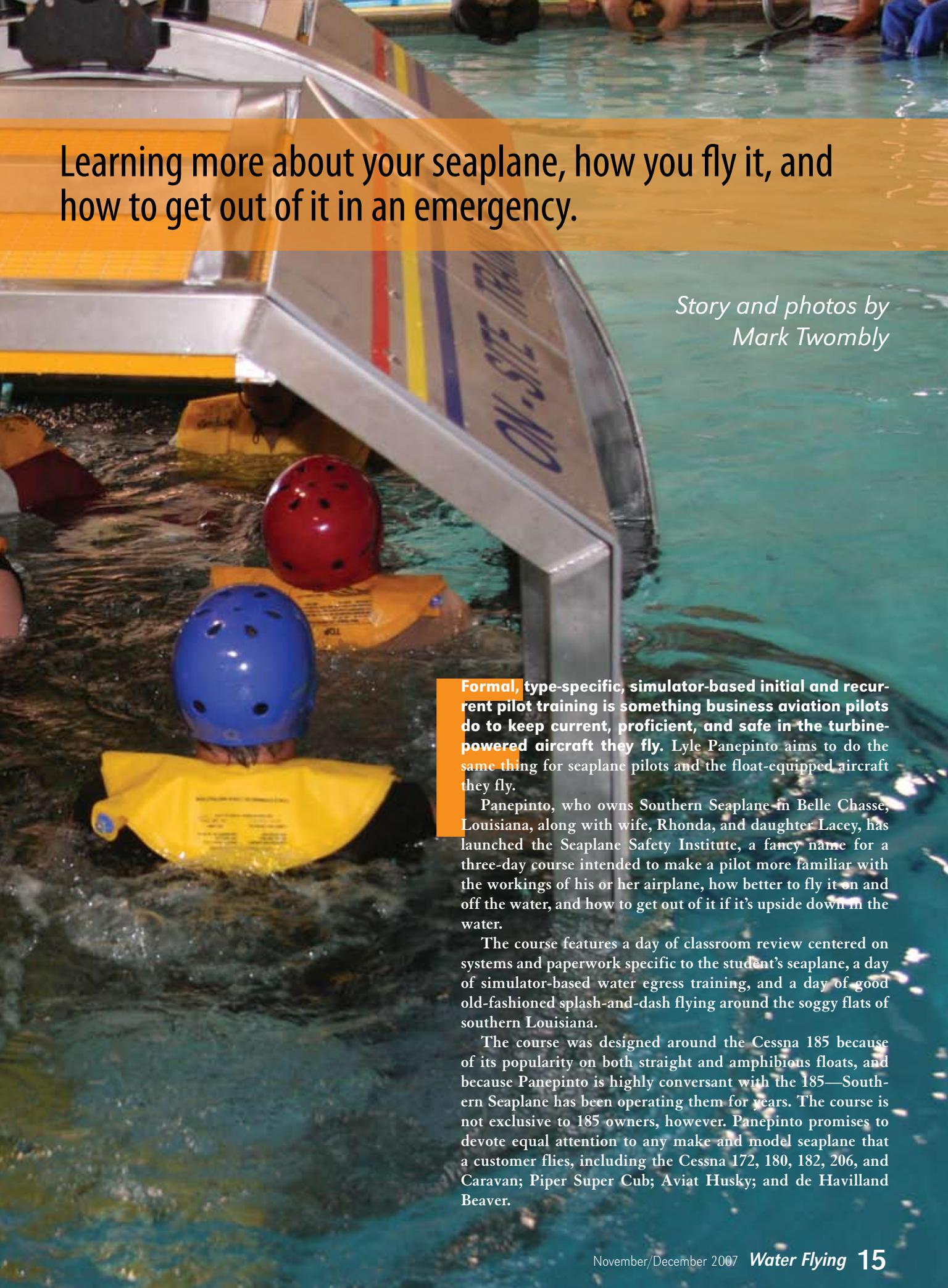
Seaplane Safety Institute

Learning more about your seaplane, how you fly it, and how to get out of it in an emergency.

Story and photos by Mark Twombly



Formal, type-specific, simulator-based initial and recurrent pilot training is something business aviation pilots do to keep current, proficient, and safe in the turbine-powered aircraft they fly. Lyle Panepinto aims to do the same thing for seaplane pilots and the float-equipped aircraft they fly.

Panepinto, who owns Southern Seaplane in Belle Chasse, Louisiana, along with wife, Rhonda, and daughter Lacey, has launched the Seaplane Safety Institute, a fancy name for a three-day course intended to make a pilot more familiar with the workings of his or her airplane, how better to fly it on and off the water, and how to get out of it if it's upside down in the water.

The course features a day of classroom review centered on systems and paperwork specific to the student's seaplane, a day of simulator-based water egress training, and a day of good old-fashioned splash-and-dash flying around the soggy flats of southern Louisiana.

The course was designed around the Cessna 185 because of its popularity on both straight and amphibious floats, and because Panepinto is highly conversant with the 185—Southern Seaplane has been operating them for years. The course is not exclusive to 185 owners, however. Panepinto promises to devote equal attention to any make and model seaplane that a customer flies, including the Cessna 172, 180, 182, 206, and Caravan; Piper Super Cub; Aviat Husky; and de Havilland Beaver.

Rhonda, Lacey, and Lyle Panepinto, owners of Southern Seaplane.

A SOUTHERN HISTORY

Southern Seaplane was founded in 1954 by Panepinto's father, Phil, to service inland oil rigs in marshy southern Louisiana, and to provide on-demand seaplane charter. Over the years the company has expanded its offerings to include seaplane tours around the New Orleans area, and evening check runs in single-engine-land Cessnas throughout Louisiana and surrounding states.

Lyle Panepinto grew up working and flying for the company, and now owns it. Over the years he has learned and developed specialized techniques to handle the unique conditions that confront local seaplane pilots—extremely shallow water, narrow waterways, lots of commercial boat traffic, and tricky docking scenarios with potentially airplane-bending objects such as tugboats, barges, and oil rigs.

You can't be involved in commercial seaplane flying for more than a half-century and not be witness to, and sometimes guilty of, a poor decision, some ham-fisted technique, and just plain bad luck. That been-there-and-done-that experience provides Panepinto with the teaching tools and the insight to take seaplane owners through a review of legal and paperwork issues, survival strategies in the event of an accident, and advanced seaplane flying techniques intended to enhance safety.

Seaplane Pilots Association Executive Director James McManus and his wife, Kathy, were the Seaplane Safety Institute's beta-testers—the first to go through the full three-day syllabus—and their detailed critique helped Panepinto refine the course. I followed a few weeks later. My classmates were Brad Hernke, an assistant vice president of United States Aviation Underwriters, and Kenneth Carrio, CPCU, president of Carrio Aviation & Commercial Insurance, Inc. Carrio has been Southern Seaplane's agent for some 25 years, and helped Panepinto put together the safety course.

Southern Seaplane is located in an industrial area near the west bank of the Mississippi River just south of downtown New Orleans. The facility has a privately owned, public-use, 3200-foot-long lighted asphalt strip and, immediately adjacent to that, a 5000-foot-long sea lane.

PILOT DEVELOPMENT

The inspiration and motivation for the Seaplane Safety Institute came from a variety of sources. "I've thought about doing this for a long time," says Panepinto. First and foremost is his experience as a commercial seaplane pilot. He's also picked up some ideas from attending type-specific pilot training at FlightSafety International (FSI), and has been through a number of water survival training courses.

Finally, there's the mother lode of insight gained from observing seaplane pilots, both as an FAA-designated seaplane check airman, and just being around seaplanes. "I've been to lots of fly-ins, and have seen guys do crazy

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James F. McManus, Executive Director

James F. McManus

One of the maneuvers reviewed in the course is the 90-degree step turn.

stuff," Panepinto says. "I think, 'Man, if I could just get him for a day, I could help him out.'" With the Seaplane Safety Institute, Panepinto has turned that one day into three.

The first day is spent in a tidy new classroom reviewing the paperwork side of seaplane flying. Panepinto evaluates the pilot's operating handbook (POH) or airplane flight manual (AFM), float supplements, weight and balance forms, and aircraft checklists for each student's aircraft. It's been his experience that in many cases those documents are either incorrect, or the pilot is unfamiliar with them. For example, float supplements specify weight and operating limitations of which the pilot may be unaware. Also, checklists often do not incorporate seaplane-specific information required by the airframe or float manufacturer.

The POH/AFM review also covers any modifications that may affect the performance of the customer's aircraft such as wing extensions, high-lift devices, vortex generators, and high-performance engine and propeller. Systems relevant to seaplane flying, and passenger briefings are covered.

Along with the documents review, Panepinto discusses factors that seaplane pilots should consider when deciding where to fly. "If you go blowing into the wrong place, you're going to have a problem," he warns. Local helicopter operators are a good source of information on areas to avoid when flying low, Panepinto advises, and he rates SPA's *Water Landing Directory* as the best source for information on the status of local lakes and waterways for seaplane operations.

UPRIGHT BUT SINKING

Next in the classroom syllabus is a remarkable series of photographs of seaplanes in awkward and embarrassing positions—upside-down in shallow water, on mud flats, and on dry land; pinned over a dock at a perfect 90-degree angle (one wing submerged, the other pointing skyward); and perfectly upright but sinking. Several involve Southern Seaplane airplanes. Panepinto discusses the circumstances of each accident, and how it might have been avoided.

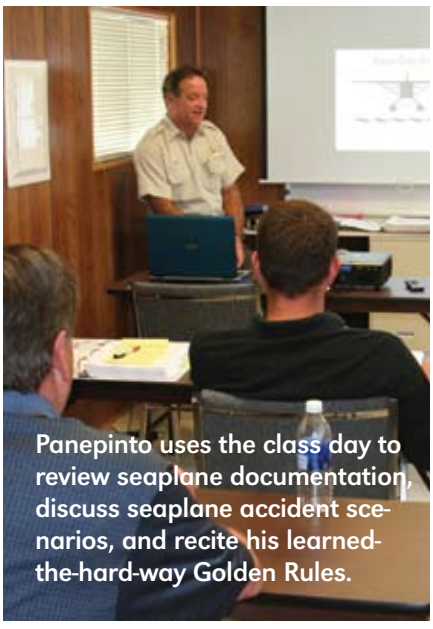
"Straight floats can't land in 10-foot waves, or on sand," he says, pointing to a shot of a floatplane on its back on dry, sandy soil. A photo of an overturned, submerged floatplane was accompanied by the story of a pilot who hand-propped the engine, which promptly fired and propelled the pilotless airplane and its passengers on a brief and catastrophic journey. The moral? "Before doing anything," Panepinto advises, "brief passengers on how to get out of the airplane."

The effect of the photographic accident review is a sobering reminder that even the most conscientious of operators can have an occasional lapse of judgment or be the unfortunate victim of bad luck. There's just no room to become complacent.

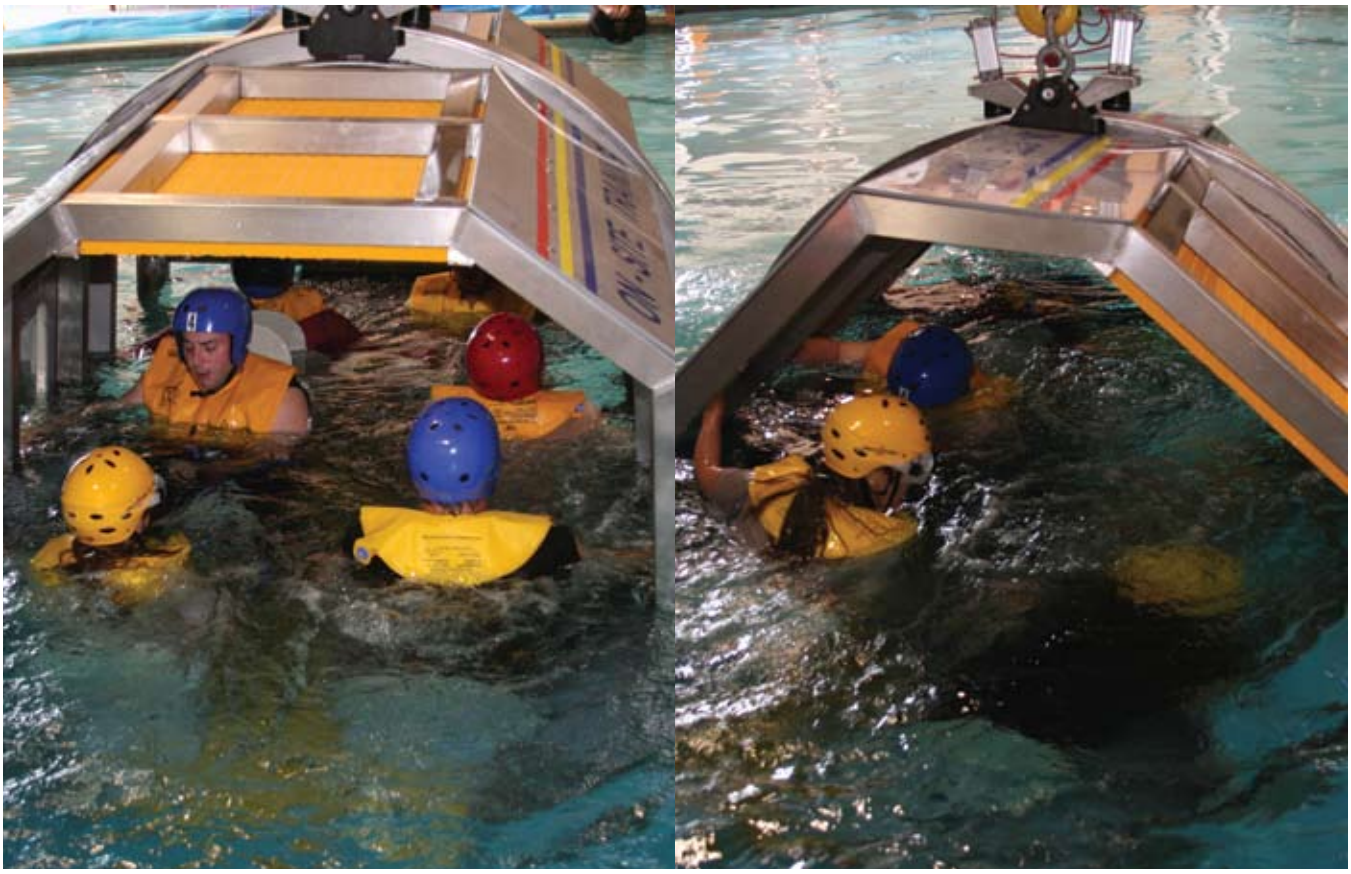
Next up is Panepinto's "Golden Rules" for seaplane flying, neatly categorized into three phases of flight: approaching a location, docking, and departing a location. (See sidebars).

Day two begins with an early morning drive to Houma, Louisiana, for underwater egress and survival training. The training is conducted in a large, indoor, purpose-built pool by On-Site Training & Instruction, Inc. The company caters to the offshore helicopter industry, but much of the training is relevant to seaplane pilots and operators.

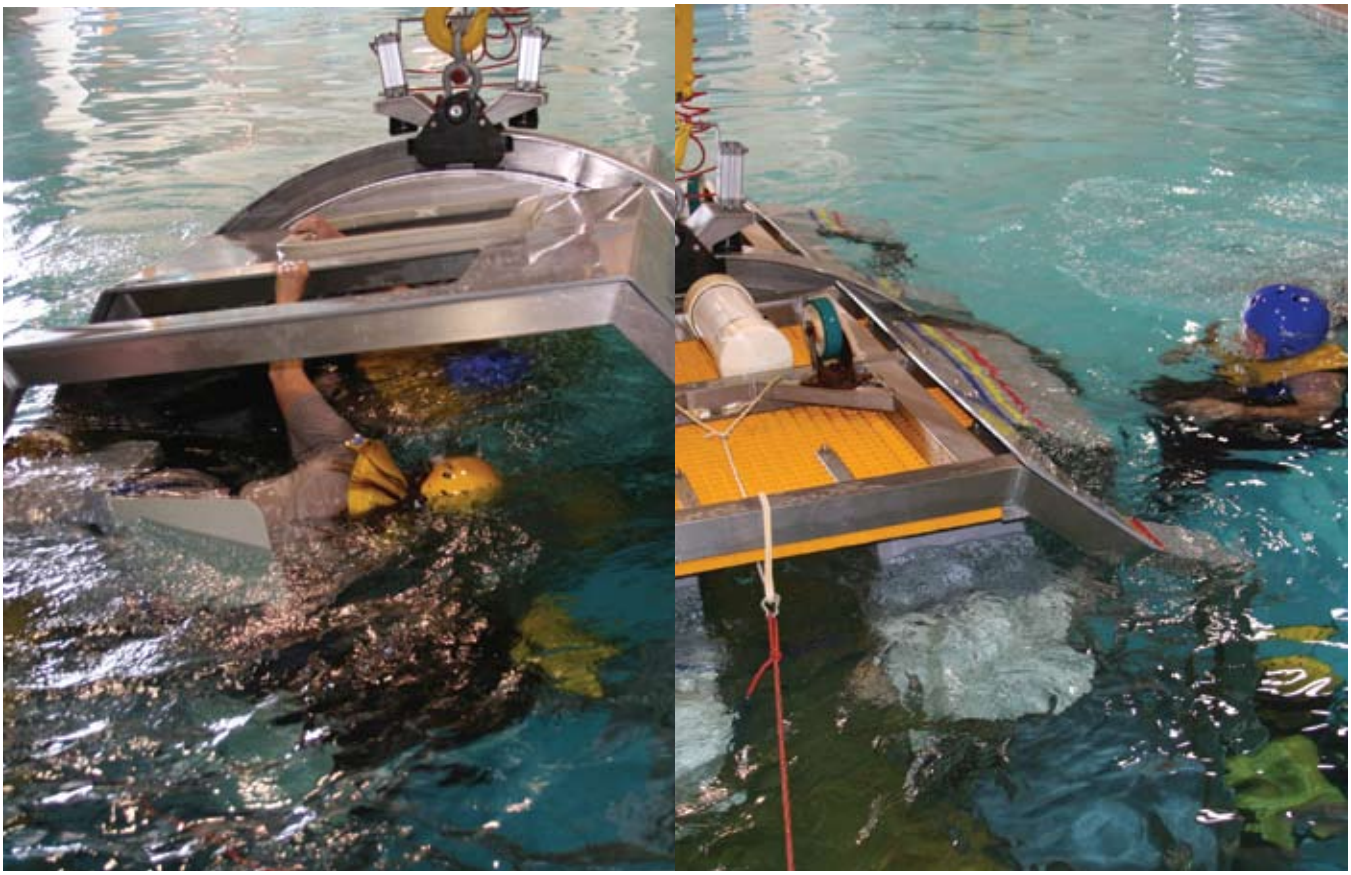
We spent the first couple of hours in a classroom getting acquainted with emergency evacuation and water survival concepts including how to deploy a life raft and how to right it if it becomes inverted; types of personal flotation devices and their effectiveness in various conditions; how water immersion can affect a person (water draws heat from the body 25 times faster than air) and the extreme effects of cold water (shock and hypothermia) and strategies to lessen those effects (bring arms and knees up tight against the body to conserve body heat and, if more than one person is in the water, stay together in a group huddle).



Panepinto uses the class day to review seaplane documentation, discuss seaplane accident scenarios, and recite his learned-the-hard-way Golden Rules.



Underwater egress training is conducted in a mock helicopter cabin that is lowered into an indoor pool, then turned upside down. Students learn to identify an escape path and feel their way out to the surface and safety.



SUBMERGED

Following an in-house lunch, it was time for water egress training and practice. We donned helmets and, wearing our street clothes, climbed aboard a metal cage suspended from a beam spanning the pool. The cage is intended to replicate the interior of an offshore helicopter transport, with six passenger seats and two crew seats. The cage is slowly lowered into the pool until everyone aboard is submerged.

Two of the seats are occupied by instructors, who coach us to take a deep breath just before submerging. When they tap each of us on the shoulder, we are to release our seatbelts and swim through an open window to the surface. Despite lots of nervous anticipation, the exercise turns out to be relatively easy. Everyone, including a massively overweight oil rig worker, completes the drill with little fuss.

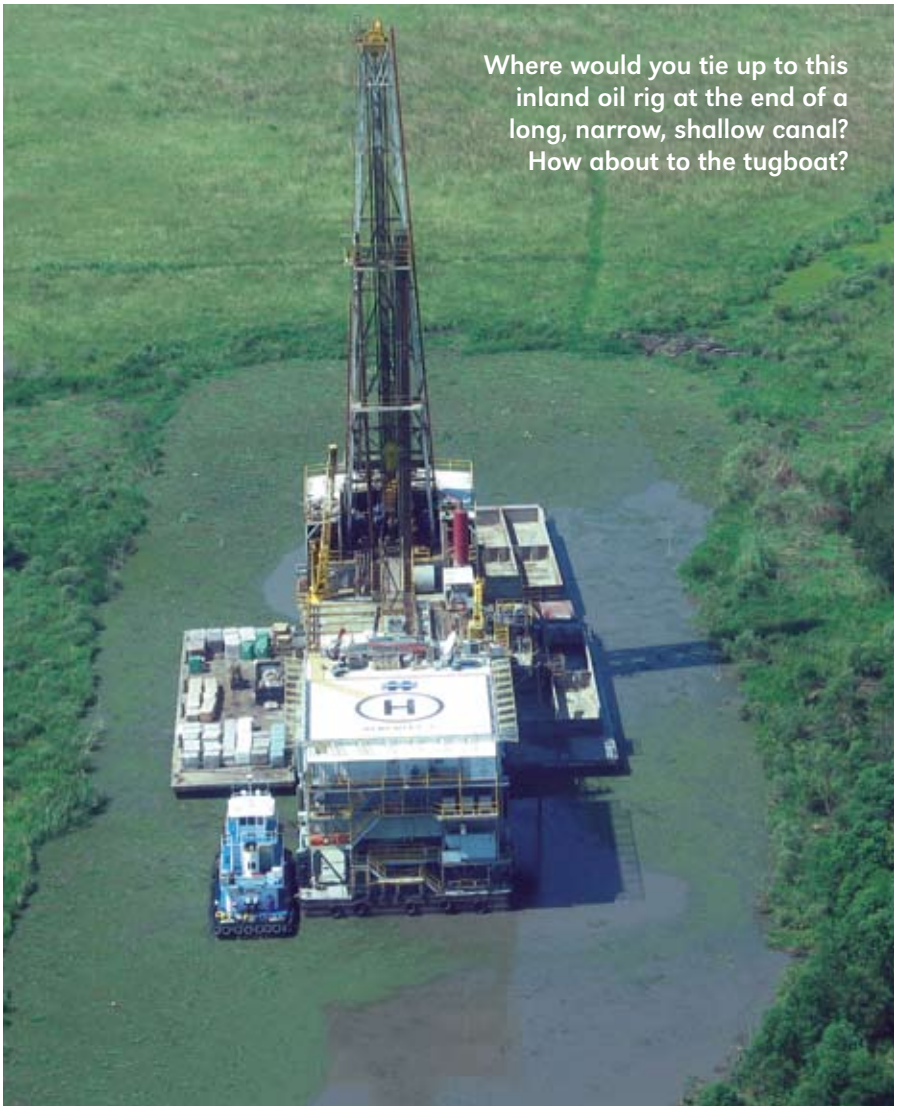
Several more drills follow. The cage is submerged with pop-out windows in place; the cage is submerged without the windows but rolls inverted before we get the signal to escape; it's submerged and stays upright, but everyone has to escape through one window; and, finally, the one-window escape while inverted. Again we surprised ourselves by completing all of the drills with little difficulty.

The final round of pool exercises involved water survival strategies. We practiced survival positions when alone in the water, and the group huddle. Instructors demonstrated, and we practiced, "towing" an incapacitated person on the surface, and how to fashion a remarkably effective life jacket from a pair of jeans or overalls. It's a long, wet, tiring day, but the training and practice instill a lot of confidence in one's ability to survive an accident on the water. The take-home lesson in any emergency, especially a water landing accident: above all, stay calm. If you avoid panicking, you increase your chances of survival exponentially.

The real fun stuff—flying—is reserved for the third and final day of the Seaplane Safety Institute, although, time permitting, the initial flight may occur at the end of day one. My first flight with Panepinto was in Southern's amphibious 185. We took

LYLE'S GOLDEN RULES FOR APPROACHING A LOCATION

- Know which way the wind is blowing.
- Fly over the docking area to see how the wind is blowing across the dock.
- Have your docking spot picked out before landing.
- You must have planned a way out from the dock before you make your way to the dock.
- Make a long final—about one mile.
- Have a spot picked out where you will touch down, and keep it in sight throughout the landing phase.
- Land where you know the water is deep; look for clues.
- Treat all water as if it is not deep enough to land on.
- Straight floats are trying to sink half the time, amphibs are trying to sink all the time.
- Always go back inside the aircraft after docking to make sure everything is off—mags, master, and mixture. (This is a must!)
- Always keep the cabin doors closed while docked.
- After the aircraft has sat on the water for one hour or more, pump out the floats to see what leaks, if any, the floats may have. (Note: If no water comes out at all, take the covers off the floats to see if a siphoning hose may have come off.)
- Always look for a way to take off from a location before you land.



Where would you tie up to this inland oil rig at the end of a long, narrow, shallow canal? How about to the tugboat?

Among the docking challenges that abound in southern Louisiana is the corroding metal barge. Here Panepinto steps off the float as the airplane kisses the barge. One of his Goldren Rules for docking is to use both float ropes to tie to the dock.

off and flew west to a comfortably wide canal to get familiar with some of the Golden Rules pertaining to approaching a location.

Next we switched to the straight-float 185, and the difference in performance was dramatic. Whereas the amphib struggled to break free of the water and climb, the straight-float 185 popped off the surface in what seemed like half the distance, and levitated to 500 feet.

STEP-TAXI TURN

Over several hours of flying in both the amphib and straight-float 185s, we logged numerous takeoffs and landings in a variety of wind, water, and landing area conditions; practiced airwork including a loss-of-power approach in the amphib (rule number one: make sure the landing gear is retracted); and performed advanced water maneuvers including step-taxiing around a bend in a river or canal when you can't see all the way through the turn. (Panepinto's technique: Approaching the turn, slow the aircraft so it is squatting with the tail low but still on the step, then accelerate through the turn using power and all control inputs. If someone or something suddenly appears headed in the opposite direction toward you, pull the power and the aircraft will quickly fall off the step.)

If Panepinto has an overriding aphorism, a cautionary saying to fly by, it is this: "Straight floats try to sink half the time, amphibs all the time." It speaks to his concern that the growing popularity of amphibious floats on light aircraft will be a continuing safety issue. Heavier and more complex than straight floats, amphibs impose weight and performance penalties that some pilots might not always appreciate. "It's easy to overload them," he says with some understatement.

Panepinto has modeled much of the flying portion of the Seaplane Safety Institute after Southern's in-house pilot development program—22 days of intensive ground and flight training that prepares a pilot for the rigors of commercial seaplane flying. "We turn them loose when they are able to complete a set of tasks—48 of them," Panepinto explains.

The tasks cover docking procedures and floatplane flying techniques. Students must show that they can safely perform such maneuvers as 90-degree step turns; crosswind landings in 20-knot-plus winds; downwind takeoffs and landings; turning the aircraft 180 degrees when taxiing downwind; negotiating a narrow canal; and rig calls (flying to and docking at an oil rig), including in rough water. The tasks amount to a set of practical test standards that, when demonstrated successfully, clear a pilot to fly a Southern Seaplane floatplane.

LYLE'S GOLDEN RULES FOR DOCKING

- Use both ropes to tie the aircraft to the dock.
- Always go back into the cockpit to check switches!
- Always check on the aircraft when docked.

INFORMED DECISION-MAKING

The Seaplane Safety Institute isn't nearly as extensive as Southern's in-house pilot training, but the major elements are there. And, completion of the three-day course, with an annual return for recurrency, should deliver the same results—instilling the kind of advanced flying techniques and informed decision-making that will serve any seaplane pilot well, no matter what or where they operate.

Hernke emphatically agrees. "As insurance underwriters, we can't emphasize enough how important recurrent training is to the pilot. Finding facilities to do recurrent seaplane training has always been a challenge. There isn't a FlightSafety or SimCom that we can suggest our insureds attend. I would consider that what Southern Seaplane has done with the Seaplane Safety Institute course is an industry first. I feel that this program will help reduce accidents and save lives in the seaplane flying community."

"I've written seaplane insurance for over 25 years," adds Carrio, "and the multitude of losses over the years are predominately due to mismanagement by operators. It's not that the pilot doesn't know how to fly his aircraft, or manage the situation at hand. It's more that in those crucial five to seven seconds when the occurrence is developing, the pilot has no immediate reference to draw from. The Safety Institute will give the pilot references he can draw from in those crucial moments.

"I can say with confidence that successfully completing the course will enhance an operator's potential to qualify for higher liability insurance limits. Of course, the greatest benefit of successful completion of the Seaplane Safety Institute course would be the saving of life and property."

For more information about the Seaplane Safety institute, contact Southern Seaplane at 504/394-5633, or visit their web site at www.southern-seaplane.com.

Mark Twombly is editor of Water Flying *magazine.*

LYLE'S GOLDEN RULES FOR DEPARTING A LOCATION

- Go out the same way you came in, whether you're slow-taxing or taking off in the same area in which you landed.
- Have a no-go point on takeoff—when on the step, have a spot picked out where you must be airborne or else abort.
- Always look outside when slow-taxiing to see if the aircraft is trying to sink.
- Never step-taxi across boat wakes—they will damage the aircraft.
- Always turn into the wind after takeoff, then climb out.

According to Panepinto, straight floats are trying to sink half the time, but amphibs are trying to sink all the time.