently known but are being gathered as part of our current discovery phase. The Officers and Directors are working out alternatives on how to pay for this increased mailing cost, and the possibility that other costs may be realized in addition to mailing.

As mentioned, Dan Ellerhorst and I are looking at several alternatives ranging from paying for the mailings with existing budgets to charging a fee to receive the mailings. A decision has not been finalized, but we'll be able to tell you more in the January MARS STAR. All options are being considered and if you have an idea yourself, please let Dan (dan.ellerhorst@gmail.com) or myself (martshouse2@aol.com) know your thoughts. The MARS STAR will continue to be available on our website at <https://www.marsretirees.org>. Those currently receiving hard copy have the website as an alternative to view the current STAR and previous issues.



Director's Notepad

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

Greetings everyone! What a great bunch of activities put on by your MARS Associates club so far this year! The annual MARS picnic at Clement Park in September was a fantastic event, good food and drink, great camaraderie, and perfect weather! A huge shout out to Linda Duby who pulls the picnic together, enlists volunteers to help, and worries about all the little details

it takes to make it such a wonderful day for all of us. Next time you see Linda, please express your appreciation for all she does in support of our MARS Associates!

As we approach the end of the year, your Officers and committee members have been looking forward to 2024, with many events on the horizon. Keep your eyes open for announcements in the newsletter, on the website, as well as on our MARS Associates Facebook page. The other focus for next year is succession planning to ensure continuation of our Club. Without people volunteering their time and talents, your MARS Associates Club would cease to exist. The club is actively seeking someone to succeed Linda Duby as VP of Activities. After many years of service Linda would like to "pass the torch" and step back into a support role. As you know, if you've been to any of the MARS functions, Linda has a great process in place for these events and we need someone willing to step forward and begin the transition. We are also actively seeking new members for the Board of Directors, a great way to get involved with the management of the club and become part of the leadership team.

If you are interested, our board meetings are open to anyone who may be interested in becoming a member of the management team. Meetings are held on the first Wednesday of the 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. You can also always reach out to any of the Officers or BoD members or contact me directly. We would love to hear from you!



Activities Updates

By Linda Duby
(lindaduby@comcast.net)

The **Luncheon Honoring Senior Members** on July 12 was attended by 74 members and their guests. The luncheon was held at the Manor House at Ken Caryl which has become a favorite venue for this event. The food and service as usual was excellent. Pictures of the event are in this edition of the STAR.

This event will be held in June next year. We would like to see more members attend this event and thought that holding it prior to the 4th of July may be a better time.

This luncheon is open to all members and will continue to honor MARS senior members.

MARS at the Rockies Picnic and Game

On August 2, 35 members and guests enjoyed a buffet picnic in the Platte River Picnic Area and great weather—the game? Not so enjoyable, unless you were a San Diego fan. Our seats, as usual, were shaded by the Club Level seating above. Charlie Haupt and John Perrizolo won the gift certificates for four tickets each to future day games. The San Diego won with a final score of Padres 11- Rockies 1.

The **Annual Picnic** at Clement Park was held on September 13 and was very successful. We were very fortunate to have great weather. The food was great, and the beer drinkers seemed to enjoy the new selection of beers. We had 206 members and guests attend along with Nick Spain and Shamina Fletcher from Lockheed Martin. Some pictures are in this edition of the STAR.

The highlight of the picnic was the door prizes. Prizes were provided by Lockheed Martin, United Launch Alliance, Assured Partners, Kaiser Permanente, Red Rocks Credit Union, and Osher Life-Long Learning Institute (OLLI) and MARS Associates. Congratulations to the winners who are listed below:

Prize & Donor	Winner
\$50.00 gift card Red Rocks Credit Union	Mike Davis
\$50.00 gift card Red Rocks Credit Union	Ray Treadaway
\$50.00 Panera gift card Assured Partners	Beth King
\$50.00 Panera gift card Assured Partners	Nels Freeman
Electric Toothbrush Assured Partners	Larry Stearns
Emergency Kit Kaiser Permanente	Martha Lell
One Year Membership OLLI	Dick Shaw
Blanket Lockheed Martin	Dave Steele
Space Candle Lockheed Martin	Jim Sturek
Mystery Gift Lockheed Martin	Richard Hurley
Knapsack/lunch bag Lockheed Martin	Rod Halverson
Picnic Cooler Lockheed Martin	Mary Stirling
ULA Hat United Launch Alliance	Bill Edwards

ULA Hat United Launch Alliance	Sandy Mossman
ULA Hat United Launch Alliance	Dave Martz
ULA Hat United Launch Alliance	Patrick Shannon
ULA Hat United Launch Alliance	Debbie Mues
ULA Hat United Launch Alliance	Charles Pippinger
ULA Hat United Launch Alliance	John Grace
ULA Hat United Launch Alliance	Steven Bravdica
ULA Hat United Launch Alliance	Van Vandeventer
ULA Hat United Launch Alliance	Don Dailey
\$50.00 MARS Associates	Jim Fusselman
\$50.00 MARS Associates	Carl Rizza
\$50.00 MARS Associates	Ron Gedeon
\$50.00 MARS Associates	Mark Nash
\$50.00 MARS Associates	Rusty Adinolf
\$50.00 MARS Associates	Bill Oliver
\$100.00 MARS Associates	Paul Leyva
\$100.00 MARS Associates	Don Foley
\$200.00 MARS Associates	Bev Baugher
\$300.00 MARS Associates	Neal King

The next event will be the **Holiday Celebration** on December 6, 2023, at the Wellshire Event Center. The flyer with all the details and menu selections is included in this STAR (page 31) and is also on the MARS website. Reservations can be made either by mailing in the coupon on the flyer with a check or by using the link on the website to make a secure electronic reservation and payment.

MARS again will be collecting donations for Toys for Tots at the Holiday Celebration. Toys for Tots accepts new, unwrapped toys or you can make a monetary donation. We will have boxes for the toys and a container for monetary donations at the check-in table.

Any updates or reminders about events will be done by mass emails. Please make sure you have validated your

email, so you receive the emails that are sent out about the MARS events. Directions for validating your email are on the website.

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



Business

By Gina Curet

orion43@comcast.net

I hope you are getting out to see some beautiful leaves in the mountains! Welcome Fall! It has been a busy quarter updating the website, so please take a look!

- 2023-2024 Delta Dental rates are posted.
- LM Corporate Discounts are updated effective 9/11/2023.
- **New** Local Discounts page is now populated with great savings opportunities (thanks to Pete Munoz for creating/updating this!).
- **New** Medicare 101 presentation.

My local discount of the quarter is Red Rocks Federal Credit Union – they are offering a 0.25% rate discount for auto loans when you set up automatic payments (and we've all seen those high rates recently). Please also review the "Penny Saver" in the local discounts to take advantage of the great savings for many goods and services!

MARS and Kaiser held a course on what you need to know as you near the age of 65. There were over 40 people attending and we ALL learned something that day, even those that were already on Medicare! Kaiser provided the document, so please review it to help with your questions. We will continue to hold these classes in 2024.

Vision Plan rates and comparisons will be coming out in the month of November for 2024, so please look for those future updates. Hoping to see everyone at the upcoming Happy Hour or Holiday Luncheon!



Communications

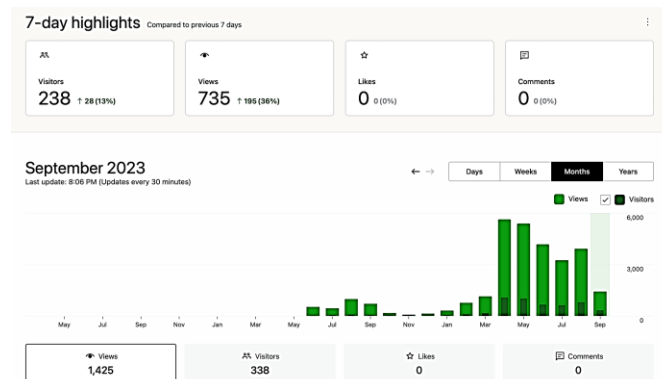
By Dan Ellerhorst

dan.ellerhorst@gmail.com

I have only a short report to make in this issue. Since we are heading out on an extended vacation tomorrow, the data I am providing is current as of Sept 17th.

Our current subscription counts for our two MARS email lists are: MARS General Email – 684 (last time it was 655), MARS STAR email list – 499 (489). If you are reading this STAR and wondering why you haven't been getting email from MARS, the answer is you haven't subscribed yet. Subscription is easy via the blue MARS EMAIL LISTS button on our homepage at <https://marsretirees.org>.

In case you are interested, the chart below will give you an idea of the volume of traffic on our website. Following the initial "newness" surge we have settled down to a respectable level of traffic. If you haven't tried it out recently, I strongly encourage you to take a look. There are more photos of recent events – and I know photos are popular with our membership.



Our MARS Associates Facebook Group continues to share many interesting posts. It is a closed group – limited to MARS Members and immediate family, and LM and ULA employees approaching retirement. The group currently has 438 (up from 425) members. If you are a Facebook user, you can search groups for MARS Associates and request to join it.

I am encouraged by the slow but sure progress we are making in enrolling more members in our email and online communications services. We hope to be able to reach everyone who is interested in our events in the most convenient and timely way possible. If you have suggestions or are having trouble accessing email or our online sites, please drop me a note.



Membership Report

By Carl Kaminski

carlkcol66@gmail.com

MEMBERSHIP STATISTICS

As of September 30, 2023, there are 1,256 MARS Associates members, including 581 senior members. We have a total of 69 new members who have joined MARS for the 2023 CY.

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

Colorado

Aurora	Sonia Helmreich
Golden	Steve Graybeal
Highlands Ranch	Michele & Garrett Olson, Roy & Penny Wakimura, Daniel & Ginette Evans, Dwayne Underwood, Jacqueline Bradley, Daniel Hutchinson & Maria Demaree
Larkspur	Eri Sarti
Littleton	Chris & Kristen Dahl, Peter Huseman, Joey & Brenda Kellner, Stephen & Adele Westfall, Bryan & Amy Bachman, Don Sanchez

Other States

Alabama

Decatur Ernest & Stephanie Roybal

Florida

Cocoa Michael Leitzen

Membership Renewal

Drop notices in the form of a bright yellow postcard were sent to all members who had not submitted their membership renewal as of June 8th. 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 2023. Direct them to the website for more information or have them contact one of the Officers or Directors.

Change of email address or phone number?

Given the rapidly changing environment we are all dealing with, it's more important than ever that we have current email and phone information for our members. Please remember to include the MARS membership team in your list of people to notify when you have a new 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

Baker, Jane (D: June 2023)
Littleton, CO
<https://tinyurl.com/3ee7em9j>

Baker, Robert (D: July 2023)
Littleton, CO
<https://tinyurl.com/yc3nzxxe>

Barton, William (D: September 2023)
Midlothian, TX
No obituary published

Groll, Arthur "Art" (D: No date given)
(Survived by: Miriam "Mim" Groll)
Centennial, CO
<https://tinyurl.com/mwf99r37>

Non-Members

Burnett, Don (D: August 2023)
(Survived by Nell Burnett)
Cocoa, FL
<https://tinyurl.com/56yjcj2r>

Ford, Letha (D: June 2023)
(Survived by Butch Ford)
Melbourne, FL
<https://tinyurl.com/3ztytttd>

Kintigh, David (D: September 2023)
(Survived by Ann Kintigh)
Melbourne, FL
<https://tinyurl.com/23fr4jt2>

Stanton, Marie (D: July 2023)
Danville, CA
<https://tinyurl.com/2zjmncus>

vonSeekamm, Marie (D: June 2023)
Highlands Ranch, CO
No obituary published

Williams, Kirk (D: July 2023)
Littleton, CO
<https://tinyurl.com/yc7wysx4>

Marketing Committee

By Richard Sosnay
(richardsosnay@gmail.com)

Our MARS Special Activities continued to be heavily supported this year. Out of the eight Special Activities planned for this year, we have completed 7 of them. Since the last MARS STAR, we have had a great visit to the Wildlife Animal Sanctuary, a great visit to the Central City opera, a wonderful tour of the Waterton campus, and a great visit to the World War II Museum of Aviation. The following is a brief summary of all of our activities for 2023.

Event & Date (Attendees)	Comments
Special Activities Accomplished in 2023	
ULA Plant Tour, Mon, Mar 6, 2023 (41)	Great Tour of ULA
Cherokee Ranch and Castle, Tues, May 16, 2023 (53)	Wonderful Tour. Lunch at Los Dos Potrillos
Manitou (Pikes Peak) Railway, Thurs, June 8, 2023 (51)	Exciting train trip. Lunch at Crystal Park Cantina
The Wildlife Animal Sanctuary, Weds, July 19 2023 (31)	Great Day with Lions, Tigers, Bears
Central City Opera, Weds, July 26, 2023 (23)	Kiss Me Kate
LM Waterton Campus Tour,	Great Tour of Waterton Campus

Thurs, Aug 10, 2023 (56)	
WWII Museum of Aviation, Thurs, Aug 17, 2023 (37)	Lunch at Airplane Restaurant, Colorado Springs
Special Activities Planned for 2023	
Wine Tasting, Weds, Nov 8, 2023	Water2Wine

Photos are located on the MARS Associates website, EVENTS tab, scroll down to PHOTOS. Some photos are also included in this STAR.

Following is a brief description of each activity for 2023:

ULA Plant Tour

The ULA plant Tour, led by Terry Lilly, toured ULA's Denver facilities on March 6. A great time was shared with MARS members and friends. That tour was written-up in a previous (April 2023) MARS STAR, and a slide show can be found on our MARS website.

Cherokee Ranch and Castle tour

The MARS Members had the pleasure of experiencing a tour at Cherokee Ranch & Castle in Sedalia, CO on 16 May 2023, led by Pete Munoz. That tour was written-up in the previous (July 2023) MARS STAR, and a slide show can be found on our MARS website.

Manitou (Pikes Peak) Cog Railway

This trip was coordinated by Robin Zen. We had 51 members and guests of MARS Associates participate in the Manitou Cog Pikes Peak train trip, for a 3-hour tour. That tour was written-up in the previous (July 2023) MARS STAR, and a slide show can be found on our MARS website.

The Wild Animal Sanctuary

A group of 30 plus MARS members and friends made the drive to Keenesburg to see the lions, tigers, bears and more at The Wild Animal Sanctuary (TWAS). The tour was coordinated by long-time sanctuary supporter Carolyn Malaby, and we got there at 9 a.m. on a hot day, Wednesday, July 19. The world's largest carnivore sanctuary (including its Texas facility and The Wild Animal Refuge near Springfield, CO) is home to over 550 bears, wolves, wild horses and large cats. Begun in 1980 by Pat Craig, it's an amazing place. We saw these and other animals including camels, mountain lions and foxes safely from the Walk into the Willd walkway ABOVE where the animals don't feel threatened and don't pace like in zoos. We enjoyed the time and are glad the entrance fee supports the sanctuary.

The sanctuary was in the news as the US Government asked Pat Craig to coordinate the rescue of all the animals from the Puerto Rico Zoo which was closed due to damage by hurricanes, and the animals were suffering.

TWAS took in many cats but was not suitable for elephants, rhinos, snakes and some other animals. Imagine the paperwork and logistics involved! Hats off to Pat and his staff for their unending love of animals. Maybe you also saw the news about Lake Tahoe problem bear Hank the Tank (who's actually a female so now known as Henrietta) who had been getting into homes and trouble for a long while, gaining a following in California and the Internet. The Colorado Division of Wildlife approved a request to move the bear to Colorado – actually to The Wild Animal Refuge – where she can live her life without breaking into cars and homes. Yay!

Since we had such a good time, let's schedule another outing when it's cooler to visit TWAS again. Check out their website or Facebook page: www.thewildanimalsanctuary.org for more info on this amazing place. A slideshow of the tour can be seen on our MARS website.

Central City Opera

The Central City Opera visit was led by Sue Janssen. A total of 23 MARS members and guests got to see a matinee performance of *Kiss Me, Kate* at the wonderful Central City Opera house on Wednesday, July 26. The weather was great (at the start), and it was a pleasure to walk around the old mining town and see the sights. Many of our members enjoyed a nice lunch in Central City prior to the show, and some got to enjoy a pre-show presentation by one of the show's directors of what was coming up across the street from the century old Opera House in the old Stables. The first act was great, but... Unfortunately, a summer storm came through and took out power in most of Gilpin County, and after a long wait and an apology from the show management, the second act had to be canceled. They did offer the opportunity for individuals to try to get to one of the few remaining performances. Despite the disappointment, everybody had a great time, and many are thinking of going back next summer. A slideshow of the tour can be seen on our MARS website.

LM Waterton Campus Tour

The LM Waterton Campus tour was led by Judy Nielsen. Nick Spain, Vice President Human Resources, Lockheed Martin Space and his administrative assistant, Shamina Fletcher, worked with several organizations to put together two Waterton Campus tours, on August 10, for our retirees.

Both the morning and afternoon tours included a bus ride from the Visitor's Center to the Engineering Building's newly remodeled lobby for a Welcome Reception with refreshments as we watched a launch of Artemis on the new, huge screen in the lobby. It was like being onsite at a launch as the building and windows shook, it was so powerful. From there, the groups toured the Pulsar Lab

and had hands-on experience on some of the equipment. The lab folks provided entertainment by running a virtual race on Mars. From there, the groups' next stop was a tour of the Global Positioning Facility (GPF/FAB) to view at least 5 different satellites being built for future launches. After departing the GPF, the group was given a bus tour of the Waterton Campus hosted by our tour guide, J.J. Pugsley. He was very knowledgeable and provided many historical facts dating clear back to the 1960s and rocket engine testing. The feedback from all who attended was extremely positive. Several of those who attended hadn't been at Waterton for 15-20 years, so they were amazed at the changes and growth.

Those who attended the morning tour were:

Steven Axelson & Guest, Timothy Wass, David & Erin Bourcier, Stephen Bravdica, Lawrence & Barbara Davis, Ronald & Maureen Gedeon, Stephen Hantelman, Richard Harsh, Anne Herrington, Leo Johnson & Guest, Joan Rosenberger, John O'Brien, Peter Munoz, Donna O'Neill, Paula Pinkley, Gene Shirley, Carolyn Steen, William Steffen, David & Barbara Steinert, Robert & Jo Wessels, Heidi & Kevin Urie, Judy Nielsen.

Those who attended the afternoon tour were:

John Bigelow, Curtis & Phyllis Brudos, Vincent Conca, James Fusselman & Guest, Linda Sageman, Chris Hall & Guest, Dawn Cromwell, Richard Haltz, Loretta Kennedy, Claudia Knox, Gary & Mary Munda, Albert & Marilyn Nemes, Judy Nielsen, Janice & Thomas Redfield, Frank & Sally Ann Ross, Dick & Luanne Sosnay, Georgia & David Stealy, Kenneth & Elaine Zant, Robin Zen & Mark Nash.

A slideshow of the tour is currently in preparation and when done, will soon be found on our MARS website.

World War II Museum of Aviation in Colorado Springs

The World War II Museum of Aviation was led by Judy Nielsen. On Thursday, August 17, a group of 40 MARS retirees from the Denver area and Colorado Springs met at the Aviation Museum for a two-hour guided tour. Opened to the public in 2012, the National Museum of World War II Aviation documents the role that military aviation played in the emergence of our national as a world power during the Second World War. Through a combination of its aircraft collection, exhibits, interactive displays, and docent-led tours, the museum tells the story of our nation's tremendous technological advancements during the War and describes the lasting social and economic changes that were essential to the success of the Allied war effort, as well as the sacrifices of the men and women who won the air war.

The docents who led our two groups were extremely knowledgeable and brought the exhibits to life. Such an educational and heart-wrenching tour! During World

War II our United States of America was at its height in Patriotism. Listening to the stories of the brave men and women who flew those planes helped you to understand why they have been called "The Greatest Generation."

Following the museum tour, the group went to The Airplane Restaurant for an enjoyable lunch and socializing. The Airplane Restaurant centerpiece is a fully intact Boeing KC-97 tanker. Built in 1953, this magnificent airplane refueled aircraft throughout the world. Then, in May 2002, it began its second mission – to be the preeminent aviation restaurant in the United States. Forty-two passengers can actually eat in the plane of the 275-seat restaurant. Rich in aviation history, displaying hundreds of pictures, memorabilia and rare artifacts, Solo's offers much more than great food, it offers a flight through aviation history. Additionally, they are celebrating 100 years of flight!

A slideshow of the tour is currently in preparation and when done, will soon be found on our MARS website.

Wine Tasting

Our wine tasting event is being led by Terry Lilly and Robin Zen. We are planning our wine tasting for Wednesday, November 8, 2023 at Water2Wine in the Festival Shopping Center on South University. Each person will have a choice of 1 of 2 sets of 6 wines, for \$16 , plus tip. In addition, you will get an extra glass of your favorite wine in your bunch. Along with the wine, we will have fruit and cheese snacks for everyone. We look forward to seeing you there. Contact Terry or Robin for more information.

Planning for 2024

We have started our planning for the Special Activities for 2024. We have identified almost 25 activities as possible for next year. A summary was presented at our MARS Picnic, and we asked people to indicate which they were interested in, and which they wanted to lead. As usual, the toughest part is not finding new activities to do but finding volunteers for those activities. A brief summary of the current special activities we are looking at for next year follows.

2024 Possible Activities		
Event (Comments)	Lead	Interest at Picnic
LM Plant Tour	Judy Nielsen	15
ULA Plant Tour	Terry Lilly	12
Wild Animal Sanctuary Tour	Carolyn Malaby	18
Arvada Center for Performing Arts	Rene Watson	11
Kansas Cosmosphere, Hutchinson, Kansas (7-hour drive)	Bill Edwards	8

Highlands Ranch Mansion	Carolyn Malaby	8
Denver Mint	Robin Zen	16
Colorado State Capitol (free tours available on weekdays)	Kathy Hetzel	17
Colorado Railroad Museum	Robin Zen	11
Denver Botanic Gardens	Robin Zen	16
Train Trip to Glenwood Springs (3 days: 1 day travel, 1 day in Glenwood, 1 day back)	Robin Zen	31
Denver Walking Tour	Carolyn Malaby	10
Col Springs Balloon Lift-off & Glow	TBD	20
Cripple Creek Train	TBD	17
Distillery Tours	TBD	9
Georgetown Loop Railroad, Incl optional Mine tour)	TBD	10
QUEBEC 01 Missile Alert Facility (Last remaining Peacekeeper Site), Wyoming	TBD	20
Molly Brown House Museum	TBD	6
Buffalo Bill Museum & Grave	TBD	4
Coors Brewery Tour	TBD	17
Forney Museum of Transportation	TBD	11
AMC Theater Rental for Group Movie		5
AF Academy Self Tour		3

Operation Santa Claus

By Pete Munoz

Hello, my name is Pete Munoz and I am a member of the MARS Board of Directors. I am also the LM/ULA Operation Santa Claus (OSC) Board Chair. In 1958 two Martin Marietta employees, Ken Sedlmayr & Walt Martynec, wanted to make a difference. These two individuals felt they were blessed with good jobs and income and wanted to share their good fortune with others. They created a simple plan: Ask fellow employees to set aside an amount of money normally spent on holiday greeting cards for their colleagues and donate it to help the community's less fortunate. At the time, they had no idea how their idea would grow. The first year, their efforts raised \$343.50, enabling them to

assist a handful of families and every year that followed that grew. In 1982 the group formally organized as Sedlmayr-Martynec Fund Inc., doing business as (dba) Operation Santa Claus, and incorporated as a Colorado nonprofit 501(c)(3) organization.

Over the last several years the need has increased. Today we work with organizations such as Military Network, Salvation Army, Project Hope, Colorado Coalition, Developmental Pathways, South Metro Housing Options, The Village Highland, The Village North and Hope Communities. These organizations identify, screen and sponsor families and kids. We work throughout the year to host fundraising events so we can have the money to buy food for approximately 275-285 families and 900-1000 kids. We team with (Kroger) King Soopers to buy food and we work with Target & Walmart to buy gifts, wrapping paper, gift tags & ribbons. We have our 'Main Event' on the 3rd Thursday of December every year where employees and retirees gather to select a family, wrap gifts, and deliver food or gift cards to the families in need. This is our 65th year serving our community. I am proud of all that we have accomplished over the last 6+ decades. Over the last several years we have teamed with Kroger & Amazon Smile to get a small portion of their sales donated to our organization. Amazon has discontinued their support, but Kroger has held strong. Today we have 48 families who have identified OSC as the benefactor of their community outreach program. To that end I am asking for help of the MARS members, their families and friends who shop at any Kroger Stores (King Soopers, City Market, Ralphs) to follow the instructions below in identifying OSC as their benefitting organization. You won't be charged more at checkout and you won't lose or give up any of your rewards. Our goal is to get over 100 households to help us increase our passive income stream.

OSC is a completely volunteer organization consisting of LM and ULA employees and retirees like me and to that end, all donations go to the organization to pay for our Main Event and pay our fees with the state to keep us in good standing. No board members receive any compensation for their role and support to our activities. Our annual Main Event budget is \$65k and we work throughout the year looking for financial support through individual or corporate donations and events like Colorado Gives and Facebook Gives. In the recent past we received financial support from the MARS group, but unfortunately with the internal mail system reorganization at LM the checks were misplaced. We have since rectified that issue. If you are interested in sending a check you can make it payable to 'Operation Santa Claus' and mail it to my home address below. I will then deposit into the OSC bank account at Red Rocks Credit Union. If you include your email address, I will email you a tax donation receipt for your records. If you

want to make an electronic donation you can use this link - [Home | Operation Santa Claus \(square.site\)](#). OSC will be charged a transaction fee so checks are preferred.

If you would like to volunteer or participate in some of our fundraising events or look to contribute in other ways, you can call me directly at 720.308.1828 or email me at petemunoz29@gmail.com or email to OSC, operationsantaclausco@gmail.com. This account is managed by the Board Chair, the Vice Chair and our Treasurer, just to make sure we stay on top of all business matters and inquiries.

Please accept our '**Heartfelt Thank You**' for your time and consideration for this worthwhile cause. As our mission statement says, "We're for the kids!"

Mail checks to: Pete Munoz
Attn: OSC
1092 Riddlewood Rd
Highlands Ranch, CO 80129

To enroll Community Rewards with Kroger (King Soopers, City Market, Ralph's):

1. Go to [www.kingsoopers.com/i/community/community-rewards\[kingsoopers.com\]](http://www.kingsoopers.com/i/community/community-rewards[kingsoopers.com]) or navigate there by going to [www.kingsoopers.com\[kingsoopers.com\]](http://www.kingsoopers.com[kingsoopers.com]), scroll down to the bottom of the page, and click on: **Kroger Community Rewards** in the Community column.
2. Follow the instructions shown in **Steps A through D**
 - A. Sign into your digital King Soopers account. You will need to create a digital King Soopers account if you do not have one already.
 - B. Click the link to "Search for your Organization here." Type in "Operation Santa Claus" in the search box under "Find an Organization".
 - C. The Organization Name (Operation Santa Claus) and Organization Address will show up in a box.
 - D. Click the blue **Enroll** button in the Operation Santa Claus box. That completes the process!
3. Thank you for supporting Operation Santa Claus!
4. If you have any questions, please email the Operation Santa Claus team at: operationsantaclausco@gmail.com



Volunteer Activities

By Judy Nielsen
(jniel129@gmail.com)

Each quarter, we 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 provide information for those looking to volunteer. Additionally, we will donate \$50 to that volunteer's charity/organization. If you serve your community, we'd really like to hear from you. Past issues of the STAR have highlighted activities that some of our members support.

As for volunteer opportunities within Lockheed Martin and United Launch Alliance, I am happy to report that things have opened up. We recently received a request from LM Space for volunteers to support the upcoming Waterton Auto Show (and show their classic cars), as well as a request for Bike-to-Work Day volunteers. We also had six volunteers for the Operation Santa Claus Fun Run. So, if you have not already submitted your name and email address for volunteer consideration, please send an email to jniel129@gmail.com.

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
(barbsande@comcast.net)

Program Profile

This issue continues 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 I; 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 – This issue (2023 Q4)

Skylab Part IV: Skylab Memories – Memories from Martin Marietta Retirees – Q1 2024 (deadline was September 30, 2023)

Skylab Part V: Skylab 3/4 – Second Crew/Third Crew, Demise of Skylab (a possible split into two articles, with more discussion of scientific results) – Q2 2024

Introduction to Part III

At the end of the second article about Skylab, we were left with a cliffhanger after serious post-launch anomalies occurred. The first crew was supposed to launch within 24 hours, but that was delayed as investigation teams plunged into action to try and determine fixes for the problems. These solutions will be discussed later in this article. First, I will do a brief overview of the crew selection and training before the actual Skylab 2 mission summary.

Another excellent on-line Skylab resource has been found, thanks to the information I received from Stan Hightower (who is contributing to the retiree memories for the next article). He recommended that I find SP-400 (Skylab, Our First Space Station) and add that to the library of information about this first space station. SP-400 is quite useful and will figure prominently in this and future articles as one of the references.

NOTE TO READERS: If you detect an error or omission in this article and future articles because you have first-hand knowledge, please let me know and I will publish those corrections with future articles.

Skylab Crew Selection and Training

NASA had a problem as the Apollo program was winding down and work began on Skylab: An overabundance of highly skilled candidates for missions among the astronaut groups that had been selected. Some fine candidates had also come over from the MOL (Manned Orbiting Laboratory) program when it was canceled in 1969.

Arguments were made for more scientist-astronauts on the Skylab missions from NASA's top scientist, Homer Newell. These scientist-astronauts, selected by NASA in 1965 and 1967, felt neglected by the Astronaut Program Office, headed by Deke Slayton. He tended to pick veteran test pilots and only one scientist-astronaut flew on the Apollo missions (Harrison Schmitt, geologist, on Apollo 17). Slayton and Bob Gilruth (Director of the Manned Spacecraft Center) both felt that operational considerations on Skylab were of utmost priority, given the fact that reliability studies showed a high probability of systems problems during the missions. Deputy NASA

Administrator Dale Myers was uncertain of a decision until three cosmonauts died during re-entry on the Soyuz 11 mission in June, 1971. He then became an advocate of giving operational considerations top priority, with each crew having two pilot-astronauts and one scientist astronaut.

On January 19, 1972, the nine crew members were announced for the three Skylab missions; this compromise reduced the number of veterans, while also allowing for only one scientist-astronaut per mission; each mission had back-up crews assigned (the backup crew for Skylab 2 is noted below), but interestingly, all three groups of prime crew members flew their missions:

Skylab 2 (see short biographies at the end of this article and the photo in the next section):

- Veteran astronaut and moonwalker (Apollo 12) Charles "Pete" Conrad, Commander
- Rookie Paul Weitz, Pilot
- Rookie Joseph Kerwin, MD, Scientist-Pilot

Skylab 2 Backup crew:

- Veteran astronaut (Apollo 9) Russell "Rusty" Schweickart, Commander
- Rookie Story Musgrave, Pilot
- Rookie Bruce McCandless, Scientist-Pilot

Skylab 3:

- Veteran astronaut and moonwalker (Apollo 12) Alan Bean, Commander
- Rookie Jack Lousma, Pilot
- Rookie Owen Garriott, Scientist-Pilot

Skylab 4:

- Rookie Gerald Carr, Commander
- Rookie William Pogue, Pilot
- Rookie Edward Gibson, Scientist-Pilot

Crew training began in October, 1970 because of concerns from the Apollo Telescope Mount investigators, who wanted crew members to have in-depth training in solar physics. A one-g trainer for the workshop was designed and built at the Manned Spacecraft Center, along with other training facilities like a neutral buoyancy simulator (at Marshall Space Flight Center). Detailed simulators were built for various experiment stations and control panels.



One-G Workshop Trainer for Skylab Crews

Training, beyond the solar physics modules, encompassed over 2200 hours in a syllabus that was created by a NASA team and assisted by experts from Martin Marietta. This exhaustive schedule compares to only 1200 hours average training for an Apollo mission. The goal was to have all crew members become proficient with the major experiments and each crew member became a specialist in key subsystems. Work with EVA maneuvering units and docking simulators took the crews to Denver, Marshall and Langley Research Center on many trips. Schedule pressure was intense, resulting in a two-week delay in the launch of the workshop (from April 30 to May 14 1973), but briefings and many tests indicated that the crew was "ready". Alas, Skylab was NOT ready after launch and the crew was called upon to help with the resolutions to the anomalies.

"We Can Fix Anything"

In the Skylab historical resource SP-400 (Skylab, Our First Space Station), this is the title for Chapter 3, and I felt it was appropriate for summarizing what had to be done to mitigate the post-launch anomalies on the workshop.

As noted at the end of the last article, these problems were apparent after launch:

By late afternoon of launch day, it appeared that Skylab had at least two major problems. If the OWS solar panels were indeed gone, Skylab had lost nearly half of its electrical power; the system had been designed with power to spare and an adequate manned mission might be possible until Apollo's CSM fuel cells ran dry. The more serious problem was barely discussed – the apparent loss of the micrometeoroid shield. The shield's secondary function was to provide thermal control; it had been designed to keep the OWS on the cool side, absorbing a desired amount of heat on its outer skin with a black and white

pattern. Without the shield, the gold coating on the OWS would rapidly absorb excessive heat, making the interior uninhabitable. The loss of the shield was confirmed by launch analysts who noted an anomalous lateral acceleration one minute into flight, accompanied by increases in internal temperatures.

A 10-day period commenced with a flurry of activities at NASA centers, contractors, universities and other organizations as personnel worked around the clock on ways to save the workshop and the Skylab 2 mission. One of the first things they analyzed were the effects of the temperatures on items aboard the workshop (food, film vaults, medicine containers, etc.). The rapid heating of Skylab was partly mitigated by ground controller manipulations, which also created an issue with electrical power because the solar array of the observatory became less effective.

Analysis also confirmed that one of the solar wings on the workshop had been completely torn away and the second wing had not fully deployed, so all power was coming from the observatory array. A compromise position was found that placed the workshop in a position that was approximately 45 degrees to the Sun's rays, stabilizing the temperature at 130 degrees F and allowing for about 2800 watts of electricity; both conditions would have to be improved before the crew could occupy the workshop.

These constant maneuvers to try and optimize power production and reduce temperatures provided for a rigorous test of the attitude and pointing control system, with overheating gyros, excessive thruster firings, and depletion of nearly 50% of the nitrogen gas propellant before the crew was even on-board.

Thermal protection of the workshop was given top priority by the troubleshooting teams. Two concepts were finally approved among many schemes evaluated:

1. Deploying a rectangular parasol from inside the workshop through a scientific airlock – this was used by the first crew to provide shading of the workshop and lower temperatures (see later drawing of the installation process).
2. A twin pole sail would be rigged to the observatory with a fabric awning, requiring a spacewalk. This was done by the second crew.

Materials selection was critical and fourteen different materials were tested for the parasol. The complexity of the requirements and the space environments resulted in the need to create a material that consisted of nylon, mylar and aluminum. Nylon deteriorates in space, but the decision was made to not complicate the first fix with thermal protective paint, although this would be used on

the twin pole sail. Procedures and special tools were developed and many tests were done with the crew in the Neutral Buoyancy tanks to confirm that deployment of either repair was feasible. Procedures were also developed to try and improve the electrical power resources for the workshop and the first crew would attempt a SEVA (Stand-up Extravehicular Activity) from the CSM (Command Service Module) to free the partially deployed array.

Schemes were designed, tests were performed, and now the crew of Skylab 2 turned to their primary purpose (now with added tasks): Fulfilling the first manned mission to the Skylab orbital workshop. Although the turnaround on fixes was extraordinary, NASA did face a Congressional committee investigation for why the anomalies occurred. The team theorized that the aerodynamic pressure lifted the shield into the airstream, ripping it away and wrapping it around the remaining solar array. The other solar panel was lost when the retrorockets fired. Many recommendations were implemented at McDonnell-Douglas and at NASA and a position of project engineer was created at NASA for complex interacting systems.



Skylab 2 Crew (L to R): Joe Kerwin, Pete Conrad, Paul Weitz

Skylab 2 Launch, Docking, Repair Attempts

At 09:00 am EDT on May 25, 1973, Skylab 2 and her crew launched from Launch Complex 39B at Kennedy Space Center. The mission used Command Service Module CSM-116 (Block II configuration) and the Saturn IB launch vehicle AS-206. The reliable Saturn IB, an upgrade of the Saturn I used very early in testing in the Apollo program, was launching for the first time since the Apollo 7 mission. The Saturn 1B had two stages, with the second stage being the same as the third stage on the Saturn V (the S-IVB stage). The first stage provided 1.6 million pounds of thrust from eight Rocketdyne H-1 engines; the second stage reached 200,000 pounds

of thrust from one Rocketdyne J-2 engine. Payload capacity to LEO was 46,000 pounds.



Skylab 2 Launch, Saturn IB, May 25, 1973

The launch was flawless and by that afternoon the crew rendezvoused with and maneuvered around Skylab, verifying the damage. Here is a quote from the crew, as documented in SP-400:

"As you suspected, solar wing 2 is completely gone off the bird. Solar wing 1 is, in fact, partially deployed... there's a bulge of meteorite shield underneath it in the middle, and it looks to be holding it down. It looks, at first inspection, like we ought to be able to get it out."

Other defects included discoloration of the gold foil on the skin of the station and a strap containing a row of bolts (likely from the micrometeoroid shield) was wrapped around the solar wing beam, preventing its deployment. Skylab 2 docked to the docking adapter to avoid too much station-keeping. The crew had their first dinner, which received mixed reviews. They then undocked the CSM for the first try at an orbital repair. With Conrad maneuvering, Weitz leaned out of the open hatch with Kerwin holding his legs. Using a 10-foot pole with a hook on the end, he attempted to pry loose the solar-wing beam. Weitz's attempts at snagging and pulling the beam acted to pull the CSM closer to Skylab and also disturbed the position of the workshop, resulting in more thruster firings.

Giving up at this point on the repair, the crew closed the hatch and attempted re-docking. The probe capture latches failed to engage on numerous attempts. Colorful language was heard by Mission Control as this new "glitch" required immediate mitigation or the mission

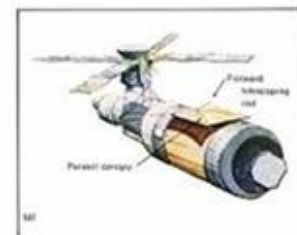
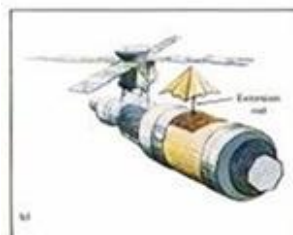
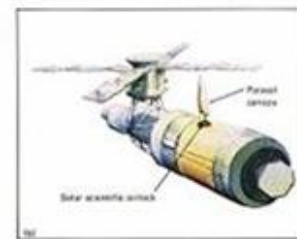
would be over. Spacesuits were re-donned, the command module was depressurized, the forward hatch removed and the crew disassembled part of the docking probe. The redocking was a success! Now the crew slept, secured to Skylab, before they would enter the workshop for the first time.

Skylab had a sophisticated cooling and heating system, since (in nominal conditions) the volume of the internal space would have varying temperature conditions and no natural convection because of the lack of gravity. The system included refrigerants, heat exchangers, radiators, wall heaters, special coatings and insulations, and individual heaters for various instruments and control systems. The problem with the loss of the shield not only resulted in very high temperatures in some locations, but the continuous maneuvering in orbit to maximize power and try to control temperatures led to near-freezing conditions in other subsystems.

Entering the Workshop

The crew tested the atmosphere in the workshop for any noxious or toxic gases from insulation materials overheating. The atmosphere was safe for occupancy and Weitz and Kerwin began activation of the laboratory. The temperatures hovered near 130-degrees F, but they were tolerable for up to five hours because of the low humidity.

The first order of business was to deploy the parasol structure through the scientific airlock. Conrad and Weitz carefully extended the folded shield through the opening and into space. Although one corner did not fully extend, the trapezoidal-shaped shield was in place over the outer surface of the workshop. Temperatures began to drop almost immediately and the workshop was returned to solar inertial attitudes only an hour later, increasing power to the workshop from the observatory array.



Parasol Deployment – Shielding of Skylab Workshop

The crew adapted rapidly to their new environment. For the first few nights, they slept in the cooler docking adapter, but conditions everywhere slowly improved and stabilized. None of the three crew members had any problems with orientation and they began carrying out experiments, housekeeping, eating, sleeping and exercising. The crew all slept at the same time (16 hours of activities, 8 hours of sleep).

Due to the sharing of power between the observatory and the workshop, the manifest of observatory experiments was stretched out, but almost all the observations were carried out as planned, although six of the experiments required modifications because they required the use of the scientific airlock (now occupied by the cooling parasol). To accomplish all the objectives, it was imperative, however, to free the partially deployed solar array so that the solar observatory batteries were not overworked.

More Repairs in Space

While a routine was established on-board, teams and several future and backup crew members worked around the clock to determine a way to free the partially deployed workshop solar array. The teams created a simulation of the debris jamming the solar-wing structure in a neutral buoyancy simulator and used pry bars, a bone saw, and a cable cutter (all available on-board the workshop) to successfully free the array and deploy the beam. The procedure was uplinked to Skylab 2 through Commander Conrad.

On June 7, Conrad and Kerwin opened the hatch on the airlock module and moved onto the airlock shroud to assemble their tools and equipment. Backup Commander Rusty Schweickart, having successfully done the simulations, guided the crew in their attempts. A 25-foot pole was assembled with a lanyard, with the cable cutter on one end and the other end fastened to the solar observatory truss structure. Conrad, while tethered, ensured that the cutter jaws were positioned properly on the debris.

Kerwin pulled on the lanyard with no success. The cutter jaws seemed to be spreading without cutting the strap. Conrad made his way back along the beam. Just as he reached the cable cutter, the scissor-like jaws severed the strap and the beam moved suddenly. Conrad tumbled into space (let's hear it for tethers) and missed seeing the wing deploy 20 degrees. Now he and Kerwin had to try and force the beam to deploy to the full 90 degrees so the solar arrays could be extended. They tugged and tugged without success, using another tether and Conrad moved closer to the beam where it was hinged to the workshop. They both pulled again and suddenly the clevis bracket on the actuator broke, freeing

the beam (and sending *both* astronauts tumbling along their tethers). The beam was now fully deployed and the panel sections began extending. Six hours later, power capability increased from 4000 to 7000 watts, ensuring that Skylab 2 could fulfill its mission and giving hope to the longer-duration crews of Skylab 3 and 4. Man (or person)-in-the-loop is *essential*, in this historian's opinion, for the long-term success of complex space systems!

Skylab 2 More Problems, Mission Highlights, Return to Earth

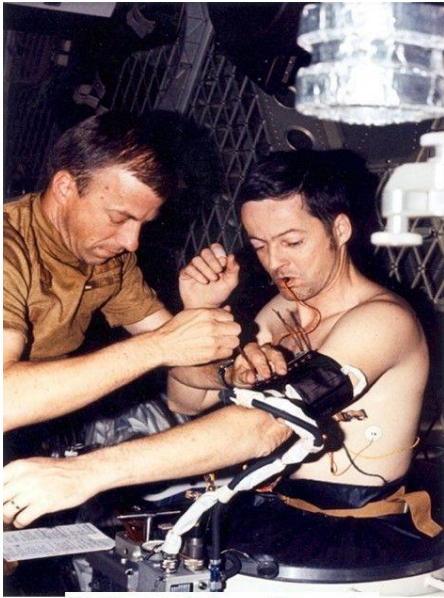
Mission routines were now established and the repairs for Skylab 2 were complete (or were they?). Before Conrad and Kerwin were even finished freeing the solar wing, problems developed in the systems that cooled the spacesuits and the workshop.

Both astronauts were outside the spacecraft for 3.5 hours to free the solar wing. Their spacesuits were connected separately to cooling loops; this same cooling system was used for the workshop. Before going outside they turned valves in the primary coolant system, which also activated heat exchangers to provide additional cooling of the spacesuits. This action caused solid particles to be flushed out of the heat exchangers, lodging in the temperature control valves and causing them to stick. Consequently, Conrad's suit loop temperature decreased rapidly and water froze in the heat exchanger.

The full extent of the problem was not realized because the secondary coolant loop appeared to be functioning. Conrad and Kerwin completed their repair, but when they were back inside the airlock, they discovered that the valve in the secondary coolant loop was also stuck. They toggled between primary and secondary systems, settling on the secondary again, which still maintained temperatures at an acceptable level, but while they slept, the temperatures continued to drop. They were awakened to do a temporary fix (putting the cooling garments on a hot-water heater), but the mission was again in jeopardy as it appeared one of the loops in the cooling system was inoperative and the other was behaving erratically. Loss of both would mean overheating of the workshop and electrical components and the inability to do more EVAs. The problem was solved by cycling the valves while the workshop was in constant contact with the ground. The first attempt was unsuccessful, but the crew was able to free both the primary and secondary valves on the second attempt and the temperatures stabilized. The crew probably appreciated all the training they had and the support of so many people on the ground.

Although more maintenance issues arose during the remainder of the mission, the crew now really settled in

to their routine. They spent most of their time working with the experiments and tending to the systems on-board (including daily housekeeping), but they found plenty of time to do Earth observations during the day and star observations at night. Conrad was really impressed with the higher orbit of Skylab (237 nautical miles), compared to his previous missions (and Apollo 12 spent so little time in orbit before heading to the moon that Earth was not observed). The crew was also allowed 30 minutes for exercise each day and they were subjected to a variety of medical tests, thanks to the presence of Dr. Kerwin and the demands from the mission planners.



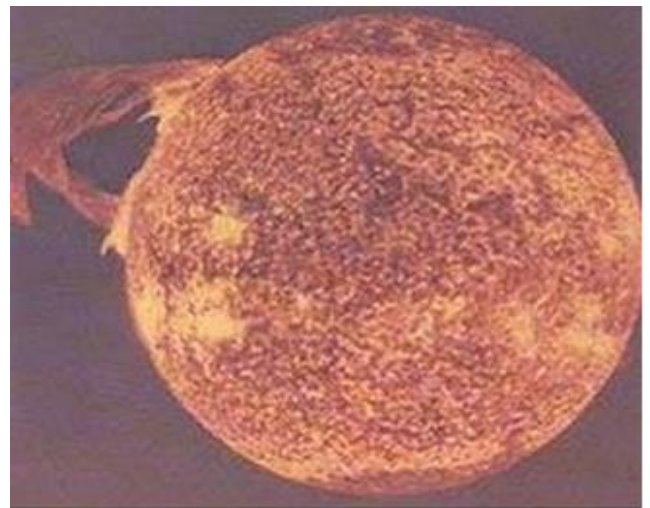
Weitz (right) and Kerwin
Gather Medical Data

The SP-400 document has an extensive description of the toilet system, the shower system and the personal hygiene routine for each astronaut (I defer to those details in that document rather than get into the graphic details here). The size of the workshop required the use of an intercom system so the three crew members could communicate with each other and there were arguments with Mission Control about private versus public communications. The bedroom area was separate from the main workshop and had three cubicles with multilayered sleeping bags that were hung on a frame. All three crewmembers claim they slept very well during the mission. The crew did not recommend Skylab as a restaurant, however, because the food tended to lose its flavor in space, so they ran for the spicy stuff first (sounds like the problem airlines have finding something edible for passengers at altitude).

For the experiments, the crew performed 392 hours of experiments, which included the medical experiments. Due to the problems at the beginning of the mission, the frantic schedule for experiments resulted in nearly 100%

of the medical experiments being completed, nearly 80% of the solar observations, and only 60% of the earth resources using the Earth Resources Experiment Package (EREP), although this passed a full range of instrument operations and task assignments during eleven passes. The next article about Skylab will have more details about the Martin Marietta Earth Resources Experiment Package (EREP) from the personal reminiscences of retirees who worked on Skylab.

Kerwin worked on solar observations starting early in the mission. The console for the solar observatory was quite complex and one of the biggest problems was the flare detection system. This system was intended to inform the crew of a solar flare if no one was on console. Unfortunately, the alarm went off quite often when the workshop passed over the Atlantic anomaly, east of South America. The crew had to wait until June 15 for a flare to finally be captured, which was tracked for two minutes. Although the crew found the system difficult to work with, the solar physicists were ecstatic with the results.



Solar Flare Observed by Skylab 2 Crew

On June 18, the crew broke the space flight record of 570 hours 23 minutes set by the Soyuz 11 flight crew in June, 1971 (sadly, that crew perished during re-entry). Conrad and Weitz performed EVA 3 on June 19 to retrieve and replace the solar observatory film canisters, which had 29,000 frames of film. They were also able to fix a jammed relay in a battery housing by hitting it with a hammer! The crew prepared the workshop for the time it would be unoccupied until Skylab 3, then entered their command module, undocked, took photos of Skylab as they departed, and splashed down on June 22, 1973 at 13:49 UTC, only 7 miles from the recovery ship USS Ticonderoga in the Pacific. The crew gave Skylab and ground support high marks in the postflight briefings.



Skylab Photographed by the Departing Skylab 2 Crew

The public reaction to the Skylab 2 mission was very positive. Here is an editorial that was in the Los Angeles Times about Skylab and the Skylab 2 crew (from SP-0411 Skylab: A Chronology):

The men of NASA at Cape Kennedy and Houston were getting ready to pass another miracle, but there had been so many—the first men on the moon followed by a succession on moon landings—that the success of the latest adventure in space was taken for granted. Even the crowd of spectators on the cape was less than a quarter of the million persons who watched the last of the Apollo moon missions Dec. 7.

The launch went smoothly, as Skylab, an 85-ton vehicle perched atop a Saturn 5 rocket, ascended majestically May 14 from a roaring flame and disappeared into the heavens on its journey into orbit 270 miles above the earth. "Everything looks super-good so far," Mission Control in Houston reported, and Skylab, the largest weight ever thrust into space, began to respond to radio signals.

Minutes later, the \$2.6 billion project was in trouble. Two solar panels failed to deploy. The launching of three astronauts, scheduled to dock in space with Skylab the next day, had to be postponed. Skylab 2 was recycled for five days until May 20 and again for May 25, last Friday. What was needed was a simple little plan to shield the space laboratory from the sun—something like an umbrella.

An umbrella. Why, of course, Jack Kinzler, a NASA technician with a reputation as a fix-it man, started thumbing through the Yellow Pages. He found what he was looking for—fishing poles that would telescope down to 18 inches. Using the poles as ribs, he and other technicians constructed an umbrella with a 24-by-28-foot expanse of coated nylon, designed so that the collapsed umbrella could

be projected through an 8-by-8-inch airlock passage and deployed over the laboratory.

It was packed, handy-like, in a small metal box and placed in Skylab 2 when the three astronauts were launched into space for their delayed rendezvous with Skylab 1. The astronauts poked the umbrella through the airlock in careful stages. The gadget worked. [A more sophisticated version of Kinzler's idea was produced and flown.]

It wasn't much, really. Just a few fishing poles and a spread of nylon. In all, a modest little miracle, but enough. Enough to save Skylab and enough to give a lift to the spirit of all who followed the latest human drama enacted in space.

Crew Biographies (from Wikipedia Summaries)

Conrad, Kerwin and Weitz received the Robert J. Collier trophy in 1973 for the Skylab 2 mission and were also awarded the Congressional Space Medal of Honor in 1978. All three astronauts are also members of the Astronaut Hall of Fame.

Charles "Pete" Conrad Jr. (June 2, 1930 – July 8, 1999) was an American NASA astronaut, aeronautical engineer, naval officer and aviator, and test pilot, and commanded the Apollo 12 space mission, on which he became the third person to walk on the Moon. Conrad was selected for NASA's second astronaut class in 1962.

Conrad was born in Philadelphia, Pennsylvania. Conrad had dyslexia and yet earned his Bachelor of Science degree in Aeronautical Engineering from Princeton University—being the first Ivy League astronaut—and joined the U.S. Navy. In 1954 he received his naval aviator wings, served as a fighter pilot and, after graduating from the U.S. Naval Test Pilot School (Class 20), as a project test pilot.

Conrad set an eight-day space endurance record in 1965 along with his Command Pilot Gordon Cooper on his first spaceflight, Gemini 5. Later, Conrad commanded Gemini 11 in 1966, and Apollo 12 in 1969. After Apollo, he commanded Skylab 2, the first crewed Skylab mission, in 1973. On the mission, he and his crewmates repaired significant launch damage to the Skylab space station.

After Conrad retired from NASA and the Navy in 1973, he became a vice president of American Television and Communications Company. He went on to work for McDonnell Douglas, as a vice president. During his tenure, he served as vice president of marketing, senior vice president of marketing, staff vice president of

international business development, and vice president of project development. Conrad was married twice and had five sons with his first wife Jane. He died on July 8, 1999, from internal injuries sustained in a motorcycle accident, aged 69.

Joseph Peter Kerwin (born February 19, 1932) is an American physician and former NASA astronaut, who served as Science Pilot for the Skylab 2 mission from May 25 – June 22, 1973. He was born in Oak Park, Illinois and became the first physician to be selected for astronaut training. Kerwin was a Captain in the Navy Medical Corps and logged over 4500 flight hours. His medical degree was from Northwestern University in 1957. After the Navy and NASA, Kerwin worked at Lockheed and managed the Extravehicular Systems Project for ISS and led the liaison group for the Russian "space tug" ISS element. He then joined Systems Research Laboratories in 1996 and KRUG Life Sciences/Wyle Laboratories in 1998, retiring in 2004. He and his wife Shirley have three daughters and reside in College Station, Texas.

Paul Joseph Weitz (July 25, 1932 – October 22, 2017) was an American naval officer and aviator, aeronautical engineer, test pilot, and NASA astronaut, who flew into space twice. He was a member of the three-man crew who flew on Skylab 2, the first crewed Skylab mission. He was also commander of the STS-6 mission, the maiden flight of the Space Shuttle *Challenger*. He was born in Erie, Pennsylvania and logged more than 7,700 hours as a Naval pilot. He was selected by NASA in the Astronaut Group 5 in 1966. After his two missions, Weitz was the Deputy Director of the Johnson Space Center until his retirement in 1994. He and his wife Suzanne had two children and lived in Arizona after his retirement. He passed away in 2017.

Resources and Links

All images and photos are credited to NASA.

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>

Skylab Program Description

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

Next Edition

Skylab Part IV – Read several stories about the Skylab program by retirees who participated in helping Skylab be a success! If space permits, I will have a short synopsis of how Skylab was maintained between occupants.

Barb Sande, MARS STAR and MARS Facebook Page Historian. Contact me at barbsande@comcast.net or 303-887-8511 or find MARS Associates on Facebook.

Bridge Club

By Dave & Kathy Martz
martz20@comcast.net

The next quarter, we are scheduled to play on 20 October, 17 November, & 15 December 2023. 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. All MARS members and their guests are welcome. It is social, not tournament bridge, with light conversation while we play, and everyone seems to like it that way.

You'll need to pack a lunch, as we stop midday to eat and then resume playing after lunch, until about 2 PM. The club provides the cards and all required items for the games. A fee for the Buck Center is for the use of the room. An even smaller fee to the club is requested (which helps with supplies and the year-end Holiday party). The Holiday Party planning committee is already looking for a date and location.

Contact us to get on the email list. Each month, an email is sent to Bridge Club members for playing that month. Respond to the email to reserve a place at the tables. There is always room for more players, as the room will accommodate 8 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 don't have a regular partner, contact us and we will help you search for one.

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

Presidents:

Dave & Kathy Martz, 303-683-9524

Vice-President:

Bill Kacena, 303-973-2685

The 3rd Quarter 2023 top winners are as follows:

21 July (4 tables)

- 1st – Betty Hirst & Wayne Jackson
- 2nd – Laurie Bock & Carol Enslow
- 3rd – Bill & Mavis Kacena
- 4th – Leo Johnson & Joni Rosenberg

18 August (5 tables)

- N/S 1st – Ernie & Cecile Berliner
- N/S 2nd – Ed & Laurie Bock
- E/W 1st – Bart & Diane Wright
- E/W 2nd – Leo Johnson & Joni Rosenberg

15 September (5 tables)

- N/S 1st – Ernie & Cecile Berliner
- N/S 2nd – Dave & Kathy Martz
- E/W 1st – Betty Hirst & Wayne Jackson
- E/W 2nd – Bill & Mavis Kacena

Car Club

By Roger Rieger

(rrieger10731@gmail.com)

303-912-6217

Dave Ernst

(Dave.Ernst.157@gmail.com)

(303) 588-2747

Well, the weather finally cleared up and the driving has been great! If you haven't taken a road trip to see the changing of the colors by the time you read this, you are too late! The car club did have a get-together at the September Cornerstone Cars and Coffee held at its new location by Park Meadows in the parking lot by Rio Grande Mexican restaurant. Lots of very cool cars!

And on a Colorado perfect weather day, 14 of your fellow club members brought our rides to the Club annual car show at the MARS picnic at Clement Park. My sincere thank you to all who participated, your donation will go 100% to the Marine Corp "Toys for Tots" Christmas program. For those who didn't bring out their cars – next year!

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

you are interested in joining the club, please drop either Dave or myself an email, we'd love to have you!

Golf League



Sandy Mossman

(smoss5592@gmail.com)

Another favorable MARS golf league season is nearing its completion at the end of October. As we have in recent years, all our golf league events have been played at Broken Tee Golf Course in Englewood, Colorado. All-in-all we have had good weather throughout the golf season with - hopefully - some continued beautiful fall weather.

We had our annual two-day league championship tournament on August 17th and August 24th at Broken Tee. The combined net score of the two rounds determined the overall winners as:

- 1st place – Dan Brown - net score 143
- 2nd place – Rick Loman - net score 143
- 3rd place – Randy Renken - net score 146
- 4th place – Terry Graber - net score 146
- 5th place – Don Johnson - net score 148
- 6th place – Jim Moss - net score 148
- *Last nine holes on 2nd day score determines tie breaker.

Closest to the pin:

August 17th

- hole #5 – Don Marquet
- hole #7 – Terry Graber
- hole #10 – Brian Overman
- hole #17 – Jim Moss

August 24th

- hole #5 – Dave Boggy
- hole #7 – Paul Betthausen
- hole #10 – Lisa Cox
- hole #17 – Tom Ripper

Medalist Winner – Dan Brown with the lowest gross scores of 158

Even though our Championship Round is complete there is a season-long prize this year which rewards most wins through the season, assigning points for first, second, third, etc., place in the weekly events as well as points for simply playing. Currently, Dan Brown is in the lead but he is being closely chased by Terry Graber, Martha

Lell and Susan Winkler. Also, there is a most improved golfer prize to be awarded.



Refreshments abounded at the annual picnic.

A picnic to award prizes and celebrate a successful golf season was held on September 28th at the River Run Pavillon next to the course. It was well attended and a fun event for all. Prizes were awarded at that time.



Don Johnson awarding Terry Graber his well-deserved winnings

This year - as last year - there were no holes-in-one made thus far in league play. Therefore, our hole-in-one pool is up to \$350. League members must pay \$5 into the hole-in-one pool in order to win the total sum.

We want to give thanks and appreciation to several of our members who volunteered their time as co-chairs for each event to make this season a success. Special thanks to Tom Ripper for orchestrating the use of the Golf

Genius system for scheduling tee times and posting golf scores for our league. Tom also served as one of the Event Managers along with Terry Graber, Bob Knickerbocker, Ken McDowell, Andy Munoz and Kathy Rieger in managing the weekly scheduling and scoring activity. Thanks also to Don Johnson as Treasurer for managing our banking account and Bob Knickerbocker serving as rules chair. And a big Thank-you to Kathy Rieger for coordinating the yearly picnic.

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

Best Regards,
Sandy

Hiking Club

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

Two hikes were organized this quarter to Metzler Family Open Space and Berthoud Pass. Our October hike is at Mt. Falcon Park.

On Tuesday, June 27th, Mike Bartlett led the Hiking Group on a hike in the 109 acre 'open to the public' historic homestead site on the Metzler Family Open Space in Castle Rock. There were 21 participants on the hike.



The large contingent of hiking club members at Metzler Family Open Space

The group met at the trail head at 9 AM and the hike lasted for 90 minutes. Some of the trails are under pine trees or wind through stands of gambel oak and there are some incredible views.



View of Castle Rock from the trail (Photo by Pete Munoz)

It was a beautiful day with calm weather. We were also treated to seeing a mid-air fueling from a tanker to a fighter jet above us.



The trail winds through open forest and meadows. (Photo by Pete Munoz)

We chose the 'easy' trail route which is great for families with kids OR retirees with grandkids. Here's a link for you to view the Metzler Family Open Space - <https://crgov.com/3337/Metzler-Family-Open-Space>. Special thanks to Mike Bartlett for making the hike and lunch arrangements. Fun was had by all.



Lunch Bunch: Gina Curet, Vicki Ellis, Donna O'Neill, Roy Passfield, Cheryl & Ken Marts, Vicki Eberhardt, Dennis Haase, Beth & Neil King, Mike Bartlett (Photo by Pete Munoz)

On August 23, six members of the MARS hiking group carpooled up to the Berthoud Pass Trail. This was a moderate but fun route climbing 1600 ft to over 12,500 ft. We hiked up above the treeline and enjoyed 360-degree splendor all along the ridge to Mt. Nystrom. The trail enters Vasquez Peak Wilderness so we did not encounter mountain bikes but we did meet a couple of backpackers enjoying this segment of the Continental Divide Trail.



Tundra along the trail in the wilderness area. (Photo by Anne Chou)

The round trip was around 6 miles in cool but pleasant weather. Squirrels, chipmunks, and even a ptarmigan and her 3 chicks graced our presence. Although the alpine flowers were spent, we did admire wildflowers on the lower section of trail.



Hikers on Berthoud Trail: Anne Chou, Rich Reynolds, host Jayson Cowley, Don Foley, and Norman Luepschen (photo by Sue Janssen)

Afterwards we enjoyed tasty chow and libations at Westbound and Down in Idaho Springs. Thanks to Jayson Cowley for organizing a lovely day.

The hiking club is getting back into the swing of things and is looking forward to snowshoeing this winter! If you want to organize a hike for the club, please contact Sue. We need volunteers for November, December and January. If you wish to join the MARS Hiking Club, contact Sue Janssen at susan.g.janssen@gmail.com who will add you to the club distribution list. Please provide your email address, home phone and cell phone for the roster. The schedule of hikes is posted on the MARS website (<https://www.marsretirees.org/>). Even if you have never gone snowshoeing or hiking you are welcome to join in the fun.

Happy trails!



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 to travel. In December we generally have a holiday luncheon at a local restaurant. Our regular meetings are held using the virtual *Zoom.com* program format that we have been using since the Covid pandemic began.

Since we do not meet over the summer, we only have our September meeting to share with you. We often view a *National Geographic Photography* Instructional DVD, or a club member presents a program. Each meeting includes a competition between club members. Different Judges are selected for each meeting.

For the September 2023 meeting, the first, second, third place and two honorable mentions are presented here. There was a total of 13 entries for the meeting. John Chapter was the judge. The winners were:

First Place, *Maris Biela, Packrat Babies*



Second Place, *Larry Stearns, Tropical Wave*



Third Place, *BJ Anthony, So Very Civilized*



Honorable Mention, *Rick Price, Owen*



**And finally,
Honorable Mention, *BJ Anthony, My Friend Spot***



These winning images are posted at <https://marsretirees.org/clubs/photography-club/>.

Our next Photo Club meeting will be **October 12, 2023**, via *Zoom*. Member Larry Stearns will be our presenter and his program is titled *A 50th Anniversary in Hawaii*.

Please check the MARS Retirees Website (<https://marsretirees.org>) for the latest updates to the Photo-Club meeting. We always encourage new members to join our club.

Thanks, and regards, John Chapter and Jim Kummer

Colorado Springs Lockheed Martin Retiree Group News

By Doug Tomerlin
(douginc@comcast.net)

The Colorado Springs LM Retiree Group joined the MARS Associates Lockheed Martin Group from Denver for a tour of the WWII Aviation Museum and lunch afterwards at the Airplane Restaurant. It was great to share thoughts and memories between the members of both organizations.

The Colorado Springs Lockheed Martin Retiree Group is planning a luncheon for October 18, 2023 at the Golden Corral in Colorado Springs. We are hoping to have as good a turnout as we had at our last luncheon in early April 2023, with 54 attendees.

We were sad to hear that three Colorado Springs Lockheed Martin retirees passed away since the last newsletter. Our deepest condolences go to their family and friends.

- John Pietrolewicz passed away in May of 2023
- Dick Witzig passed away July 31, 2023
- Jim Wood, Jim" passed away 9/4/23

The Colorado Springs Lockheed Martin Retiree Group is free to join and has no membership fees.

Who can join?

- Retirees who worked for Lockheed Martin or one of the heritage companies
- Who live In Colorado Springs or other cities

Benefits include:

- Stay in contact with other retirees via luncheons twice a year and other activities.
 - Some activities are held in conjunction with the MARS Associates Retiree Group in Denver
- Receive email announcements for:
 - Luncheons and other activities
 - Deaths and/or services of fellow retirees or long-term employees
 - Other pertinent information

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

Cape Canaveral News

By Dick Olson
(olsons5145@aol.com)

Luncheons

August 2023 – Ten of us present so a little better turnout than last month. Making the scene were: Wendell McDaniels, Cecil Snipe, Abe Smith, Roger Wright, Sylvia Sansing, Lavern Jones, Larry Johnson and couple of people we haven't seen for a while, Lynn Johnson and Ken Webb.

Cecil joined us after having a late breakfast with Don Jacobs who I believe is a ripe age of 94. He might not still be playing golf the last year or so but still plays a mean hand of poker so I'm told.

Lavern is back from their trip to Washington DC with stories of all the places they visited. Put their car on the train in Sanford and got off in the DC area and then visited relatives on the way back to Florida.

Summer is about to wrap up and school is about to start. Enjoy the rest of summer and stay healthy.

September 2023 -- About the same turnout as usual, not many. Attending were regulars: Abe Smith, Larry Johnson, Ken Webb, Roger Wright, Lavern Jones, Sylvia Sanseng and someone who hasn't made an appearance for quite a while, Roger Barickman.

Seen Roger at Don Burnett's funeral as well as Donny Poston. As I was going by Bob Rodamer's following the funeral, I invited Donny to join me. Bob said he really enjoyed the visit and I'm sure he would welcome any of you who would choose to drop by.

Lavern reported that she uses a Lockheed Martin site for discounts on many items and that she would send me the site info so I could forward it. It was easier just to forward her email than to copy everything so you will be getting it first-hand.

Enjoy the rest of summer and I will see some of you next month.

October 2023 --A little better turnout this month but harder to visit as the A/C in the room we usually occupy was down and we had to move to the regular dining area. But we got by. Present were: Wendell McDaniels,

Ken Webb, Abe Smith, Don Bollinger, Roger Wright, Lynn Johnson, Bob Matschner, Lavern Jones, Cecil Snipes, and Sylvia Sanseng.

Roger had pictures of the property he bought in Tenn. where he plans on going into resort rental business. Best of luck on his endeavor.

Everyone enjoy the Fall season,

Recent Obituaries

Don Burnett, 86, passed Aug 21, 2023. Don started back in the late sixties as a tech in the Instrumentation Ground Station in the VIB. From there he went on to become an Instrumentation Ops engineer and I believe retired as a Tracking and Flight Safety Ops engineer.

David Kintigh, 89, passed away on Tues. Sept 19 while having heart surgery. We have lost yet another of the Cape Titan Team. Dave worked the Titan Program while in the USAF and joined Martin after retiring and worked in the Planning group.

Lockheed Martin (LM) News

ARISE Enables Quickly Fielded Solutions for Rapidly Evolving Threats, OCTOBER 05, 2023

Imagine using software to automatically identify potential flight test anomalies and correcting them before a live test event.

By using our new digital engineering simulation environment, called ARISE, our engineering team can do just that.

In today's environment, our engineers must rapidly understand the performance of our products for our customers' real-world environments. Enter simulation.

At Lockheed Martin, we've been developing simulations for decades. With ARISE, we're improving upon this experience. What's different about ARISE is our ability to use high-fidelity, modern software tools to build system simulations – or digital twins – just like Lego blocks. This suite of tools, comprised of data analytics, mission software, hardware in the loop, and modeling and simulation, allows our engineers to optimize systems for the environments our products are truly going to see.

"With ARISE, a program that would have taken two years to build a high-fidelity, integrated flight simulation can

now have in two-to-three months,” said Doug Juul, Director of ARISE Simulation & Data Analytics Products.

ARISE is being used and shared across multiple Lockheed Martin programs. At our Missiles and Fire Control business area, ARISE is currently the program simulation standard, with all applicable U.S.-based programs scheduled to adopt this standard by January 2025.

“For example, if different programs are using the same model or component and an improvement is made, all the programs benefit,” said Jason, Architect of ARISE Data Analytics. “Data analytics is saving thousands of hours of analysis time by using Machine Learning on Petabytes of data that would otherwise would have relied on human eyes to sift through the data.”

ARISE allows our engineers to rethink how we handle, ingest and save data while minimizing resource load on our IT infrastructures. With a storage database and ability to use common data formats synced with simulations from real flight test data, the tools are applicable to any program. This includes combining product systems across business areas where they can interact with one another in ARISE simulations.

“We collaboratively optimize the way our systems work in a Joint All-Domain Operations environment, and that’s going to provide an enhanced benefit to the warfighter as they meet new and evolving threats,” Doug said.

Implementing ARISE

While ARISE was originally designed to support Missile and Fire Control products, the ARISE products have been deployed across a broad range of MFC programs and beyond. Within the classic MFC portfolio, ARISE has been deployed on several Programs of Record in our missile and sensor sectors. For our U.S. Army customers on the PrSM program, ARISE simulation products have been delivered to support Modeling and Simulation and Hardware in the Loop efforts.

The flexibility of the ARISE tools to operate seamlessly in coordination with other products within the framework or independently have enabled MFC to take advantage of its capabilities across a variety of nontraditional programs. For example, while exploring a prototype effort of ARISE Data Analytics for MFC’s GridStar® Flow Battery, ARISE-Analytics engineers identified minute sensor calibration shifts missed using the classic human-centric approaches to data analysis. The ability to identify hidden anomalies before they become critical enable us to maximize system reliability and minimize maintenance costs. The result also proved ARISE’s viability in a production-ready environment as well as the value of real-time data processing using machine learning techniques. This example showed us how ARISE Data Analytics has

commercial applications as well as our military customer pursuits.

Transformation: How We Do Business

The suite of integrated digital tools that comprise ARISE assess and improve performance to build a system-level weapon simulation, in addition to other product simulations.

- **Mission Software** is a reusable toolkit that complies with the U.S. Air Force required Weapon Open Systems Architecture.

- The **Modeling and Simulation** framework and subsystem model library integrates with mission software to enable all-digital software regression on standalone computers or high-performance computing networks. This toolkit supports selectable fidelity system performance predictions to enable high-fidelity and rapid assessment of tactical mission software and lower-fidelity Live-Virtual-Constructive simulations, all linked to the Model Based System Architecture.

- **Hardware in the Loop** advanced suite of closed-loop testing capabilities with mission software and sensors operates in real-time embedded flight processors.

- The **Data Analytics** infrastructure with machine learning-augmented tools enable improved experiment visualization and analysis of simulation and test data.

This suite of ARISE tools is just one of many ways we’re accelerating transformative technologies to keep our customers Ahead of Ready.

United Launch Alliance (ULA) News

United Launch Alliance Successfully Launches Joint National Security Mission

Atlas V delivers high priority mission directly to Geosynchronous Orbit

Cape Canaveral Space Force Station, Fla., (September 10, 2023) –

A United Launch Alliance (ULA) Atlas V rocket carrying the SILENTBARKER/NROL-107 mission for the National Reconnaissance Office (NRO) and the United States Space Force’s Space Systems Command (SSC) lifted off on Sept.10 at 8:47 a.m. EDT from Space Launch Complex-41 at Cape Canaveral Space Force Station. To date, ULA has launched 157 times with 100 percent mission success.

“We’re grateful for the opportunity to continue to build on a legacy of outstanding teamwork and collaboration with our national security partners,” said Gary Wentz, ULA vice president of Government and Commercial Programs. “We specialize in complex high-energy orbits

and the team is proud to have launched this mission direct to geosynchronous Earth orbit (GEO) to meet our nation's space protection needs."

SILENTBARKER/NROL-107 was ULA's 98th launch for national security and was the final NRO launch aboard an Atlas V rocket as ULA transitions future missions to the next generation Vulcan rocket that will offer unprecedented flexibility in a single system with streamlined operations and greater affordability.

ULA's next launch is the Amazon Project Kuiper Protoflight mission from Cape Canaveral Space Force Station, Florida.

United Launch Alliance Successfully Launches First Mission in Partnership with Amazon

Atlas V precisely delivers initial Project Kuiper prototype satellites.

Cape Canaveral Space Force Station, Fla., (October 6, 2023) – A United Launch Alliance (ULA) Atlas V rocket carrying the Protoflight mission for Amazon's Project Kuiper lifted off on Oct. 6 at 2:06 p.m.

EDT from Space Launch Complex-41 at Cape Canaveral Space Force Station. To date, ULA has launched 158 times with 100 percent mission success. The Protoflight launch is the first mission in a broader commercial partnership between ULA and Amazon to launch the majority of the Project Kuiper constellation.

"This initial launch is the first step in support of deployment of Amazon's initiative to provide fast, affordable broadband service to unserved and underserved communities around the world," said Gary Wentz, ULA vice president of Government and Commercial Programs. "We have worked diligently in partnership with the Project Kuiper team to launch this important mission that will help connect the world. We look forward to continuing and building on the partnership for future missions."

ULA's next launch is the inaugural Vulcan mission from Cape Canaveral Space Force Station in Florida. The next generation Vulcan rocket will offer unprecedented flexibility in a single system with streamlined operations and greater affordability, while continuing to provide unmatched reliability and orbital precision.

From the Senior Luncheon on July 12, 2023, at the Ken Caryl Manor House—the Seniors (75 to 84):



2023 Seniors: Back row, L to R: Mike Pfister, Larry Campbell, Bill Oliver, Al Nemes, Larry Stearns, Ralph Dergance, Larry Major, Larry Moore, Linda Stearns
Front row: Joel Porter, Bart Wright, Mary Stirling, Prab Rao, Rod Halvorson, Dick Sosnay, Mary Moore, Charyl Rose

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 [raises full-year forecast](#) on strong weapons demand (Reuters)

Lockheed Martin has reaped \$2.3 billion so far [restocking the Pentagon](#) (Bloomberg News)

These companies scored the [most money in federal contracts](#) in 2022 (The Hill)

Lockheed Martin retains [number one position](#) on Defense News' annual "Top 100 Defense Companies" list (Defense News)

Lockheed Martin in "late-stage negotiations" with unnamed [solid rocket motor supplier](#), CEO says (Breaking Defense)

[Warren slams defense contractors](#) over tax lobbying (Defense News)

[China sanctions](#) Northrop Grumman, Lockheed Martin for arms sales to Taiwan (Reuters)

Despite concerns, [union workers approve new contract](#) for Lockheed Martin facility, avoiding potential strike (WJAC-TV News, Johnstown, PA)

Over 80 percent of [four-star retirees are employed in the defense industry](#) (The Washington Post)

Wronsky to assume Lockheed Martin [senior vice president, chief human resources role](#) (GovConWire)

Lockheed Martin snags BAE executive as [senior vice president of government affairs](#) (The Hill)

Lockheed Martin, but [make it fashion](#) (The New York Times)

HYPERSONICS NEWS

U.S. Air Force fires [hypersonic ARRW](#) in first test since March failure (Defense News)

U.S. military [scrubs hypersonic missile test](#) launch from Cape Canaveral Space Force Station (Space.com)

Hypersonic missiles are game-changers, and [America doesn't have them](#) (The Wall Street Journal)

5G.MIL NEWS

Lockheed Martin [CEO pitches Pentagon on subscription software](#) (U.S. Naval Institute News)

Lockheed Martin eyes 5G trials following [delivery of test bed](#) to U.S. Marine Corps (C4ISRNet)

SPACE SYSTEMS NEWS

AI, quantum and nuclear technologies are key to [Lockheed Martin's vision for Space 2050](#) (Space News)

NASA and DARPA select Lockheed Martin to develop [DRACO nuclear propulsion demo](#) (Space News)

Denver's Lockheed Martin to [build nuclear engine](#) for spacecraft (The Denver Gazette)

Air Force Research Lab awards [design contracts for nuclear powered spacecraft](#) (Space News)

New Lockheed Martin system will [manage satellite constellations](#) from the cloud using AI (Space.com)

Osiris-Rex: [Asteroid samples land in Utah](#), ending 7-year mission (Aviation Week Network)

Coloradans help NASA collect [asteroid sample](#) in historic space mission (ABC 7 News, Denver)

Lockheed Martin wins [\\$1.2 billion Trident II submarine ballistic missile deal](#) for U.S., UK (The Defense Post)

Space Development agency awards [contracts to Lockheed Martin, Northrop Grumman](#) for 72 satellites (Space News)

DoD satellites in low Earth orbit promise [more connectivity](#) for military users (Space News)

After successful launch, Lockheed Martin looks to [go even faster on future SDA satellites](#) (Air & Space Forces Magazine)

Space Development Agency's data-transport [satellites get more complex](#) (Space News)

Lockheed Martin's data-transport satellite [clears design review](#) (Space News)

Lockheed Martin opens [new factory focused on small satellites](#) (Space News)

Space Development Agency [shaking up how the military buys satellites](#) (Space News)

Three [Orion spacecraft](#) will carry Artemis astronauts to the moon (Space.com)

Lockheed Martin's inflatable [space habitats aim for the moon](#) (Forbes.com)

Video / Boom! [Watch an inflatable space habitat explode](#) during testing (Space.com)

Lockheed Martin, U.S. Navy demonstrate [submarine-launched ballistic missile](#) (Naval Today)

[ULA's Atlas 5 launches](#) National Reconnaissance Office mission (Space News)

Elon Musk's [SpaceX now has a "de facto" monopoly](#) on rocket launches (The Wall Street Journal)

A rocket alternative to SpaceX inches toward its first launch; ULA says [Vulcan's first flight will happen this year](#) (The New York Times)

Space Force to select [three providers](#) of national security launch services (Space News)

Space Force changed launch procurement plan due to [concerns about capacity](#) (Space News)

ULA has ["no issues" with Space Force plan](#) to select three national security launch providers (Space News)

Amazon [moves Project Kuiper prototypes](#) from Vulcan to Atlas 5 (Space News)

Kuiper launch companies say they can [meet Amazon's schedule](#) (Space News)

Launch of Air Force Research Lab navigation satellite [delayed again](#) (C4ISRNet)

Sunnyvale [museum expands, extends Lockheed exhibit](#) (The Mercury News)

AERONAUTICS NEWS

Lockheed Martin [trims F-35 delivery outlook](#) after supplier delays (Reuters)

F-35 delivery [delays to cost Lockheed Martin](#) hundreds of millions in 2023 (Defense News)

As Lockheed Martin hungers for F-35 sustainment deal, Pentagon says it [may not happen](#) (Defense One)

GAO [blasts contractor-led F-35 maintenance](#) as costly, slow (Defense News)

Rep. Wittman says [patience wearing thin](#) on F-35 sustainment plan (Defense News)

F-35 program [finishes years-late tests](#) needed for full production (Defense News)

Pentagon sets [F-35 order ceiling](#) at 780 between 2026-2030 (Aviation Week Network)

Race for [new F-35 cooling system](#) heats up, as DoD won't rule out competition (Breaking Defense)

Lockheed Martin boss: F-35 [Tech Refresh-3 coming in mid-2024](#), will be "worth the wait" (Air & Space Forces Magazine)

Lockheed Martin, Pratt & Whitney win \$1 billion in Navy deals for [F-35 parts, equipment](#) (Defense News)

Data [rights fight may delay training](#) on Air Force's new F-35 simulator (Defense One)

[How many F-35 versions](#) are there? Hint: More than 3 (Defense One)

[Software glitch](#) during turbulence caused Air Force F-35 crash in Utah (Defense News)

USMC finds [missing F-35B](#) amid aviation standdown on safety (Aviation Week Network)

911 call shows bizarre circumstances of [F-35 ejection](#) (Associated Press)

Lockheed Martin F-35A fighter [jets land on motorway](#) (Reuters)

Video / The unique [capabilities of the F-35](#) explained (Aviation Week Network)

Countries keep buying the F-35. [Can Lockheed Martin keep up on demands?](#) (Breaking Defense)

Late arrival of F-35s leaves [Danes frustrated](#) (Aviation Week Network)

Czech government [green lights controversial F-35 purchase](#) (Aviation Week Network)

[Romania eyes 32 F-35s](#) under \$6.5 billion deal (Defense News)

U.S. State Department approves [South Korea to buy 25 more F-35A jets](#) (Defense News)

New [Germany-based F-35 fuselage factory](#) will allow Lockheed Martin to boost production (Defense One)

Taiwan believes domestic next-gen fighter could [lead to F-35](#) (Aviation Week Network)

Australia starts [looking beyond the F-35](#) for next-gen fighter needs (Aviation Week Network)

U.S. Air Force, Lockheed Martin plan [F-22 updates to feed next-gen fighter tech](#) (Aviation Week Network)

How Lockheed Martin is positioning the [F-22 to fly into the 2040s](#) (Breaking Defense)

Lockheed Martin to establish European [F-16 training center in Romania](#) (The Defense Post)

Lockheed Martin's new F-16 training [center in Romania could train Ukrainians](#) (Defense News)

Aussies tap Lockheed Martin for [20 C-130s](#) for \$6.6 billion, boosting reach, flexibility (Breaking Defense)

U.S. Navy's F/A-XX in design maturation, [competing teams announced](#) (Aviation Week Network)

Flying wings, rockets, gliders: Air Force envisions its [next cargo workhorses](#) (The Wall Street Journal)

U.S. Air Force will [retire the U-2 in 2026](#); until then, expect "unique, innovative" uses (Air & Space Forces Magazine)

U-2S cockpit refresh enables [pre-retirement radar upgrade](#) (Aviation Week Network)

Argentina buys [P-3 maritime patrol aircraft](#) from Norway (Defense News)

Skunk Works is testing the secret plane that could [hush the sonic boom](#) (Popular Mechanics)

Flight control issue prompts NASA and Lockheed Martin to [move X-59 back inside for troubleshooting](#) (FlightGlobal)
Northrop Grumman [bows out of NGAD](#) fighter competition (FlightGlobal)
[Competitors set](#) for the U.S. Navy's F/A-XX (Aviation Week Network)
USAF shares latest [tanker follow-on requirements](#) with industry (Aviation Week Network)
Lockheed Martin conducts [AI-commanded electronic warfare mission](#) (The Defense Post)
The fizzled-out promise of [the Lockheed "flatbed"](#) (FLYING magazine)

MISSILES AND FIRE CONTROL NEWS

Lockheed Martin demonstrates [doubling of HIMARS munition range](#) (The Defense Post)
U.S. Navy taps Lockheed Martin for [LRASM integration on F-35](#) (Naval News)
Industry teams near milestone to build [novel U.S. missile interceptor](#) (Defense News)
Northrop Grumman nabs \$705 million Air Force award for [new F-35 air-to-ground missile](#); Lockheed Martin, L3Harris eliminated (Breaking Defense)
Biden tells Zelensky that [U.S. will send Ukraine ATACMS](#) long-range missiles (NBC News)
U.S. State Department approves [JASSM-ER missile sale to Japan](#) (Defense News)
U.S. approves [\\$395 million upgrade](#) of Finland's M270 rocket launchers (Defense News)
U.S. Air Force tests [palletized munition system](#) in Pacific (Aviation Week Network)
Poland to [buy 486 HIMARS launchers](#) from Lockheed Martin (Defense News)
U.S. State Department OKs potential sale of HIMARS to Australia for \$975 million (Reuters)
U.S. pledges to [help Australia produce guided missiles](#) by 2025 (The Associated Press)
U.S. manufacturers eye [Javelin anti-tank missile production in Poland](#) (Defense News)
British Army exploring [MLRS launched effects](#) (Aviation Week Network)

ROTARY AND MISSION SYSTEMS NEWS

Lockheed Martin wins potential \$1.1 billion contract to [design the Navy's Integrated Combat System](#) (C4ISRNet)
Lockheed Martin wins [crucial Australian Air6500 all domain deal](#) for \$765 million (Breaking Defense)
Lockheed Martin secures \$221 million Army deal for [high-powered air defense laser prototype](#) (Breaking Defense)
U.S. Army approves Sentinel A4 air defense radar for [low-rate production](#) (Defense News)
Missile Defense Agency cancels test of [Long-Range Discrimination Radar](#) (Defense News)
Lockheed Martin, Leonardo, three other firms [vie for Bulgaria's new military radars](#) (The Defense Post)
Lockheed Martin advances [Patriot missile integration into Aegis](#) weapon system (The Defense Post)
The U.S. Navy called a Moorestown affordable housing project a [security threat](#). Here's why (Courier Post)
Lockheed Martin's new [dry combat submersible](#) reaches initial operating capability (Naval Technology)
Army [long-range missile launcher](#) spotted on Navy littoral combat ship (U.S. Naval Institute News)
Navy tags LCS [combining gear fixes](#) at \$8 million to \$10 million per ship (Breaking Defense)
The inside story of [how the Navy spent billions](#) on the 'little crappy ship' (Military.com)
Can the U.S. Navy save money by [accepting the LCS as a sunk cost](#)? (Defense News)
Navy [warship commissioned in 2017 going out of service](#) (WGRZ-TV News, Buffalo, NY)
Navy commissions LCS USS Marinette, 4 Freedom-class ships to [decommission this year](#) (U.S. Naval Institute News)
"No more impasse": [Air Force to get helo technical data](#) from Lockheed Martin, Boeing (Breaking Defense)
Lockheed Martin's [Sikorsky wins \\$2.7 billion U.S. contract](#) for CH-53K production (Reuters)
Sikorsky requests [FAA exemption](#) to fly rotor blown wing eVTOL (Aviation Week Network)
Lockheed Martin touts local links in Black Hawk-based helicopter [pitch to UK](#) (Defense News)
Indonesia to buy Boeing's F-15 jets, Lockheed Martin's [Black Hawk helicopters](#) (Defense News)



MARS Associates

2023 Holiday Celebration Luncheon

The Officers and Directors of MARS Associates invite you, your spouse or companion/guest to join the 2023 Holiday Celebration on **WEDNESDAY, December 6, 2023, at The Wellshire Event Center**, 3333 South Colorado Boulevard, Denver, Colorado. This year we are offering you the choice of Prime Rib with Au Jus; French a l'Ancienne Breaded Chicken Breast with creamy mushroom sauce; or Colorado Honey Glazed Salmon garnished with grilled sweet corn and fresh, hand-cut sweet peppers. Lunch will include a field green salad with red wine vinaigrette; fresh homemade bread with butter; Holiday Green Beans with caramelized onions, thinly sliced almonds, and chopped bacon; Rice Pilaf Mirepoix; and, Wellshire's Sweet Table Dessert. Coffee and tea are also included. If you have special dietary needs, please contact Linda Duby at 303-249-1665 with the details.

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

The cost for members and one guest is \$50.00 per person. The cost for additional guests or non-members is \$70.00 per person. These prices include facility fees, taxes, and gratuities. Please specify your choice of entrée(s) on the reservation form below and mail it with your check (made payable to **MARS Associates**) to the address on the form below by November 21, 2023. Or you can make your reservation by using the STRIPE link below:

STRIPE (ctrl+click): <https://marsretirees.org/2023/10/02/mars-associates-2023-holiday-celebration-luncheon/>

Reservations must be received by November 21, 2023.

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

If you make a reservation and later find you cannot attend, please notify Linda Duby at 303-249-1665 or lindaduby@comcast.net; or Charlie Haupt at 303-725-7595 or qcrfcoach@gmail.com; or Carl Kaminski at 303-726-1546 or carlkc66@gmail.com no later than **November 21, 2023** to receive a refund. Admission is by reservation only.

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

Holiday Celebration - December 6, 2023. Please print clearly.

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

Member: _____	Beef _____	Salmon _____	Chicken _____
	\$50.00	\$50.00	\$50.00
Spouse/Companion/Guest: _____	Beef _____	Salmon _____	Chicken _____
	\$50.00	\$50.00	\$50.00
Other Guests: _____	Beef _____	Salmon _____	Chicken _____
	\$70.00	\$70.00	\$70.00

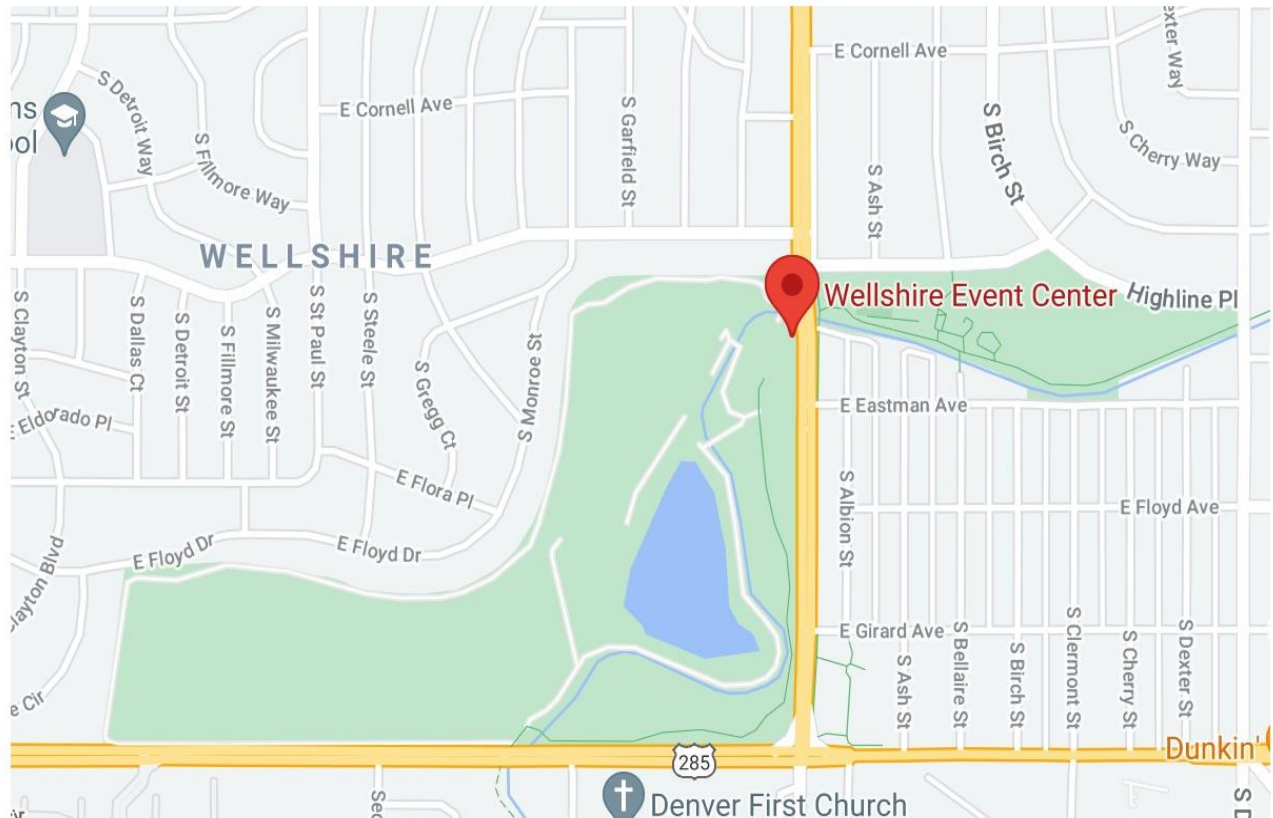
(Add sheet for additional guest names) Member Phone No. _____

Member e-mail address _____

Member/Spouse/Companion/Guest ____ @ \$50.00 per person = \$ _____ Other guests ____ @ \$70.00 per person = \$ _____

TOTAL ENCLOSED \$ _____ Check # _____

Wellshire Event Center, 3333 South Colorado Boulevard,
Denver



National Museum of World War II Aviation guided tour and lunch following. August 17, 2023

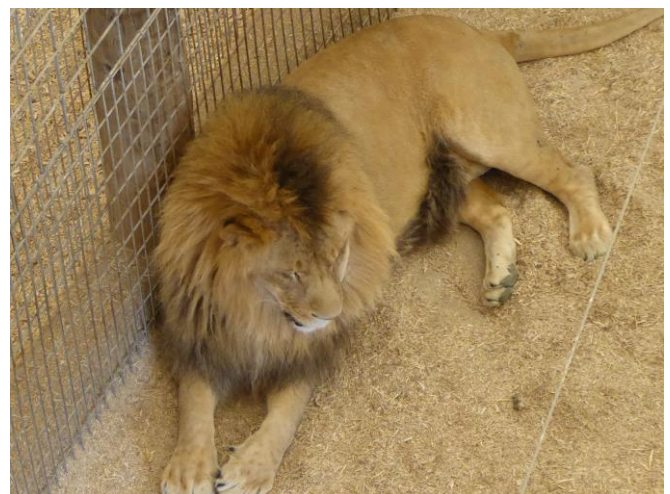
Attendees: Ken & Cheryl Marts, Judy Nielsen, Karen Paulson, Terry Lilly, Leo Johnson & Joni Rosenberger, Doug & Sheri Tomerlin, Jim & Joanne Egolf, Steve & Pawn Axelson, Roger & Karen Mansfield, Mike Bartlett, Maureen & Ron Gedeon, Charlie & Glenda Haupt, Lenni & Chuck Curless, Steve & Wanda Bravdica, Larry & Mijung Kemp, John & Cheryl Grace, Ken & Kathryn Friesen, Doug Albrecht & Ken Wolff, Phil Gold, Roy Pasfield, Kai & Melinda Lo, Carolyn Malaby.



The Wild Animal Sanctuary, Keenesburg, Colorado, July 19, 2023



Tiger Resting, Waiting to be Fed



Male Lion In Barn



(Left to Right) Row 1: Gary Mahonchak, Becky Englebright, Carolyn Malaby, Row 2: Luanne Sosnay, Chuck Curless, Lennie Curless, Diana Mabrey, Lucy Hattz, Cheryl Marts, Ruth Rodriguez, Ed Rodriguez, Linda Sageman, Row 3: Bonnie Neuman, Dick Sosnay, Anne Henning, Deb Adamoli, Richard Hattz, Vick Ellis, Debbie Mues, Row 4: Jim Neuman, Tom Henning, Bob Adamoli, David Bourcier, Katie Cooke, Ken Marts, Gary Englebright, Jim Fusselman



David Bourcier, Ken Marts Getting Ready to go on 3-Mile Walk



Tiger taking a Cool Bath



White Tiger Climbing Ramp to Platform

Central City Opera, July 26, 2023, Kiss Me Kate



Cheryl Martz, Dick & Patty Shaw, Carolyn Malaby, Paula Pinkley, Katie Cooke, Dick & Luanne Sosnay, David Bourcier, Lucy Ellerhorst, Ken Martz, Dan Ellerhorst, Kent Hobbs



Paula Pinkley, Carolyn Malaby



Dick & Luanne Sosnay, Ken & Cheryl Marts,
Dan & Lucy Ellerhorst

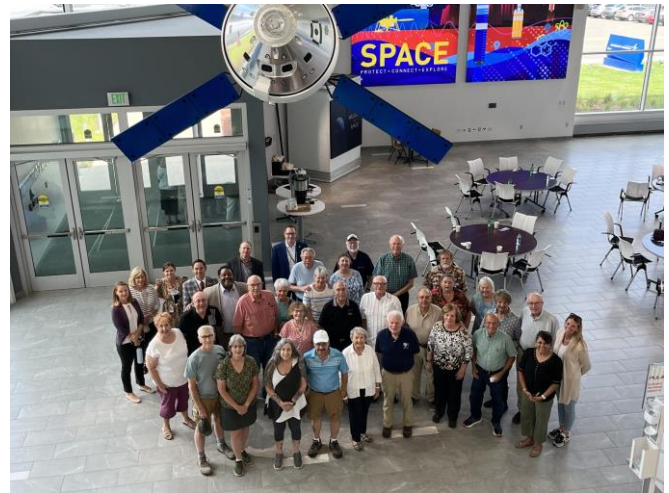


Lucy & Richard Hattz, Jin Fusselman, Linda Sageman

LM Waterton Campus Tour, August 10, 2023



AM Tour Group: Attendees in alpha order: Steven Axelson, Timothy Wassl, David & Erin Bourcier, Stephen Bravdica, Lenni & Chuck Curless, Larry & Barbara Davis, Ron & Maureen Gedeon, Steve Hantelman, Richard Harsh, Anne Herrington, Leo Johnson, Joan Rosenberger, Marr O'Brien, Pete Munoz, Donna O'Neill, Gene Shirley, Cookie Steen, Bill Steffen, Dave & Barbara Steinert, Robert & Jo Wessels, Heidi & Kevin Urie, Judy Nielsen



P.M. Tour Group: Attendees in alpha order: John Bigelow, Curt & Phyllis Brudos, Vincent Conca, Jim Fusselman, Linda Sageman, Chris Hall, Dawn Cromwell, Richard Hattz, Loretta Kennedy, Claudia Knox, Gary & Mary Munda, Al & Marilyn Nemes, Judy Nielsen, Janice & Tom Redfield, Frank & Sally Ann Ross, Dick & Luanne Sosnay, Georgia & David Stealy, Ken & Elaine Zant, Robin Zen, Mark Nash



Entrance to Pulsar Lab



Pulsar Lab Demo

Luncheon Honoring Seniors, Ken Caryl Manor House, July 12, 2023



Ruth & Jim Miles



Norma & Bob Crosby



Lois & Bill Heppler



Richard & Carolyn Hurley



Bill Oliver & Fred Luhman



Janice & Tom Redfield



Mike & Mary Davis



Phyllis & Curt Brudos



Tess & Nels Freeman



Bart & Diane Wright

MARS at the Rockies Game & Picnic, August 2, 2023



Carolyn Malaby & Kaz Hellickson



Donald Linden & Jeanne Dowle



Lisa Skinner & Cal Bowman



Denise Perrizolo & Norma Croucher



Ellen & Pat Albert



Bob & Jo Wessels

MARS Annual Picnic, Clement Park, September 13, 2023



MARS Picnic Pavilion at Clement Park



Ken Marts, Nick Spain (LM guest), Bill Wise



Rusty & Charlie Adinolf, Beth Worthington, Shar Petty



Marts, Bill Wise, Shamina Fletcher (LM Guest)

Ken



Neal King, Door Prize Winner, MARS Cash



Ray Treadaway, Door Prize Winner, Red Rocks CU



Rod Halvorson, Door Prize Winner, LM



Van Vandeventer, Door Prize Winner, ULA



Dick Shaw, Door Prize Winner, OLLI



Larry Stearns, Door Prize Winner, Assured Partners

Schedule Addendum (See last page)

NOTES:

1. BOD meets as required
2. Officers/Directors meet 1st Wednesday of every month at 09:30 am.
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 Committee meets on a monthly basis as determined by members with guests invited (Typically last Wednesday)
- *9. 2023/2024 Happy Hour Dates and Locations are tentative; MARS website will have details when available**
10. 2023 Holiday Celebration - Dec 6, 2023 at Wellshire Events Center
11. Spring Event and Annual Meeting 2024 IBD
- 12. See MARS website (<https://marsretirees.org>) for additional information on our Special Activities**
13. 2024 Special Activities are subject to change

Please review dates and times and notify Ken Marts (martshouse2@aol.com) if you have any changes or additions.



MARS ASSOCIATES
P.O. Box 1128
LITTLETON, CO 80160-1128

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DATE: Nov 2023												
EVENT/MONTH			2024									
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Officers/Directors	1	5	3	7	6	3	1	5	3	7	4	2
Bridge Club	17	21	19	16	15	19	17	21	19	16	20	18
Car Club	4	2	6	3	2	6	4	1	6	3	7	5
Golf Club	-	-	-	-	-	Thur	Thur	Thur	Thur	Thur	Thur	Thur
Hiking Club	15	20	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open
Photo Club	9	14	11	8	14	11	9				12	10
Website Team	as-needed		as-needed									
Marketing Committee	29	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MARS Events												
Wine Tasting	8											
Holiday Celebration		6										
Happy Hour			TBD				TBD			TBD		
Spring Event and Annual Meeting					6							
Summer Luncheon Honoring Senior Members								26				
Annual Rockies Game									TBD	TBD		
2024 Annual Picnic											11	
MARS Special Activities NOTES 12, 13												
Activity A							TBD					
MARS STAR Schedule												
Items due for MARS STAR												
STAR Input to Editor			11			4			11			10
STAR Repro. Deadline			22			15			22			21
STAR Mailing			31			24			31			30