



December 1968



December 1972



Keeping the Memory Alive

Vol 9 December 2011

THE TRACKERS'

C R O N I C L E

We ran out of CRO supported NASA manned space flight missions of the sixties and seventies a while back, so until we can come up with a new, suitable and lasting, theme (suggestions still welcomed) the newsletter will a) continue to be somewhat patchwork in content, or b) have to be reduced in size. You will also gather that I need suitable material.

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Lunar Escape Systems

From Wikipedia

Guidance - ctd.

This would require some skilled flying on the part of the pilot, as any use of the front-facing RCS jets could present a serious hazard to the astronauts on the LESS if the hot exhaust gases hit them.

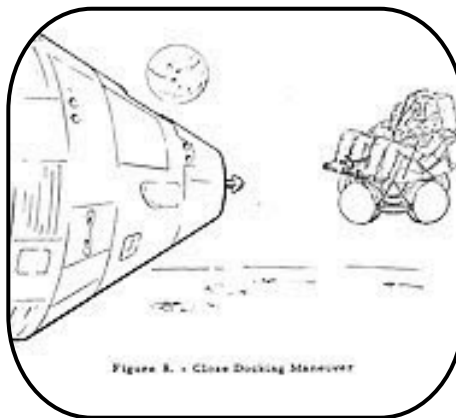
Once docked the CSM pilot would depressurise the Command Module and open the hatch to space, so the astronauts on the LESS could use the external hand-holds on the Command Module to crawl to the hatch and climb inside. The crew would then separate the CSM from the LESS and leave it in lunar orbit when they returned to Earth.

Navigation

There was no mass or power available in the LESS for an Inertial Measurement Unit to measure acceleration and tell the astronauts where they were, where they were going or how fast they would be getting there, or even for a radar altimeter to show altitude above the lunar surface.

In deep space this would have made navigation difficult, but fortunately the astronauts were close to the lunar surface, so other options were available.

Most plans called for the astronauts to use landmarks on the lunar surface to control their heading while the pitch program took care of altitude and velocity. By keeping



Docking with the LESS in lunar orbit. This diagram also gives an idea of the small size of the LESS relative to the Apollo Command Module.

the landmark in the correct position relative to the LESS, they would know they were on the right course.

Some designs included a graduated screen in front of the pilot showing relative angle to lunar landmarks.

Control

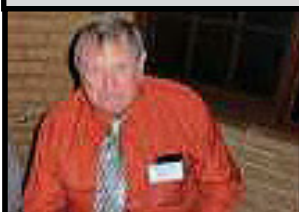
LESS attitude control varied widely among designs. Some used the main engine for attitude control by gimbaling the engine nozzle to alter the direction of thrust. Others had multiple engines and could use relative throttling or pulse-rate to vary the thrust from the different engines and control attitude that way.

A few used cold gas RCS thrusters where high-pressure gas (typically nitrogen) was released from nozzles to provide a small amount of thrust without endangering the crew with hot gas from a rocket thruster. Most provided the pilot with a simple control stick arrangement which would automatically adjust attitude based on pilot input.

For the true 'seat of the pants' feeling, however, the simplest designs had no attitude control system at all. Instead the pilot would stand during the flight, and simply lean backwards, forwards or side-to-side to move the center of gravity relative to the center of thrust of the fixed engine.

To be continued

LOS



It is with deep regret that I have to record the passing of Brian Walker, ex Facilities, on Sunday 13th November; after a three-month battle with lung cancer. Vale old friend.

Whereabouts

As a result of Paul Dench supplying his "staffing list", augmented courtesy Brian Milne, the "Whereabouts" table of those for whom we have no contact details has expanded to more than one page. Thanks to those who have sent updates.

C Abott	Jim Crossland	Geoff Hammond
Eric Ainsworth	Noel Cunningham	R Hanes
Gay Albon	F Dawes	Bea Hardman
Bill Arbery	Peter Dawson	Peter Hardwicke
Allan Barber	Peter Del Fante	Ron Harmes
John (Allan) Barber	Andrew Dempster	Anne Harvey (Brookes)
Matt Barber	Jean DeVis	D Hatch
Keith Barnard	Marilyn Dick	Gail Heileman
Barrow	Olive Dick	Stan Hills
Deidre Beaumont	Phil Dickinson	Ernie Hindley
Elizabeth Beckett	Neville Dippell	Dave Hine
Beveridge	Cheryl? Dixon	
Michael Billings	L Donkin	A Holgate
Denis Black	John Draper	Phyllis Hook (Watson)
G Bond	Mike Dresser	J Hopkins
S Boyce	Bruce Duff	Vivienne Lawer (Hopper)
Bill Boyle	I Dunleavy	Ted Hopper
B Bradley	Bob Dwyer	Deidre Howard
Phil Brindley	Dave Elliot	B Hughes
Hans Britz	J Erickson	B Hunter
Dave Brooks	Ross Eyre	D Hutchins
Charlie Brown		Ian Jones
T.F.A Brown	Ian Few	S ??? Judd
W Brown	Ian Findlay	Vera Kastropil
J Burdett	G Francis	John Keane
R Burdett	Ben Franklin	Mike Keen
Martin Burgess	David Froom	Jim Keenan
Robert Burns	Don Frost	John Kelman
Joe Cabone	Jamie Gardiner	Joy King
Joy Cameron	L Gardner	M King
Geoff Cardwell	S Garner	L King
G Carrick	C George	Roy Kjellgren
Brian Clarke	Joe George	Gloria Klarie
Brian Clifford	J Gerschwitz	Peter Kloppenburg
Keith Clifton-James	G Goodlace	Henry Larsen
Barbara Cobcroft	L Gore	Russ Leighton
Bill Comstock	Lyn Grant	G Linney
?? Coombs	Claude Granville	F Lippett
Ron Cottis	Bob Halse	Alex Liu

The quest continues; the list never seems to get very much shorter.

I have been given information concerning the possible whereabouts of a few of these, but so far have not been successful in obtaining, or confirming, details. The Reunion Dinner brought out some missing persons, but there are also a few who do not wish to be contacted.

Whereabouts ctd.

Gloria Lyon-Roberts	Don Pettitt	Ray Skender
Ross MacDonald	T Phillips	George Small
John Mahaffey	Diane Pitman (Housley)	Lyn Smart (Willis)
Peter Maine	John Platten	J Smith
Roy Mallinson	Gerry Plummer	Mary Smith
Bob Marr	D Powell	P Smith
Keith Mathieson	M.J.K Power	Roger Smith
Alec Matthews	Wendy Puccinelli	Bill Smythe
K McCarson	Lorna Quinn	Hazel Snook (Howse)
Ian McDonald	Roger Ramsden	Dave Standbury
S McDonald	A Rees	John Stanton
Frank McGregor	Dave Rendell	Alex Stevenson
Eileen McLaughlan	Frank Rice	Barbara Stephenson (Vernon)
Don McLellan	Doug Richards	Barbara Teahan
Nola Meiklejohn (O'Byrne)	D Richardson	Barbara Teasdale
R Miller	Harry Richmond	Des Terrill
Bill Mills	Ralp Richmond	Alan Thomas
Ray Mills	Dave Rickards	Christine Thomas
Marilyn Milner (Gobby)	G Riley	Howard Thomas
John Mogg	Brian Robinson	Don Thompson
Sharon Morgan (Todd)	Lynne Rosser	Jack Thompson
J Murray	Ted Rosser	Patsy Thompson (Nolan)
Dennis Naylor	Lindsay Sage	Larry Tomkins
Gloria Neal	Stewart Sands	Frank Toomey
Ellie Nichols	Ron Sargeant	Mike Travell
K Elton Nickerson	Russell Schwarzer	Norma Turner
Graham Nielsen	Bob Scott	Ernst Uhl
John Noble	Michael Scott-Malcolm	TonyVingerhoets
? O'Brien	Lorraine Scott-Malcolm (Erlandsen)	Dave Walker
Joan Oats	Dorcas Sefton-Bellion	Mrs B Ward
W Oliver	George Sefton-Bellion	Tom Ward
Denis Owens	D Selby	N Wardle
John Paddon	Ron Shand	A Watermeyer
??? Mrs Parkinson	Fred Sharland	Irene West
John Parkinson	E Sharples	Bernie Wilbourne
Alan Paterson	? Sheehan	Garnet Wilmott
? Paull	Jeff Shuttleworth	Brian Wilson
Mike Pender	P Sims	Ray Zatorski
Wendy Petersen		

US Space Program

Neil Armstrong is quoted as saying. "...the US space program is embarrassing."

"We will have no American access to, and return from, low Earth orbit and the International Space Station for an unpredictable length of time in the future," Neil Armstrong told the House Committee on Science, Space, and Technology in September.

"For a country that has invested so much for so long to achieve a leadership position in space exploration and exploitation, this condition is viewed by many as lamentably embarrassing and unacceptable."

"A lead, however earnestly and expensively won, once lost, is nearly impossible to regain," he said.

The Saga Continues - Part 1

*From Phil Youd
Chairman
Carnarvon Space and Technology Museum Inc*

26 August 2011 7:54 PM

Hi everyone,

I have been in contact with Eventscorp regarding applying for some funding to get Buzz Aldrin out here next year. I met with Wendy Tate - Event Development Manager yesterday, and she said that our "event" sits nicely with what Eventscorp is all about. They have some new sponsorship monies coming up in the next couple of months and I will be applying for \$35,000 - \$50,000 to go towards the Buzz event for July next year. We would find out from her by the end of December if the funding application is successful. But it all seemed quite positive! I will be sending Wendy a copy of our DVD on the Tracking Station and a sample of some of the interviews next week to give her an idea of what the museum is about.

In the meantime I have sent an email and our Corporate Sponsors package to Channel 7/WA Newspapers looking for sponsorship. I will also will follow up Rio Tinto next week when I'm back in Carnarvon.

Our second batch of interviews were recorded last Tuesday at Channel 7. Once more we had some small technical issues, but I'm sure we can get what we need from the footage to look and sound good and do justice to those participants. They all look very good! Probably one more session at CH7 and then I'll change my focus to the OTC side of things. Wilson Tuckey and the Port Hotel gets mentioned quite a bit, so I think we should have a chat with him.

Mystery Photograph



A copy of this photograph has come into my possession.

Clearly it is Alan Irvine, extreme left, and Dick Baker, extreme right.

Standing behind is John Rudkin.

The question is — who are the other three?

Abort Request Command

From Wayne Hale's Blog

<http://waynehale.wordpress.com/>

Every countdown, the Abort Command System is checked about 10 hours pre-launch.

One of the non-ascent Flight Directors is on console in Houston with a team to baby sit the vehicle (really under the control of the Launch Director), the network, and the Mission Control Center until the Ascent team shows up about four hours prior to launch.

Now, the orbit certified Flight Directors do not have the training that the Ascent Flight Directors have, and there is considerable uncertainty about this test. The FD is directed to actually send the Abort Request commands (both A and B) to the vehicle and one of the Caped Crusaders sitting in the Commander's seat verifies the light comes on.

So when Alpha Flight (FD #23, you have to look it up) was doing pre-launch for the very first time, the NTD called from KSC and said: "Houston Flight, step 16-xxx, send Abort Command" he wouldn't do it! As he later said, "I thought it might blow up the vehicle, and I didn't want to be responsible for that!"

I remember this incident well, because as the rookie trainee Flight Director I got the assignment to write up the Handbook procedure on the pre-launch abort light test.

But if you hadn't read this, wouldn't you agree with Alpha Flight? Who would believe that the Shuttle Flight Director sending the abort command merely lights a light in the cockpit for the Commander to see?!

Oh, next you will want to know how to turn the light off . . .

The Saga Continues - Part 2

From Phil Youd

Chairman

Carnarvon Space and Technology Museum Inc

31 August 2011 7:54 PM

I've had a meeting with Rachel from the Northern Guardian and it's good news. The Northern Guardian is now on board to assist our museum. To start with we're going to start a register of people that wish to assist with the renovations to the building. The notice will be on the "Trades" page each week. She may also do a story, I'm waiting to see about that.

The renovations will include going through the audit to get the building up to a safe spec, plus exterior painting, gardening, air-conditioning, lighting

etc etc. The list is quite large. I am in the process of applying for funding with Lotterywest. I have made contact and have an appointment. I'm hoping to get enough money to pay for materials, then call on the volunteer labour to finish the works.

To support the Northern Guardians role I have recorded an "update" that will start playing on air here in Carnarvon from tomorrow. As we progress, I will keep updating it so the people in Carnarvon know things are moving. Locally there is a lot of "oh I haven't heard much lately, is it still going ahead?", but I think it's time to start moving on a local level.

The Shire should have the paperwork in order by October, so a short time after that I'm hoping our group can actually start real building works.

Geek Trivia

Courtesy *Tech Republic*

What were the 'controversial' call signs for the Apollo 10 spacecraft?

By Jay Garmon September 16, 2011, 7:12 AM PDT

Apollo 10 astronauts Tom Stafford, John Young, and Gene Cernan were clearly big fans of the *Peanuts* comic strip, as they named their Command Service Module *Charlie Brown* and their Lunar Module *Snoopy*.

While most NASA personnel enjoyed the playful call signs for the spacecraft — going so far as to name the *Peanuts* characters as unofficial mascots for the mission — NASA public relations found the names to be inadequate. When it came time to adopt formal call signs for Apollo 11, the first mission that would actually land on the moon, NASA wasn't going to let history repeat itself.

Aldrin, Armstrong, and Michael Collins would be allowed to choose their own call signs, so long as they chose names appropriate to the momentous occasion. You can judge for yourself how well the Apollo 11 crew took the advice, given that the original name for their command module was *Snowcone*, and the lunar lander was originally called *Haystack*. All it took was for one press release to appear with those call signs attached, and NASA's PR flacks decided to rename the Apollo 11 spacecraft themselves.

The Apollo 11 command module became the *Columbia*, after the Columbiad capsule from Jules Verne's *From the Earth to the Moon*. The Apollo 11 lander became the *Eagle*, after the national bird of the United States. History bears little mention of Snowcone or Haystack, but now you may understand why Armstrong felt he was entitled to label his landing site Tranquility Base — whether NASA was prepared for it or not.

From the Editor

As the editor of this publication I guess I can have a rant now and then, when the occasion warrants it.

You are all aware by now of the great effort being made by Phil Youd et al. in respect of the Space and Technology Museum. In this issue of The Trackers' CRONicle (page 6) you will have read that the "*Northern Guardian*" is "on board" for this project.

Regrettably, it is a pity that the town and the paper are so OTC oriented that the picture on the front page of the September 7 issue of the Guardian, bearing the caption "*Carnarvon's role in moon landing set to star*", is a wide angle view of the OTC Cassegrain horn antenna.

Whilst not denigrating the quality of the photograph, I do resent its use by a journalist, who probably wasn't even born in 1969, to emphasise the role played by OTC. With the greatest respect, the OTC site was built with NASA funds to provide data transmission services from the NASA Tracking Station. The report inside the paper goes on to say, "...*Carnarvon locals were involved in tracking NASA lunar missions using the OTC satellites, and other transmission sites in the area...*". Hello!

Your comments are welcomed.

The Editor

The Fisherman Who Rode a Horse

Continuation of an extract from the autobiography of Ken Watters.

"Are you sure Mr. Wainwright, it really doesn't matter. I was only trying to satisfy my own curiosity."

"Of course it matters we cannot let something like this beat us. What are you going to do with your life Ken; I believe you are a fisherman, are you going to leave us soon?"

"Well I had intended to go back fishing when the prawn fleet returned but now I am thinking of going back to school to learn more about how this lot works and get a degree in electronics."

"Really, perhaps we may be able to help you out there. Come around to my office next time you are on day shift and we'll talk about it."

"Thank you Mr. Wainwright I will come over next Monday."

"Better make that 11am Tuesday, Monday is a bad day for me."

"I will, for sure, thanks again."

Mr Wainwright climbed back down from the van and went across to his car and headed home. The sky was just showing the signs of dawn.

I really had to do a lot of thinking about my future. The prawn season was rapidly approaching and if I wanted to get onto a good boat I needed to start looking for the job now. I talked it over with Mum and Dad and they were right behind me going back to school. Dad had been hoping that I would get into another job since long before I left school. The following Tuesday I made some excuses to Max and the crew at Range and Range Rate and headed over to the T&C building to see Mr. Wainwright.

"Good morning Ken. I'm sorry I still cannot help you out with those readings you were getting."

"That's OK I came to ask your advice on going back to school."

"That is what I was hoping you were here for."

"Do you think that if I go to University and get an Electronic Engineering degree there will be a job for me here when I finish?" I asked.

"I'm sure there will be Ken. We will always be looking for engineers."

"I did get good results in my Leaving exams."

"I know I have checked your file."

"I cannot really ask my Dad for money. Do you think that the Tracking Station can help cover my costs if I do go to University."

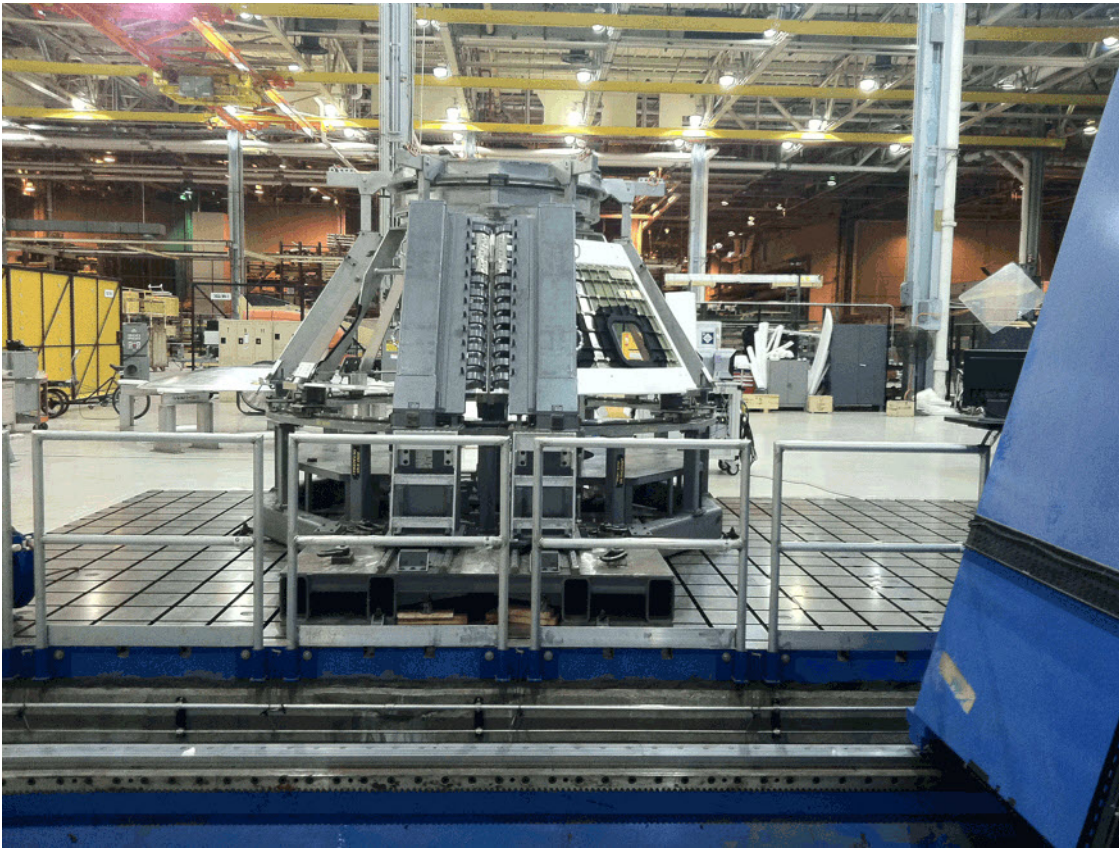
"I doubt that we can pay you while you are at the Uni but we may be able to help in other ways."

"Do you think that you can give me a job during my holidays at Uni."

"I'm sure we can but I want to suggest that you give some thought to going to the West Australian Institute of Technology rather than the University. I have learned that they intend starting an Engineering Faculty next year and are offering three year courses. From the information that I have it appears that they will be offering a more hands on practical course that would perhaps better suit our needs."

To be continued

First Space-Bound Orion



This capsule will be used during Orion's first test flight in space.

Credit: NASA

9 September 2011

Construction began this week on the first new NASA spacecraft built to take humans to orbit since space shuttle Endeavour left the factory in 1991. Engineers at NASA's Michoud Assembly Facility in New Orleans started welding together the first space-bound Orion Multi-Purpose Crew Vehicle.

"This marks the beginning of NASA's next step to send humans far beyond Earth orbit," said Orion program manager Mark Geyer. "The Orion team has maintained a steady focus on progress, and we now are beginning to build hardware for spaceflight. With this milestone, we enter the home stretch toward our first trip to space in this new vehicle."

The team is using a method known as friction stir welding. This technique was first used by NASA to build the space shuttle external tanks, and it creates seamless welds, producing a stronger and more durable joint than those produced by conventional welding techniques. The process uses frictional heat to transform the aluminum-lithium alloys that comprise Orion from a solid state to a plastic-like state before reaching the melting point, and then stirs them together under pressure to complete the bond. This type of welding ensures optimal structural integrity for the harsh environments of space.

After welding is completed at Michoud, the Orion spacecraft orbital test article will be shipped to NASA's Kennedy Space Center, where the heat shield will be installed. At Kennedy, it will undergo final assembly and checkout operations for eventual flight

Courtesy N.A.S.A.

Social Club News

September — Early Seventies - p2

Etiquette for Ladies.....	M. Lambert
The Joys of Family Life	C. Leggett
Life at the Top	G. Leach
The Light of a Smile	P. Linnane
Printing for Pleasure	H. McColgan
Wild Flowers of W.A.	M. McLaren
Women's Lib	M. McLoughlin
Acid in my Tea	K. McDonald
Starting an Art Collection	D. Meyer
Confessions of a Secretary	M. Milner
Communism Analysed	B. Milne
Teach Yourself Computers	P. Milne
What to Do with Your Weekend	L. Morling
Don't Remember the Weekend	T. Mosel
Grow Your Own Hair	J. Noble
Grow Mushrooms in Your Desk	G. Oldman
Advantages of the 40-Hour Week	P. Oates
My Life Policy	J. Paddon
Make a Million Dollars	S. Parkes
Nudes in My Yacht	J. Parkinson
You Can Get It in Carnarvon	N. Pitt
Neo-Existentialism	L. Reynolds
How Judo Affects Your Performance	R. (H)Richmond
Treasure Beneath the Earth	G. Riley
What Every Girl Should Know	B. Robertson
Keeping Pigeons	B. Robinson
Saturday Night Specials	A. Sanderson
A Solar Water Heater	E. Sirel
Poet's Licence	G. Small
Life and Times of Beau Brummel	D. Stanbury
A Night Shift to Remember	G. Tacey
What Really Goes On at the Film Club.....	A. Thomas
The Naked Truth About Town Office	A. Tovey
Plonk is a Wonderful Substitute	R. Unwin
How to Make Management Laugh	P. Vigilante
Write Pop Songs for Profit	J. Watson
I Was a Teenage Teenager	H. Whitworth
Born to Be a Nun	M. Whitworth
103 Years Before the Mast	J. Wilcox
Masochism Explained	N. Wilbourne
Oneupmanship	G. Williamson
How to Make a Crossbow	B. Wilson
A New Approach to Buddhism	C. Winrow

If you find the words "essay" and "story" intimidating, just write me a letter --on any subject of course. It is possible to run a magazine without active support from the readers, but I have no intention of doing so.

Bed
in September.

KEEPING THE MEMORY ALIVE



Carnarvon Tracking Station 1964 - 1975



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My sincere thanks to all of those who have contributed to the website so far; listed at: http://crotrak.com/thank_you.htm .

There is a lot to come including more photographs from the 40th Anniversary Reunion Dinner, courtesy Trevor Housley, Tito & Joan Teraci, Margaret Hall and Max Garth. Just wish I had more than two hands, and more free time - I need to get them done before the next dinner

I can arrange copying, scanning, whatever, so as to get them uploaded to our website; you need have no fears regarding their safety.

Quotations

"It's too bad, but the way American people are, now that they have all this capability, instead of taking advantage of it, they'll probably just piss it all away."

- President Lyndon B. Johnson,
overheard during a visit to the Apollo crew in training, 1968

"America's challenge of today has forged Man's destiny of tomorrow."

- Gene Cernan, Apollo 17

"Cayley PLAINS?!? There ain't nothin' 'plains' about this place!"

-John Young,
while bouncing across the lunar surface aboard a Lunar Rover Vehicle

"I think we need to do a little more all-weather testing."

- Pete Conrad

"I am truly excited about the addition of ULA to NASA's Commercial Crew Development Program team. Having ULA on board may speed the development of a commercial crew transportation system for the International Space Station, allowing NASA to concentrate its resources on exploring beyond low Earth orbit."

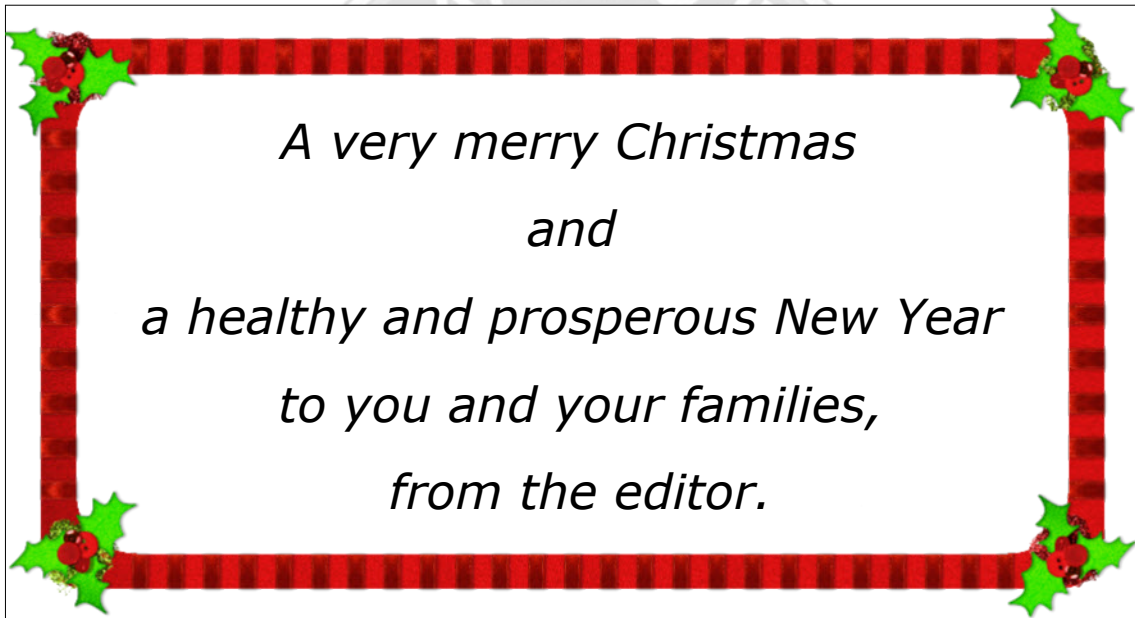
- NASA Administrator Charles Bolden

Keeping the Memory Alive



*"And from the crew of Apollo 8, we close with good night, good luck,
a Merry Christmas, and God bless all of you - all of you on the good Earth."*

— Frank Borman



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