



THE SPACE EXPLORER

THE NEWSLETTER OF THE ASSOCIATION OF SPACE EXPLORERS • USA November 1997

Costa Rica Added as 27th Member Country of the Association of Space Explorers

On September 15, 1997, Costa Rica was admitted as the 27th member country of the international Association of Space Explorers. The ASE Charter was amended by unanimous consent of the attending fliers to provide membership eligibility for any country which "...is the native-born country of a space flight participant and in which that person holds citizenship...". Costa Rica becomes the first country admitted since the addition of Austria, Belgium, Canada, Italy, Japan, Kazakhstan, Switzerland and the United Kingdom at the 8th Congress in Washington, DC.

The 13th Planetary Congress of the Association of Space Explorers (ASE) was held September 12-19, 1997 in San José, Costa Rica. The theme of the Congress was "Space Technology for Sustainable Development," reflecting the Association's belief that space technologies can significantly enhance the monitoring of the impact of human development on the environment as well as the quality of life on Earth. The 13th Congress was hosted by astronaut Dr. Franklin Chang-Díaz.

The Opening Ceremony of the congress was convened on Saturday, September 13 at the National Theatre in downtown San José, where the fliers and their spouses were warmly welcomed by the first vice-president of the republic Rodrigo

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Planet Earth: The United Nation

An international cultural project

The Association of Space Explorers (ASE) was recently approached by internationally-acclaimed photographer Jaydie Putterman with a proposal to facilitate the development of a multimedia exhibit of astronaut and

cosmonaut portraiture and biographies.

The goal of the project is to capture the experiences of the fliers in a virtual reality, immersive experience that will include visual as well as audio representations of all living space fliers. The project is be-

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Executive Director's Report by Andy Turnage

Greetings, space explorers. It's been a busy year in space. Amazingly enough, some of you are busy doing things in space *right now*. Congratulations to all of you who flew this year and in particular, those of you who, by the time I finally get this newsletter out of the door, will have flown and come back. It's been a busy year on the ground, too, with an ever-growing list of to-dos and not enough time to do 'em. I know you are all familiar with this. Sometimes we just race right through the list without stopping to really...uh, I've got a newsletter to finish so I think I'll just get on with it...

As you know, we recently concluded our 13th annual congress in San José, Costa Rica. The setting in Costa Rica was perfect, the cultural and technical programs interesting and diverse. I received many comments that the technical program was one of the most informative and substantive yet. This is very encouraging, as we are working hard to enhance the technical aspect of the congresses, to increase the focus on a meaningful exchange of technical information as it relates to the human exploration of space. This is, after all, what the congresses should be all about. Our hosts in Costa Rica did an outstanding job of balancing the needs of Costa Rica with the needs of the delegates. Many thanks to Franklin Chang-Díaz for his critical contributions to the success of the congress.

At the congress, several initiatives were undertaken with regard to the development of the association and its activities. Several of the international standing committees met, established charters and discussed plans for future activity. The committee on Crew Safety and Technology Development announced plans to develop an ASE Crew Safety Award as well as a scholarship program to support graduate study in science and engineering. The committee on Ecology, after several months of work, unveiled a web-based earth education exhibit that can be accessed through ASE's home page at <http://explorer.csc.com/ASE/ASE.html>. For those of you who have not had the opportunity to explore our web site, or those of you who

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ANDY TURNAGE

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est. 1985

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NW, Washington, DC 20006

13th Congress Opening Ceremony*Remarks by Rodrigo Oreamuno, First Vice-President of the Republic of Costa Rica*

Members of the Association of Space Explorers,
Ladies and Gentlemen:

In many of the ancient cultures, there are frequent references to men who descend from the sky and arrive on this planet. You recall the winged chariot of the Greeks or the references in South American native cultures to men who arrived in some flying vehicles and who it is even said, landed in the sacred places of those tribes.

These men always arrived on missions of peace and in some way were guides and role models for those peoples who looked upon them with admiration, knowing that they had come from a superior culture and that they had a very lofty mission and had very altruistic goals.

Many years passed and this brings us to our century. Human beings began to fly and, in recent years, were able to sail not only to the confines of our world but far beyond. Thus, a group of women and men not only are dedicated to cultivating their minds but also to developing themselves physically. Which is why we can say that they are really men and women with exceptional qualities.

For a long time - when the Cold War absorbed all humanity - these men and women were somehow employed as part of that competition which existed between the two super powers that ruled the world. That changed overnight and now we can see individuals from a number of countries working to attain the highest ideals of mankind: to achieve peace, to make scientific discoveries enabling future humans to live a better life, a healthier life, to exist under better living conditions, to wipe out diseases, put an end to poverty, and allow the people to live in greater abundance in the future.

There is a group of those men and women in our country. They come here on missions of peace; they come on a study mission; they come to exchange ideas but also to give of their knowledge and impressions on some experiences in a generous fashion of which few human beings have had the privilege to partake.

Among those individuals who are visiting us, there is a Costa Rican who must be the role model for what can be achieved by a youngster who decides to improve himself, who decides to reach the highest stages of development thanks to his own effort, thanks to his studies, and thanks to a continuous commitment to continue improving himself.

*see Opening Ceremony
pg. 5, col. 1*

**Check Out ASE's New WWW Home Page at
<http://explorer.csc.com/ASE/ASE.html>**

New ASE-USA Corporate Members

Boeing Space Systems

President: John A. McLuckey
 2201 Seal Beach Blvd.
 Seal Beach, CA 90740-1515
 (562) 797 5134; (562) 797 5750 (fax)

Combining the tremendous triple heritage of the space units of Boeing, McDonnell Douglas and Rockwell, Boeing Space Systems is comprised of a series of market-aligned businesses at the leading edge of national and international space achievement. Long the leader in human space flight through its role as builder of the Space Shuttle orbiters and their main engines, Boeing Space Systems is today building the International Space Station. Headquartered in Seal Beach, California, Space Systems employs more than 27,000 people. Approximately 16,000 employees are based in California; the remaining 11,000 have a significant presence in Alabama, Colorado, Florida, Mississippi, Ohio, Texas and Utah.

IMAX Corporation

Chairman and Co-CEO: Bradley J. Wechsler
 2525 Speakman Dr.
 Sheridan Science & Technology Park
 Mississauga, Ontario L5K 1B1
 (905) 403 6427; (905) 403 6474 (fax)

IMAX is involved in a wide variety of out-of-home entertainment business activities including the design, leasing, marketing, maintenance and operation of IMAX theatre systems; film development, production, post-production and distribution of large-format films; camera and projector design and manufacturing; as well as on going research and development. Today, there are more than 150 permanent IMAX theatres operating in 22 countries. A key focus for Imax is the production high-quality films for the exclusive IMAX theatre network. The organization has extensive in-house experience in producing critically acclaimed and broadly appreciated films.

Reed Brothers LP

General Partner: James W. Reed, Jr.
 1206 Kanawha Blvd. E
 Suite 201
 Charleston, WV 25301
 (304) 345 3817; (304) 345 4001 (fax)

Reed Brothers Limited Partnership is a family owned business engaged in the exploration for and production of oil and natural gas. It's current operations are conducted exclusively in West Virginia, but it is seeking opportunities in the western and southwestern parts of the United States as well as abroad. Although Reed Brothers Limited Partnership was formed in 1995, the Reed family has been in the oil and gas business in West Virginia for over eighty years where it has extensive land holdings.

Opening Ceremony

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So, here we have Franklin Chang, a Costa Rican who is like any of those boys around us, who attended our schools and colleges, and who, thanks to his hard work, today enjoys privileges that very few humans ever attained.

So thank you, to Franklin Chang, for having participated in the organization of this activity, and for being so fundamentally significant through his efforts on behalf of this gathering which is being held here. But also to all members of the Association of Space Explorers, Costa Rica extends a warm welcome, receives you all with open arms, and tells you that this nation, which cultivates peace and desires to improve itself even more, thanks to education, thanks to better health, this nation receives you most affectionately, and wishes you every success in making your deliberations fruitful and also expresses the hope that you will come to visit us many more times.

In the name of the Government of the Republic, in the name of the President and of all the people of Costa Rica, I extend to you, members of the Association of Space Explorers, the most cordial welcome and I wish you a happy sojourn in our country.

Many thanks.

Congress

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Oreamuno. After an informal gathering with the vice-president and attending students, the attendees had lunch at the Hotel Camino Real, where they were given an overview of the congress program by the local organizing committee and host Dr. Franklin Chang-Díaz. After lunch, the first working session, International Space Programs Review, was held at the Hotel Herradura Conference Center and featured presentations by Russian cosmonaut and Flight Director Vladimir Solovyov, who reviewed the current state of the Mir station; US astronaut Kevin Chilton, who discussed the Shuttle/Mir program and plans for Phases II and III; and Jet Propulsion Laboratory representative Dr. Robert Anderson who gave an overview of the status of the Mars Pathfinder vehicle and its mission.

After a day of sight-seeing at nearby Poas Volcano and in the communities of Sarchí and Grecia, the fliers gathered on Monday morning at the Plaza de la Democracia for Costa Rican Independence Day activities. Following remarks by several municipal representatives and Costa Rican president José María Figueres, the delegates were treated to a reception hosted by president Figueres at the adjacent Museum of National His-

tory. That afternoon, the ASE Committee on Crew Safety and Technology Development, chaired by Fred Gregory, hosted the second working session of the congress. The session on Crew Safety and Technical Issues began with a discussion by Russian cosmonaut Gennadi Strelakov and US astronaut Shannon Lucid of the applicable lessons learned from their experiences as international crew members on the US Shuttle and Russian Mir space station. Bob Springer followed with a discussion of the Liquid Fly Back Boosters and the advantages of using these as possible replacements for the current shuttle Solid Rocket Boosters. The last presentation of the day was made by Bruce McCandless II, who discussed the safety and reliability aspects of the Lockheed-Martin VentureStar™ vehicle.

Tuesday, September 16 began with the Theme and Award Ceremony, where the Association presented president Figueres with the annual Planetary Award, the Crystal Helmet for his efforts in institutionalizing the protection of non-renewable resources and biodiversity in Costa Rica. Also recognized with Leonov Medallions were Costa Rican scientists Rodrigo Gamez and Guy de Terramond for their work in ecological preservation

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13th Congress

General Statement
of the
Association of Space Explorers
13th Planetary Congress
San José, Costa Rica

Fifty astronauts and cosmonauts from 12 countries convened the Thirteenth Planetary Congress of the Association of Space Explorers (ASE) from September 12-19, 1997 in San José, Costa Rica. The theme of the congress was "Space Technology for Sustainable Development", reflecting ASE's concern that while modern technology can improve the quality of life on Earth it must also provide mechanisms to mitigate its impact on the Earth's eco-systems.

Our home planet, this fragile spacecraft we call Earth, has undergone substantial changes over the course of the last century. The impact of human development on the Earth's environment is increasingly evident as we approach the beginning of the new millennium. The demands of modern civilization are resulting in an increase in the pace of deforestation, littoral erosion and atmospheric and oceanic pollution.

Space technology has come of age for the benefit of humankind. Today, more and more humans of different nations partake in this pioneering activity. The ASE embodies a growing representation of this diverse human family in space. The organization is aware of its unique role as a vehicle to foster world collaboration and assist in the transfer of this knowledge to the peoples of the world. The delegates to the Thirteenth Planetary Congress in Costa Rica addressed a pressing issue that affects the people of the developing world: the concept of "sustainable development". Never before has the gift of space technology been so relevant to the people of Latin America. Its great promise lies in the direct transfer of technical information which is key to the achievement of sustainable development. At the same time, the wealth of biodiversity existing in Costa Rica and other areas of Latin America may hold important answers to questions regarding our own survival. Such wealth must be thoroughly catalogued, understood and protected for all humans.

Costa Rica, as a participant in the United Nations' Earth Summit convened in Rio de Janeiro, Brazil in 1992 is at the forefront in institutionalizing the conservation of the Earth's environment. We astronauts and cosmonauts of the Association of Space Explorers have gathered here in Costa Rica to call attention to the many environmental challenges we face and to discuss ways in which space technology can contribute to the solution of these problems. Space-based Earth observation and remote-sensing technologies can facilitate sustainable development by providing accurate crop, soil and pollution analysis and monitoring as well as timely natural disaster and weather forecasting.

Each of us has observed from Earth orbit the results and effects of these many environmental changes. Space explorers from 27 nations, being aware and concerned about the future development and protection of our home planet, support the concept of sustainable development and indeed consider this the only type of development we can afford to pursue. We astronauts and cosmonauts of the world call on all peoples and governments to consider these issues and regard them with all due consideration and to implement the resolutions of the earth Summit in Rio so that future generations may prosper and participate as guardians and beneficiaries of the Earth's environment.

Adopted and Signed September 18, 1997

13th Congress Attendees

Austria

Franz Viehböck

Belgium

Dirk Frimout

Bulgaria

Alexander Alexandrov

Costa Rica

Franklin Chang-Díaz

Germany

Reinhold Ewald

Ulf Merbold

Hungary

Bertalan Farkas

Poland

Mirosław Hermaszewski

Romania

Dumitru Prunariu

Russia

Victor Afanasyev

Sergei Avdeev

Alexander Balandin

Anatoli Berezovoi

Victor Gorbatko

Alexander Ivanchenkov

Alexei Leonov

Vladimir Lyakhov

Gennadi Manakov

Oleg Makarov

Andrian Nikolayev

Alexander Poleshchuk

Victor Savinykh

Vladimir Shatalov

Vladimir Solovyev

Gennadi Strekalov

Vladimir Vasyutin

Syria

Mohammed Faris

U.K.

Helen Sharman

United States

Loren Acton

Joe Allen

John-David Bartoe

Karol Bobko

Scott Carpenter

Kevin Chilton

Sam Durrance

John Fabian

Gordon Fullerton

Owen Garriott

Fred Gregory

Hank Hartsfield, Jr.

Tom Henricks

Bryon Lichtenberg

Shannon Lucid

Jon McBride

Bruce McCandless II

Ron Parise

Don Peterson

Ken Reightler, Jr.

Richard Richards

Mario Runco, Jr.

Bob Springer

Charlie Walker

Congress

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and the use of technology in support of sustainable development, respectively. After lunch at the Hotel Marriott, the session on Space Research and Applications provided a glimpse into research plans for the International Space Station as well as possible future modes of space transportation and crew rescue. Chaired by Charlie Walker, the session began with a report by Dr. Franklin Chang-Díaz on the status of his work on the Variable Specific-Impulse Magnetoplasma Rocket (VASIMR). Dr. Loren Acton followed with a discussion of his investigations into the adhesion of cells in zero- versus one-gravity. In the third presentation, Dr. John-David Bartoe gave a comprehensive overview of future science research plans for ISS. In a last minute addition to the schedule, Gordon Fullerton reported on the status of the X-38 flight development program. After the session, the fliers signed the traditional congress commemorative posters.

The last working session of the Congress was held on Wednesday, September 16 at EARTH College in Guacimo, two hours by bus from San José. The session on Ecology, chaired by Dr. José Zaglul, Rector of EARTH, included a presentation by Russian cosmonaut Dr. Victor

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**14th Planetary Congress
Preliminary Program**

October 19-23, 1998

General Program

Companion's Program

Sunday, October 18

Arrival in Brussels and Check-in

Monday, October 19

Opening Ceremony in "Congress Hall"

Welcome by Federal Minister for Science Policy

Press Conference

*Reception hosted by Federal Minister for Science
Policy*

Theme Session and Keynote Address

Award Banquet

Opening Ceremony

City Tour of Brussels

Tuesday, October 20

*Technical Session-Crew Safety and
Technical Issues*

Brussels City Tour

Cultural Activities

Visit to Castle Beloeil

Craft and Folk Art Show

Visit to "Flanders Fields" Memorial

Wednesday, October 21

Community Day Activities

*Technical Session-Space Research
and Applications*

Cultural Visit-Townhall Brussels

Shopping

Thursday, October 22

Technical Session-Ecology

Local Excursions

Visit to City of Bruges

Opera

Friday, October 23 (In Transinne)

*Technical Session-International Space
Programs Review*

Congress

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Savinykh, who spoke on the efficacy of earth observation platforms in characterizing environmental change. The ASE Ecology Committee followed with several presentations describing environmental change through photographs taken from space, and EARTH College professor Dr. Bert Kohlmann reported on the collaborative effort between EARTH College and NASA to find a cure for the Chagas Disease. Following lunch at the campus with students and staff, Dr. Harley Thronson from NASA Headquarters' Office of Space Science gave a very well-attended presentation on the Origins Program, NASA's effort to answer the question: Are We Alone?

Thursday morning, following the unexpected departure of a substantial number of Russian cosmonauts, the delegates traveled far and wide within Costa Rica to participate in Community Day activities. Despite some logistical snafus which resulted in the exclusion of several well-prepared fliers, most of the remaining astronauts and cosmonauts were driven or flown to very receptive audiences in local and remote villages and towns.

After lunch, the executive ses-

cont'd page 11, col. 1

Report

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have not seen it recently, I encourage you to do so. We have made many improvements to the site in the last few months; I would really like to thank Ron Parise and the Computer Sciences Corporation for their time and efforts in putting the page together and keeping it updated.

As many of you may be aware, we are once again faced with an imminent office move. While it has not yet been determined when, and where, we might move, I would like to take the opportunity to thank Joe Allen and the Calspan SRL Corporation for nearly four years of rent-free space in what was a particularly critical time for the Association. Joe and his staff have been overwhelmingly hospitable and generous, and they all have my deepest gratitude and thanks. We are exploring several possible options for relocation, including a move to Houston. And I'll tell you, the colder it gets here in Washington, the more attractive that option becomes. I'll be sure to keep you posted!

Last but not least, we will be hosting an ASE luncheon on December 11 at Frenchy's Villa Capri in Houston. I have received a somewhat negative response to calling it a general meeting, because not all members can make it. Call it a general meeting for those who can make it and free lunch on us for those who can't. Hope to see you there!

Planet Earth
cont'd from page 1

ing funded by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and will be distributed to every educational institution (junior high-school or equivalent and up) in the world.

At the 13th Congress in Costa Rica, where he was in attendance, Putterman received the support of the ASE and made substantial

progress by photographing many of the 50 fliers who were there. Putterman is currently in Moscow as a guest of ASE-Russia, where he hopes to complete his portfolio of Russian cosmonauts.

Jaydie Putterman was born in the United States and has lived in France for more than 20 years. His last project, "Talents and Consciences of Europe" has been exhibited in more than 21 countries.

PRECOURT TO LEAD FINAL SHUTTLE/MIR DOCKING MISSION

Charles J. Precourt (Col., USAF), who has visited the Russian Mir space station twice before, will command the final scheduled Shuttle/Mir docking mission, concluding the joint U.S./Russian Phase 1 Program. The flight, designated STS-91, is set for a May 1998 launch on Discovery. Precourt will be joined on the flight deck by Pilot Dominic L. Gorie (Cmdr. USN). Mission specialists for the flight are Wendy B. Lawrence, (Cmdr., USN); Franklin Chang-Diaz, Ph.D.; and Janet Kavandi, Ph.D.

Mission specialist Andrew Thomas, Ph.D., will join the STS-91 crew as he returns from a four-month research mission on Mir. Thomas' departure from Mir will bring to an end more than two years of a continuous U.S. presence on Mir, beginning with Shannon Lucid in March 1996. Thomas will arrive on Mir as a member of the STS-89 crew.

STS-91 will mark Precourt's third mission to Mir and fourth overall Shuttle flight. He was the commander for STS-84 in May 1997, the sixth Shuttle/Mir docking mission which returned Jerry Linenger to Earth and delivered Mike Foale to the Mir space station. In June 1995, he served as pilot on STS-71, the first Shuttle/Mir docking mission. His first flight was as a mission specialist on STS-55, the Spacelab 2 mission in April/May 1993. He is currently the Acting Assistant Director (Technical) for the Johnson Space Center, Houston, TX.

STS-91 will be the first space flight for Gorie and Kavandi, members of the 1994 astronaut class. Lawrence, who visited Mir in September as a member of the STS-86 crew, will be making her second visit to the Mir space station on STS-91. She previously flew on STS-67 in March 1995. Lawrence will bear primary responsibility for material transfer between the two spacecraft.

Chang-Diaz will be making his sixth journey into space, having flown previously on STS-61C in 1986, STS-34 in 1989, STS-46 in 1992, STS-60 in 1994 and STS-75 in 1996. He has logged more than 1,000 hours in space over five previous flights. Chang-Diaz, who has a doctorate in applied plasma physics, will support a major scientific objective of the mission as he works with the Alpha Magnetic Spectrometer Investigation (AMS). The objectives of this investigation are to search for anti-matter and dark matter in space and to study astrophysics. The primary investigator for the AMS investigation is Nobel Laureate professor Samuel Ting.

The Phase 1 Program is a precursor to the International Space Station maintaining a continuous American presence in space and developing the procedures and hardware required for an international partnership in space. For complete biographical information on the STS-91 crew, or any astronaut, see the NASA Internet biography home page at URL: <http://www.jsc.nasa.gov/Bios/>

| <i>Congress</i> <i>cont'd from page 9</i> | <i>ASE-Russia News</i> | <i>ISS Crews Named</i> | <i>On Orbit...</i> |
|--|---|---|---|
| <p>sion was held and the delegates formulated the congress General Statement, approved charter amendments designed to provide a mechanism for the growth of the international association, heard a report from Dirk Frimout on the 14th Congress in Belgium, and approved ASE participation in the Bibo TV and Jaydie Putterman projects. Elections to the international executive committee were held and Fred Gregory and Victor Savinykh were re-elected for a second term to the international governing body.</p> <p>That evening, a farewell banquet was hosted by president Figueres at the historic Pueblo Antiguo museum-park, where the fliers were treated to a traditional folk dance and exhibit as well as a short fireworks show.</p> | <p>At a recent General Meeting of the Association of Space Explorers-Russia at the civilian cosmonaut center in Khovanskaya, Moscow, elections were held for the ASE-Russia executive committee. Gennadi Strekalov was chosen to replace Vladimir Kovalyonok as president, and Vladimir Vasyutin was elected to fill Strekalov's previous post as vice-president. Also elected to the leadership were Vladimir Lyakhov, Alexander Poleshchuk, Victor Gorbatko, Oleg Makarov and Musa Manarov.</p> <p>A Charter Revision Committee was formed and tasked to review amendments to the ASE-Russia charter, particularly with regard to the codification of term limits for ASE-Russia officeholders. Members of this committee are Anatoli Filipchenko, Anatoli Berezovoi and Alexander Laveikhin.</p> | <p><i>First Rotation</i> Jan.-June 1999 CDR: Bill Shepard Yuri Gidzenko Sergei Krikalev</p> <p><i>Second Rotation</i> June-Dec. 1999 CDR: Yuri Usachev James Voss Susan Helms</p> <p><i>Third Rotation</i> Dec. '99-Jan. 2000 CDR: Ken Bowersox Vladimir Dezhurov Mikhail Turin</p> <p><i>Fourth Rotation</i> Jan.-April 2000 CDR: Yuri Onufrienko Carl Walz Dan Bursch</p> | <p>MIR 24</p> <p>Anatoli Solovyev Pavel Vinogradov David Wolf</p> <p>STS 87 11/19/97 OV 102 PAD: B INC: 28.45 DEG ALT: 160 NM USMP 04 SPTN-201-04 16 Days EDO Pallet RMS</p> <p>Kevin Kregel, CDR Steve Lindsey, PLT (R) Winston Scott, MS Kalpana Chawla, MS (R) Takao Doi, MS (R) Leonid Kadenyuk, MS (R)</p> <p>On the Pad...</p> <p>STS-89 1/15/98 OV 103 PAD: B INC: 51.6 DEG. ALT: 160 NM S/MM-08 Spacehab-DM 9+1 Days</p> <p>Terrence Wilcutt, CDR Joe Edwards, PLT (R) Bonnie Dunbar, MS Michael Anderson, MS (R) James Reilly, MS (R) Salizhan Shapirov, MS (R) Andrew Thomas, MS (up) Dave Wolf, MS (down)</p> |
| <p align="center">ASE Helmet Logo Embroidered Polo Shirts (202) 331-3885 for details</p> | | <p align="center"><i>Bold indicates ASE member</i></p> | |

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