



MARTIN DIVE CLUB

News

August 2001



Space Shuttle Solid Rocket Booster Retrieval Diving at August Meeting

“How Do They Do That?”

Come to the August 14th **CLUB** meeting and learn how Larry Collins and his crew retrieve the Space Shuttle's solid rocket boosters off Cape Canaveral. In his presentation, Larry will give us a view into a job he says is like being on vacation. He really loves it.

This special meeting will take place 7 p.m. at Lockheed Martin Information Systems Center Auditorium, 12506 Lake Underhill Road, Orlando, Florida 32825 [1 mile south of Highway 408 (E-W Expressway) at Rouse Road]. If you have any questions, contact the **CLUB** at (407) 306-5020.

Larry is presently the senior diving supervisor for the post-flight directorate of the United Space Alliance, a joint venture of Lockheed Martin and Boeing. He has been diving for over 27 years and an instructor for 22 years. After becoming a training director for the National Association for Cave Diving 1982, Larry has been a technical instructor for 20 years.

As dive supervisor of the retrieval group for 14 years, he has been lead diver on over 100 Shuttle missions. He also serves as a search and recovery diver for five counties and the state of Florida Park Service and has been a Diver Medical Technician for 15 years.

To make Space Shuttle launches as economical as possible, the reuse of flight hardware is crucial. Unlike rocket boosters previously used in the space program, the Space Shuttle's solid rocket booster (SRB) casings and associated flight hardware are recovered at sea. The expended boosters are disassembled, refurbished, and reloaded with solid propellant for reuse.

The two retrieval ships that perform the SRB recovery, the Liberty Star and Freedom Star, are unique vessels specifically designed and constructed for this task. The ships are 176 feet in length, 37 feet in width, and draw about 12 feet of water. Each ship is propelled by two main engines and two thrusters. The stern thruster is a water jet system that allows the ship to move in any direction without the use of propellers. This system was installed to protect the endangered manatee population that inhabits regions of the Banana River where the ships are based. The system also allows divers to work near the ship during operations at a greatly reduced risk.



President's Column

Hello Fellow Divers!

Last month, we enjoyed a slide show presentation about the wonders of coral reefs entitled "The Vanishing Rainbow." Our presenters and fellow-members, Joanne Rowley and Bill Paskert, did an excellent job. 'CORAL' stands for the Coral Reef Alliance, which is an organization that works to preserve the reefs of the world. **MDC** has made a \$50 donation in support of CORAL's fine efforts.

This month, the **CLUB** is pleased to announce a presentation by Larry Collins of the NASA Solid Rocket Booster Recovery Dive Team. Larry will address the activities and responsibilities of the Dive Team in the recovery of the expended solid fuel booster rockets. Our August monthly meeting will be held at the Lockheed Martin Information Systems Complex (ISC) auditorium. We are inviting other dive clubs and divers from around Central Florida to attend and enjoy the presentation. Please help get the word out to other dive clubs and shops. **MDC** members, non-members, employees of Lockheed Martin, **as well as the general public** are invited to attend this presentation. No dinner will be served.

In September, Terrence Tysall will be telling us about the recent activities of The Cambrian Founda-

tion, an organization he founded that is dedicated to research, education, preservation, and exploration of the aquatic realm.

Since our last meeting, the **CLUB** has had the opportunity to dive at Boynton Beach with Chuck Brown in the lead. Please read Chuck's report of the trip in this newsletter.

MDC has several exceptional dive trips coming up. Gwen and Ralph Rolape are leading a dive trip to Key Largo from August 2nd through 5th. Our sister club, the KSC Barracudas, is sponsoring a one-day Boynton Lobster Dive on August 11th. Marie Frank is leading another dive trip to Cozumel from August 30th through September 6th. George McGuire will be leading a wreck diving trip to Jupiter Beach on October 6th. And don't forget the annual **MDC** road trip to Fantasy Fest in Key West with "Captain Mike" McCleskey from October 26th through October 28th! You can find additional details concerning these **MDC**-sponsored dive trips in this newsletter!

I look forward to seeing you at the August 14th meeting at the Lockheed Martin Information Systems Center Auditorium at 12506 Lake Underhill Road (1 mile off the East West Expressway at Rouse Road), Orlando!

Bob Grapentine

Your Officers and Staff

President Bob Grapentine	(407) 306-6914	Activity Chairperson Mike McCleskey	(407) 273-6655
Vice President Marie Frank	(407) 356-8256	Meeting Chairperson Paul Phillips	(407) 297-5731
Secretary Joanne Rowley	(407) 977-3346	Camera Chairperson Mike McCleskey	(407) 273-6655
Treasurer Ralph Rolape	(407) 306-7075	Equipment Chairperson Mark DuBiel	(407) 356-5969
Director at Large Mark DuBiel	(407) 356-5969	Membership Chairperson Ralph Rolape	(407) 306-7075
Board of Directors Dean Hayes	(407) 306-3288	Merchandise Chairperson TBD	
Ron Mann	(407) 356-2135	Safety Chairperson Gwen Rolape	(407) 306-1801
Paul Phillips	(407) 297-5731	Publicity Chairperson Bill Paskert	(407) 356-2290

The SRBs, fully loaded with propellant, weigh about 1.4 million pounds each. They stand 149.2 feet tall, and have a diameter of 12 feet. The boosters in use today are the largest solid propellant motors ever developed for space flight and the first to be used on a manned space vehicle.

At approximately 2 minutes after the Space Shuttle lifts off from the launch pad, the twin SRBs have expended their fuel. The boosters separate from the orbiter and its external tank at an altitude of approxi-

mately 30.3 statute miles.

After separation, momentum propels the SRBs for another 70 seconds to an altitude of 44.5 statute miles before they begin their long tumble back to Earth.



At an altitude of 1.3 miles, the three main parachutes deploy and quickly slow the booster's speed from 230 miles per hour to a speed of 51 miles per hour. At about 7 minutes after liftoff, the boosters impact the Atlantic Ocean. The splashdown area is a box of about 6.9 by 10.4 statute miles located about 140 nautical miles downrange from the launch pad.

The retrieval ships are on station at the time of splashdown, at about 9.2 to 11.5 statute miles from the impact area. Each ship retrieves one booster.

After the three chutes are recovered, attention turns to the SRB. The dive team prepares for booster recovery. Two inflatable boats, with eight retrieval divers aboard, are deployed. The job of the first dive team is to install a Diver-Operated Plug (DOP) in the nozzle of the booster. The DOP is 22 feet in length

and weighs 1,100 pounds. It is neutrally buoyant and is easily guided to the aft skirt at a depth of about 110 feet by the divers. Once the DOP is inserted into the booster nozzle and the nozzle is sealed, an air hose is attached.



Air is pumped from the ship through the DOP and into the booster, displacing water within the casing. As the process continues, the booster rises in the water until it becomes top-heavy. It falls horizontally, like a log in the water. Then the booster is towed behind the ship to the port.



The ships enter Port Canaveral, where the booster is changed from the stern tow position to a position alongside the ship, the hip-tow position, to allow greater control. The ships then pass through a drawbridge and Canaveral Locks, and transit the Banana River to NASA's Hangar AF.

Come, join us at the Information Systems Center for an enjoyable and informative presentation.

Bonaire June 30 - July 7

Bon Bini Means "Welcome"

The combined KSC Barracuda and Martin Dive Club trip made a good start. Everybody arrived at Miami International Airport and the plane departed on time. By early evening, we were all settled in at the Flamingo Beach Hotel studio apartments. Registration and orientation at the dive shop the next morning was controlled chaos, and we were in the water off the hotel dock by mid-morning.

It was Bonaire; what more can I say? During the week we saw several frog fish, some seahorses, spawning sponges, scorpion fish, a pod of dolphins, and the usual angel fish, butterfly fish, and trigger fish that color the reef environment. A giant loggerhead turtle cruised in and settled under a ledge for a nap, allowing viewers and photographers to spend time staring at her in awe.



The dive operation at the resort is a major reason the Hamptons and McCleskeys return to this resort year after year. The dive manager, Serge, and the dive guides gave us excellent service and responded to our requests and needs promptly and warmly.

One night we all had dinner at the hotel to celebrate Phil's 70th birthday. Getting a cake for the occasion turned into the largest and least successful hassle of the entire week. But the party decorations and camaraderie made up for the less-than-traditional cake we were served. Either they forgot the flour or they melted candy bars in a cake pan. Can you say "Death by chocolate"?

August 2001



Activities we enjoyed other than diving included a manager's rum punch party, a 4th of July firework display supplied by the hotel, car rental island tours by some, and shopping in the town and at the hotel boutique. But as dedicated divers tend to do, we mostly followed the sleep, eat, dive, dive, eat, sleep schedule.

Quotes by trip survivors:

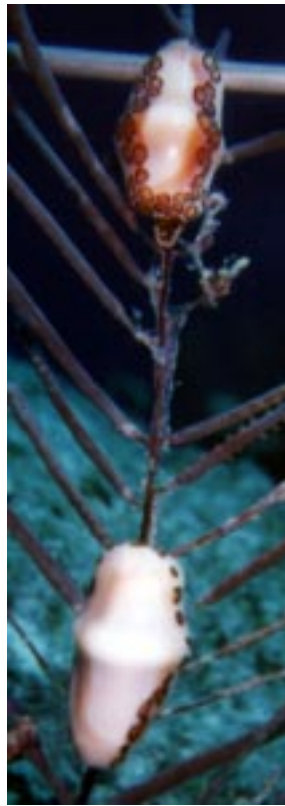
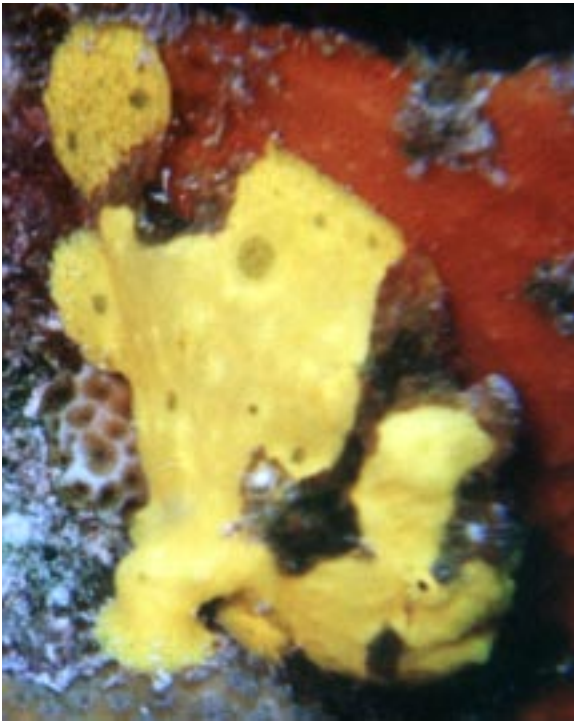
Jeri Dufresne: "I had a great time in Bonaire. I can see why you love it so much."

Ruth Ganter: "That first morning at the dive shop made me wonder...but the rest of the operation turned out good."

Bob Iacovazzi: "The resort has changed some but I remember the diving from when we were here years ago."



The DiveEquipment Shed - The beginning and end of all dives. "Hey, who didn't rinse their wetsuit?"



Linda Iacovazzi: "I just spent another hour in the boutique."

John Durham: "Stop shouting. I can hear you now!" (After a trip to the doctor for blocked ears)

Kay Durham: "The resort was nice but I was disappointed in the underwater visibility."

Mike McCleskey: "Who's up for a night dive?"

Grace Hampton: "Who will get up for a dawn dive?"

Wendy McCleskey: "I did not pack enough clothes for myself. I am wearing Torey's shirts. What was I thinking?"

Torey McCleskey: "Of course I know how to set up my own tank." (At the start of SCUBA introductory course)

Joanne Rowley: "The other time I was in Bonaire it was for my open water certification dive. I saw a lot more this time."

Bill Paskert: "ALM served the best rubber chicken I have ever eaten."

Phil Hampton: "What a great way to spend a birthday!"

Grace Hampton: "IT WAS A VERY GOOD TRIP WITH A VERY GOOD GROUP! We didn't have ANY whiners!"

Grace Hampton



Clockwise from lower left: Linda, Bob, Mike, Jeri, Torey, Grace, Kay, Wendy, John, Ruth, Joanne, Bill, and Phil



Boynton Beach Dive

A group of five ruffians and one fine maiden traveled to Boynton Beach in search of drift diving on July 21st and 22nd. **MDC** members Chuck Brown, Jeff Johnson, Bill Paskert, Joanne Rowley, Don Russ, and Jim Walter were greeted with cloudy skies and rumbling thunder on the Saturday afternoon dive aboard Delta Splash. Delta Splash is a 20-passenger dive boat run by Splashdown Divers. Saturday's trip was not congested as there were only 8 divers aboard. The spacious conditions didn't last as Sunday we had a full boat.



Diving conditions were agreeable, seas were calm, and visibility was good. Loggerhead, green, and hawksbill turtles were spotted. Numerous lobsters were out and about under the protection of a closed season. The usual reef inhabitants were in attendance: barracuda, snapper, grouper, angelfish, butterflyfish, sergeant major, squirrelfish, trumpetfish, grunts, blue tang, parrotfish, copper sweepers, spotted drum, filefish, cowfish, porkfish, trunkfish, puffers, goatfish, shrimp, and eels. A marbled grouper and a coronetfish made an appearance. The only downside to the dive conditions was the lack of sunshine.



Chuck Brown





Jeff, Don, Bill, Joanne, Chuck, and Jim

End-of-Season Dive Trip Jupiter, October 6th

There is some really fine diving off Jupiter and it is so close that we can drive there, dive, and return to Orlando, all in the same day!



The **CLUB** plans to charter a boat from Jupiter Dive Charters for a 3-tank diving experience (www.jupiterdivecharters.com). We will dive five (count 'em, five) wrecks and do a drift dive along the ledge.

Where: Jupiter

When: October 6, 2001

Cost: \$75 per diver

Deposit: \$40, due August 15

Contact: George McGuire

Geopatmcghsd@earthlink.net

(407) 677-4242

The time for deposits is drawing near. There are still a few spaces available. Please send your deposit checks (\$40 for each diver), made payable to me at the following address:

George McGuire

9811 Lake Georgia Dr.

Orlando FL 32817

Please include your name, address, telephone number and e-mail address with your check.

Jupiter Dive Charters Inc.
& The Dive Boat
"Temptation"

Coral Reefs - "The Vanishing Rainbow"



Bill Paskert and I presented the program at our July meeting, Coral Reefs - "The Vanishing Rainbow." This was a 30-minute slide show of approximately 95 slides covering:

- What is coral?
- Why coral reefs are important
- Threat coral reefs face
- How we can help.

The slide show was created by Coral Reef Alliance (CORAL), in cooperation with The Ocean Futures Foundation.



Did you know that coral reefs have thrived on earth for over 50 million years? However, we have lost over 20% of the world's reefs in the last 20 years, and up to 70% of the reefs may be destroyed by human activities in the next decade if we don't help.

Are coral reefs in danger?

Yes, they are threatened by global warming, overfishing, coastal development, sewage, runoff of all sorts, improper marine recreation, and other human-related problems. The loss of healthy coral reefs would mean the extinction of thousands of



August 2001

marine species, as well as the elimination of a primary source of food, income, and employment for millions of people around the world.

"Coral reefs are nurseries of the ocean. Healthy

reefs are vital for human health" said by Dr. Sylvia Earle, the former chief scientist of the National Oceanic and Atmospheric Administration, distinguished marine biologist, and veteran of more than 6,000 hours underwater.

CORAL has brought together thousands of divers around the world to really get things done. Divers can be the difference between a healthy reef and a tragedy.

How can we as divers and individuals help? **MDC** did just that by donating \$50 to the Coral Reef Alliance.

CORAL is a member-supported, non-profit organization, dedicated to keeping coral reefs alive around the world. CORAL helps keep coral reefs alive by:

- Supporting local coral reef conservation
- Using the power of coral reef tourism to protect coral reefs
- Educating people about coral reefs.

Coral reefs are an extraordinary gift that we can pass on to future generations and, by working together, we can keep coral reefs alive. Please go to their web site at <http://www.coralreefalliance.org/>.

Joanne Rowley



Safety Chairperson

Viewer Poll - Who Wants to Be a Lightning Stalker?

To address the recent subject "What do you do when caught in an electrical storm or thunderstorm during a dive?" We went to the experts for online advice.

We wrote:

General Inquiry

Submitted: 6/23/01 8:15:13 PM

Today, we were scheduled to do beach dive off of Venice Beach, Florida. A thunderstorm blew in and put an end to most of our plans. Two of the divers in our group decided to brave the storm and went diving. They believed that if they were underwater the lightning would not effect them because salt water being a very good conductor would dissipate any lightning strikes close to them. Can you give me some information on the dangers of diving during a thunderstorm?

Regards,
Gwen Rolape

And they wrote:

Thank you for your recent inquiry received through the DAN Dive Safety Center on the World Wide Web...

...I am unaware if saltwater will dissipate an electrical strike. NOAA, as well as the U.S. military, will recall divers or suspend diving operations if lightning is located near a dive site. It is probably prudent to seek cover if you are in the surface phase of a dive and an electrical storm approaches.

Sincerely,
Divers Alert Network
DAN Medical Services
Department of Anesthesiology
Duke University Medical Center

MDC Connections

We have a telephone voicemail account. Got a question about the **CLUB**? Want to let us know that you'll be attending a **CLUB** meeting? Just call (407) 306-5020 and leave a message!

Check out this newsletter on our **CLUB** home page at: <http://www.martindiveclub.org>
or behind the Lockheed Martin firewall at: <http://wwwmis.orl.lmco.com:2424/mdc/mdchome.html>

And they wrote:

We've never written about this, but we think it's dangerous to dive while lightning is in the vicinity. I found a decent site at

<http://205.67.213.10/Information/Lightning/LIGHTNING.htm>

and also at

www.cdc.gov/niosh/nasd/docs/as04800.html

Both sites said:

"Discontinue fishing, water skiing, scuba diving, swimming or other water activities when there is lightning or even when weather conditions look threatening. The first lightning strike can be a mile or more in front of an approaching thunderstorm cloud."

Hope this helps.
Associate Editor
Rodale's Scuba Diving

What's your opinion?

Send all replies and information to
DiversOnTheStorm@cfl.rr.com

Gwen Rolape



For Sale

BC - Dacor Chameleon, mens X-large, blue, power inflator, large folding pockets; Regulator - Dacor 360 balanced, chrome, swivels, depth and pressure gauge console, (2) 2nd stages matching metallic chrome.

\$500. OBO

Jim Walter
(407) 356-0892

Editor's Corner

Thanks for all your help. You've been great at getting articles to me by the 15th of the month. Please get them to me in one of the following ways:

- Call me at (407) 356-2290 and sneaker-net your text and graphics on disk to me at MP-031
- E-mail at work: william.paskert@lmco.com; or at home: wpaskert@cfl.rr.com
- Fax (please call before sending) at work: (407) 356-7337; or at home: (407) 678-5311.

MARTIN DIVE CLUB

2001 Dive Schedule

Date	Location	Contact*	Cost
Aug 11 (Sat)	Boynton Lobster Dive	John Lawlor**	\$60/pp
Aug 30 - Sep 6 (Th-Th)	Cozumel (from Orlando)	Marie Frank	\$995/pp
Oct 6 (Sat)	Jupiter Beach	George McGuire	\$75/pp
Oct 26-28 (F-Sat-Sun)	Fantasy Fest, Key West	Mike McCleskey	\$155/pp

* Questions? Call Mike McCleskey, our Activity Chairperson, (407) 273-6655

** KSC Barracudas trip

In Memoriam

Former longtime **CLUB** member Lee Carpenter passed away on Thursday, July 19th. Lee's happy disposition and eager smile will be greatly missed by those fortunate enough to have known him. He was an avid diver (and Force Fin lover) who not only dived around the Florida waters, but annually

traveled to Australia to visit family and dive the Great Barrier Reef. Lee was also a big fan of the **CLUB**'s annual Fantasy Fest trip.

Anyone interested in contributing to a memorial fund in Lee's name with donations to the Diver's Alert Network, please contact me at (407) 808-6453 or (407) 273-6655.

Mike McCleskey



MARTIN DIVE CLUB
 MP-827
 609 Heron Bay Drive
 Orlando FL 32825
 (407) 306-5020

Upcoming Events

August 2-5 **Trip**: Key Largo, Amoray Resort

August 14 **Meeting**: Larry Collins, Solid Rocket Booster Recovery

September 11 **Meeting**: Terrence Tysall, Cambrian Foundation

October 6 **Trip**: Jupiter Beach, George McGuire

October 9 **Meeting**: Bonaire Photos, Phil Hampton

October 26-28 **Trip**: Fantasy Fest, Mike McCleskey