



June 1965



June 1966



Keeping the Memory Alive

Vol 8 June 2011

THE TRACKERS' CRO NICHE

We've now run out of CRO supported NASA manned space flight missions of the sixties and seventies, so until we can come up with a new, suitable and lasting, theme (suggestions welcomed) the newsletter will a) continue to be somewhat patchwork in content, or b) have to be reduced in size. I also need suitable material. See page five of this issue!

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Terence (Terry) Kierans
Editor
CRO Trackers
PO Box 93
QUINNS ROCKS WA 6030
AUSTRALIA

Tel: 61 8 9304 6983
email: tk@crotrak.com
http://www.crotrak.com

Lunar Escape Systems

From Wikipedia

Lunar Escape Systems were a series of emergency vehicles designed for never-flown long-duration Apollo missions. Because these missions were even more hypothetical than the planned cancelled Apollo missions, the designs were never constructed.

As NASA planned for longer stays on the Moon after the first few Apollo flights, they had to consider a number of new issues, one of which was what to do if you cannot get back.

Typically the longer a spacecraft is idle the less reliable it becomes, so after a stay of two weeks on the Moon the Lunar Module ascent engine or other essential systems might fail to function, leaving the astronauts stranded on the Moon without enough supplies to survive until a rescue mission could arrive from Earth.

For one possible solution NASA studied a number of low-cost, low-mass "*Lunar Escape Systems*" (LESS) which could be carried on the Lunar Module as a backup, rather like a lifeboat on a ship.

"*KISS*" was the order of the day, with a few basic assumptions about any operational LESS system:

1. The LESS would use fuel from the LEM ascent stage tanks, so no extra fuel would be carried on the mission.
2. Rather than the multiple redundant systems used elsewhere in the Apollo program, the LESS would be as simple as possible while still achieving its mission.
3. All life support would come from the astronauts' space-suit backpacks. This greatly reduced the mass and complexity of the LESS, but required that the astronauts could

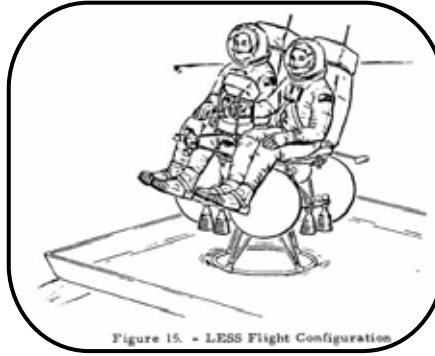


Figure 15. - LESS Flight Configuration

rendezvous with the orbiting CSM within the four-hour backpack oxygen supply.

4. The LESS would support stays of up to 14 days on the lunar surface.

Other issues were that the LESS had to be as light as possible so as not to significantly reduce

the cargo capacity of the LEM, and easy to pack into the LEM in such a way that it would not interfere with the other cargo.

One consequence was that most designs used detachable legs: the legs would be set up on the lunar surface, the LESS assembled on top of them, and the legs then left behind as the LESS launched. This did not directly reduce the mass required, but it did reduce the empty mass of the LESS, which reduced the fuel required to lift it to orbit, which also reduced the thrust required from the engines and the total mass of the design.

The LESS would pack flat in the side of the LEM descent stage, and arms and wires would be provided to allow controlled removal of the LESS and ensure it did not harm the astronaut who was removing it. A protective cover also doubled as a sled, so the LESS could be pushed or pulled along the ground to reach a safe launch position prior to assembly.

The assembly operations were expected to take at least forty-five minutes, with a further two hours for checkout and fuelling before launch. On long-duration missions the crew might assemble the LESS early in the mission as a precaution.

Given the cut-down nature of the LESS compared to a typical spacecraft of its era, the primary differences between designs were in propulsion, guidance, navigation and control.

To be continued

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 Hopper
Bill Boyle	I Dunleavy	Ted Hopper (Lawer)
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	Martin Fenney	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	Tony Vingerhoets
? 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		

SUBSCRIPTIONS

The month of June has come round again - what ever happened to the last one? You will, of course, realise that now is the time to renew your subscription to the Trackers' CRONicle.

Despite the increase in postage and cost of production the price remains at \$11.00 per annum for Australian residents, inclusive of GST; \$10 for non-Australian residents — delivery by e-mail attachment, and \$17.00 for non-Australian residents — delivery by air mail.

Renewal form on back page (p12).

A Letter to the Editor

Dear Terry,

I haven't e-mailed you before but as I am now, I want to tell you how much I have enjoyed all the news over the years and thank you very much for all the thought and effort that you have put into collecting, researching it and making it available to all of us out there. In the last issue when I saw the photo of Mavis and Colin Winrow, it just brought back memories for me.

One memory was one day when Joan Teraci and I were walking past Winrow's place and ended up talking to Mavis and going in; Mavis and Colin were not long married at that time. Well Mavis threw something out off the back verandah and her wedding ring went too. The back yard was covered well with long grass and the situation looked hopeless.

But I persevered and the precious ring was found!!

After thinking that and you asking for ideas from readers of what to put in the CRONicle now that you have covered all the missions, I thought maybe people could write in about our memories. Paul Dench's book was very interesting and very informative but he did not include much in the way of stories and memories of the people who actually worked (there), particularly any local people. I think there is a rich history out there that could still be tapped. Before we all die out that is; unfortunately a lot has already gone. "The Fisherman Who Rode a Horse" is a good example.

Just my thoughts.

Best Wishes,

LM

Is Obama Grounding JFK's Space Legacy?

From USA Today Forum - By Neil Armstrong, Jim Lovell and Gene Cernan

"...Obama's advisers, in searching for a new and different NASA strategy with which the president could be favorably identified, ignored NASA's operational mandate and strayed widely from President Kennedy's vision and the will of the American people.

'We intend to be first. In short, our leadership in science and in industry, our hopes for peace and security, our obligations to ourselves as well as others, all require us to make this effort, to solve these mysteries, to solve them for the good of all men, and to become the world's leading space-faring nation.'

— President Kennedy..."

6th Picnic Day

"Five years is still a long time between drinks."

Another successful picnic attended by some 21 ex-CRO trackers, although a few familiar faces were missing; a couple, unrelated, (who shall be nameless), because they got the wrong date.

To make up for that there were a few new attendees, including grandchildren; a foundation for keeping the memory alive.

Abort Request Command

From Wayne Hale's Blog

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

From a draft NASA requirements document:

3.3.1.9 Both the crew and the CVCC [Commercial Vehicle Control Center] shall be capable of initiating the pad and the ascent abort sequence.

From NASA Generic Flight Rules Volume A, Space Shuttle:

A2-58 ABORT LIGHT

B. ABORT REQUEST CUES - TWO CUES ARE REQUIRED FOR THE CREW TO TAKE THE NECESSARY ACTION TO ABORT THE FLIGHT (E.G., PHYSIOLOGICAL CUES, ILLUMINATED ABORT LIGHT, VOICE REPORT OVER A/G, COCKPIT INDICATIONS).

I need to do some homework on Mercury, Gemini, and Apollo abort initiation. Gemini crew members could actuate their ejection seats on their own, but whether both the crew and the ground could initiate an abort is something I don't really know. Famously, the Soyuz crew members cannot initiate an abort. Both the "April Anomaly" of 1975 and Soyuz T-10-1 pad abort of 1983 (<http://www.youtube.com/watch?v=UyFF4cpMVag>) crews were unable to initiate abort action and had to rely on the ground control, as is still the case today even with the newest model Soyuz.

The Shuttle on the other hand . . . well, here is a mostly true Flight Director story.

In the "old" mission control center at JSC the Flight Director console is preserved much as it was during Apollo and also as it was when I was first training to be a Shuttle Ascent Flight Director in the late 1980's. Among the old fashioned push buttons and lights (and a rotary phone!) is a

formidable piece of hardware always referred to in capital letters: the Abort Switch. The face of the Flight Director console has the (black & white) computer monitor screens, the comm panels with all the flashing lights, and the DDD (dedicated display driver) lights which illuminated for various events to keep the Flight Director situationally aware.

The surface of the console is a flat desk covered with Plexiglas (all the better to keep coffee spills off the reference papers below. Between these two surfaces, one horizontal, one vertical, is a short, inclined surface with various controls.

One of these controls is the Abort Switch. A large handle, maybe 3 inches long, fits into its base snugly by virtue of triangular metal fittings and strong springs.

The Abort Switch is a "lever locking" switch, which means it cannot be accidentally bumped. The protocol, after loudly announcing on the Flight Director comm loop to the CAPCOM: "Abort RTLS (or TAL or ATO)" which the CAPCOM would immediately repeat to the crew over all three air to ground circuits, was for the Flight Director to pull the Abort Switch Handle out from the console, moving it up (to send the "A" command), then releasing the handle to let the switch pop back to center neutral (locked position), pull the Abort Switch handle out a second time from the console and move it down (to send the "B" command), and finally let the switch freely pop back to the center neutral/locked position.

Why all the rigmarole?

To be continued

Monte Sala



Photograph Tony Sala—Photographer unknown

Amedeo (Monte) Sala 1927-2002

By Tony Sala

My father, Amedeo Sala ('Monte' to his Australian friends) was born in Trieste, Italy, on May 16, 1927. He grew up in Zara, further south on the Dalmatian coast of the Adriatic, and on the death of his father was sent to Italy to a boarding school in Spoleto. During World War II when he had returned to Yugoslavia, he was coerced at the age of 16 into the resistance movement, an experience which was always painful to him.

He was at that time classified as a politically displaced person, and decided to take one of the options available to him — emigrate to Australia. He arrived in Melbourne on the *General Muir* in October 1950, and like other persons in the same situation worked as a labourer for a compulsory period of two years. His employment was with the Victorian State Government's water treatment plant, and this experience was reflected in the title of the autobiography that he later wrote and published privately.

It was at this time that he received his Australian nickname. It was normal for Anglo-Celtic Australians to find new names for New Australians who had European names. It was a sign of acceptance. A mate of his began to search for something suitable which resembled his given name of Amedeo. A popular song at that time had the refrain 'Montevideo ...', so Amedeo was renamed Montevideo, which was then shortened to Monte, in a process not unlike that of rhyming slang. He welcomed this new name, and always used it when he was with non-Italian friends.

In 1953 he settled in Perth, and married Lidia, whom he had known before he left Europe. They

had four sons together. Meanwhile, he completed his education as a civil engineer.

At a very early stage in the development of computers he found that he had a natural ability in this area, and this led within a few years to his overseeing the first computer installation for the Main Roads Department. He subsequently worked for the space agency NASA until 1969 during the period which led up to the first landing of men on the moon.

This work required him to visit several locations in the U.S.A., but his principal base of operations was at Carnarvon in Western Australia. During this period his passion for recreational fishing enabled him to explore the Western Australian coast from Point Quobba to Ningaloo Reef, and because of his knowledge of this area he took a particular interest in the story of the *Stefano*, the ship which had begun her life in the area in which he had spent many of his early years, and then met her end in the place in which he was now making his life.

His work with computers led him to explore the developing subject of information technology, and for a while he was associated with UWA before he decided to concentrate on developing a number of product systems that spawned several successful commercial ventures. His achievements in this field were recognised when he was awarded the Order of Australia in 1984.

As he approached retirement, he enjoyed writing. He wrote his autobiography in Italian in 1996, *La luna doveva aspettare*, then translated it into English in 1998 as *The moon had to wait: the Odyssey from the sewers to the stars of an Istro-Dalmatian migrated to Australia in 1950*. Copies of the typescript are held in the Battye Library in the State Library of Western Australia (ref. ACC 5350A). It is a humorous collection of chapters which relate the story of his extraordinary life, beginning with the years of the Depression in Italy and Yugoslavia, continuing with his emigration to Australia, and showing how, he finally achieved recognition in his new country as an expert technologist.

In these later years he also became increasingly fascinated with the story of the barque *Stefano*, which had been recorded in his native language, and brought together some of the history of the region of his early identity, and the earlier and later occupants of the land that he now called home. He gave financial support to the attempts to find the wreck (which were finally successful), and enjoyed the process of collecting information which led to the publication of this book.

The Fisherman Who Rode a Horse

Continuation of an extract from the autobiography of Ken Watters.

There was no point in trying to start the motor for a while; it would take some time for it to dry out. I sat there thinking of the options available to me. I climbed out and keeping a good grip on the Landie I shuffled my feet across the concrete of the causeway around to the front and grabbing hold of the roo bar I sidled across to the lee side of the car probing for the railing that I had visualised with my feet. I could feel the railing with my bare toes, the Landie's wheels were pressed up hard against it; the railing was the only thing keeping us on the causeway. I groped my way back to the upstream side and worked my way to the back of the Landrover. It was too dark to see anything, I climbed back into the drivers seat and sat thinking of what I should do.

It came to two options, I either stayed in the car where I was till daylight or I try to get her going and continue across to Babbage Island. It would be more dangerous to go back, not knowing for sure whether the railing went all the way. Looking at the hump in the water it did not seem to get any deeper as the hump was as straight as a die and just as high in the middle of the river as it was here. I decided that if I could restart the motor then I would continue across. I gave it another half an hour to dry out then grabbing the crank handle and opening up the hand throttle I made my way back to the front of the Landie. The water came to just below the hole for the crank handle in the bumper. Eventually I slipped the crank handle into place.

It was real tricky trying not to slip over or be washed away by the racing river as I cranked the motor over. Every half turn of the handle was under water and after about fifty thousand sloses the motor roared into life. I had the hand throttle set too high and the motor was absolutely roaring. I clambered back into the driver's seat and cut back the revs to a gentle roar and let the motor really warm up before putting the poor girl into gear. I gently eased my foot off the clutch and started to move ahead. I had the front wheels on full lock but they would not come away from the railing. I started to feel a little more confident in my decision to continue across the river and slowly but surely with the motor roaring away in second gear, low range, I made my way across.

Dawn was breaking as I pulled into the Nor West Whaling quarters and I quickly climbed into bed and within minutes I was sound asleep.

"Ken! Are you awake!" It was Don bashing on my door.

"I am now. Just wait a minute."

I opened the door and Don Coyle stood there with his hands on hips.

"How did you get home last night? Did you come across the tramway bridge?"

"No Don, I came across the river."

"Bull. The river came down about 10 o'clock and you were not home then."

"Sorry Don but I did cross the river. I was half way across before I knew it was there."

"You're nuts, you will kill yourself one of these days."

Don walked back to the kitchen mumbling something to the effect of crazy kids and motor cars.

World's Absolute Speed Record

Apollo 10 reentry velocity was the highest of all the lunar missions; so that makes the Apollo 10 crew the holders of the world's absolute speed record.

That crew was Colonel Thomas Patten Stafford (USAF), commander; Commander John Watts Young (USN), command module pilot; and Commander Eugene Andrew "Gene" Cernan (USN), lunar module pilot.

The command module reentered Earth's atmosphere (400,000 feet altitude) at 191:48:54.5 at a velocity of 36,314 ft/sec, following a trans-earth coast of 54 hours 3 minutes 40.9 seconds.

Apollo 10 re-entry speed was due to a longer firing period on TEI which took a day off the return trip, hence the speed record.

Trackers' Picnic 2011



Keeping the Memory Alive— Photograph Tito Teraci

Random Quotes

***B**y the year 2000 we will undoubtedly have a sizable operation on the Moon, we will have achieved a manned Mars landing, and it's entirely possible we will have flown with men to the outer planets. — Wernher von Braun, 1969*

"What the hell was that?" — Pete Conrad, seeing lightning flash around his vehicle as Apollo 12 rose into a thunderstorm.

"I don't know what you could say about a day in which you have seen four beautiful sunsets." — John Glenn

"With all due respect, sir, I believe this is gonna be our finest hour." — Gene Krantz, Apollo 13

Social Club News November 1970

Page 8.

SOCIAL CLUB CAR RALLY - BARBECUE

This function, held on Saturday afternoon October 17th, produced a very gratifying response both in the help received from members and in the good attendance.

Results of the rally were:

First - C. Wighey/B. Vernon in a "hot" Hillman Imp.

Second - R. Hocking in a "gassy" Citroen.

Third - Visitor - Can't remember his name or vehicle but he won a torch.

Fourth - P.Dench in a "cool" Holden Kingswood.

A special prize was awarded for the driver of the vehicle which noted the time it took to go from Rotary Park to Bell Bros. after the barbecue observing all speed limits and safety signs. The winner (believe it or not) - Dave Troup (nice guessing Dave!)

It appears all went well during the rally itself except for an attempted bribe by 3 young ladies upon one of the sub-committee who refused to divulge the info even when far more tempting articles were added to the bribe (1½ cans of warm beer!). No full names will be mentioned ofcourse, as I promised Lorraine, Joy and Jan.

After consulting several parents in the rally it would appear that this function was also educational to the kids who apparently learned lots of new words during debates between father (driver) and mother (navigator).

Those attending, did well not to eat for the two days previous for they consumed 175 meat packs, 10 lb, sausages, 15 doz. bread rolls and 28 gallons of beer. The children did not go thirsty either as they drank 29 doz. soft drinks between them. As usual, all consumable liquor was finished before the last members left Rotary Park and headed towards Carnarvon amidst a cloud of dust.

Total cost for the function was \$166 and we were allowed \$150. If any member wants to complain about the extra \$16, I propose we put him as head of the next car rally sub-committee. On behalf of the sub-committee, I hope everyone did enjoy themselves and will continue to support future functions. As we said before "IT'S YOUR MONEY WE ARE SPENDING. CAN YOU AFFORD NOT TO ATTEND?"

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 - 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.

Where Are They Now



Previously the FPQ-6 engineer, Trevor Housley, pictured here with his wife Jocelyn, among other pursuits now enjoys busking. If you are in Tamworth during the Country Music Festival keep your eyes peeled.

Keeping the Memory Alive

Subscription Renewal Form 2011-2012

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