ATA Studies Houseboat Asphyxiation Danger

By Ed Fritsch, ATA

Each year in the United States, there are around 7 deaths and 30 serious, non-fatal poisonings from carbon monoxide (CO) aboard recreational boats. Recent long-term statistics from Lake Powell on the Arizona-Utah border vividly illustrate the larger problem nationwide. Between 1990 and 2000, there were 111 separate CO poisonings reported on boats operating at Lake Powell. Seventy four of those incidents occurred on houseboats, and among those houseboat incidents, 7 were fatal. To shed some light on this situation, ATA Associates recently completed a study that examined the mechanics of a particular asphyxiation hazard that is related to a common houseboat design feature, which resulted in a fatality at Lake Powell in 2002.

The subject boat in our study, like many houseboats, features a swim deck which cantilevers off the transom of the boat, overhanging the rear out-drive propulsion units. This deck provides an attractive recreational space with ready access to the water for swimming and personal watercraft deployment while also providing protection from inadvertent contact with the houseboat's propulsion system out-drives and propellers submerged below it. Unfortunately, the swim deck also creates a confined space underneath it where propulsion system exhaust gases, including extremely high concentrations of CO, can and do accumulate.

In the 2002 accident that prompted the ATA study, a boater working to free an anchor rope fouled on one of the houseboat's propellers briefly ventured into the contaminated under-deck space and was immediately incapacitated by the high concentration of CO there. His incapacitation resulted in his subsequent death by drowning.

To understand the mechanics of the contamination process in the under-deck space and to test the effectiveness of various decontamination schemes, ATA constructed a detailed full scale mock-up of the houseboat under-deck volume. Carbon monoxide-laden exhaust gas was injected into the mock-up, and CO concentration build-up was monitored electronically using instrumentation similar to that used by National Institute of Occupational Safety and Health (NIOSH) scientists in their tests of the accident boat conducted shortly after the fatal accident.

Quantifying the actual contamination process revealed that our initial conceptual models of that process were oversimplified. These findings suggested that our conceptual models for a forced ventilation decontamination scheme for the under-deck space might also be too simplistic. Sure enough, initial ventilation tests with smoke from a theatrical smoke generator serving as a stand-in for CO allowed us to see a complicated mixing situation in the confined space that was relatively unaffected by our initial "scrubbing" strategy. Guided by such smoke tests, adjustments were made in the number, location and orientation of the ventilation blowers to significantly improve the efficiency of the decontamination process.

Ultimately, a practical, effective ventilation scheme was developed and tested using real exhaust gas with initial CO concentrations as high as 80,000 parts per million. The final ventilator arrangement produced a rapid reduction of CO concentration to non-fatal levels in the under-deck space that would significantly reduce if not entirely eliminate the asphyxiation hazard which prompted the testing program.

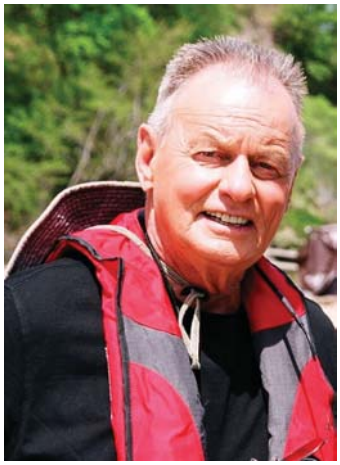
For more information concerning this issue contact ATA at 281-480-9847 or visit our web site: www.ataassociates.com. ATA is an accident reconstruction and litigation support company and a member organization of the National Safe Boating Council.

Correct Craft Urges Safety

In 1925, W.C. Meloon created the Florida Variety Boat Company in Pine Castle, Florida. In 1936, that same boat company was re-named Correct Craft, a name in the boating industry with which we are all familiar. Correct Craft signed a contract with the United States Army, and in 1945, 300 Correct Craft boats were purchased by the Army and then used by U.S. solders to cross the Rhine River and defeat the Nazis. This is but a little known fact about Correct Craft, for Correct Craft is really known for its increasing technology in an increasing variety of boats. In 1949, Correct Craft had 16 boats making up its collection. Today, boat models produced by Correct Craft include air, crossover, family recreation, and ski models. Although Correct Craft originated in Pine Castle, Florida, its headquarters are now in Orlando, Florida.

We recognize Correct Craft not for its leadership in boating technology, but for their support of the National Safe Boating Council and boating safety. Correct Craft continuously stresses the importance of boating safety through the use of life jackets. The National Safe Boating Council produces a booklet titled "Saved by the Jacket," which re-tells true life stories of individuals whose lives had been saved by using PFD's (life jackets). Correct Craft includes this booklet with each boat they sell and urges their customers to also commit to boating safety. The National Safe Boating Council would like to thank Correct Craft for their support and for their continued vigilance in promoting safe boating. Correct Craft is an organizational member of the National Safe Boating Council.

2006 Campaign Reminds Boaters to "Be a Survivor"



National Safe Boating Week, May 20-26, kicked off the North American Safe Boating Campaign reminding boaters to stay safe on the water, wear their life jackets and Be A Survivor! This year's campaign was lead by former Navy Seal and Survivor castmate Rudy Boesch who helped us to promote the "Be A Survivor" initiative designed to solicit testimonials from recreational boaters about how a life jacket has made a difference in their boating experience. The stories will be used in the National Safe Boating Council's second Saved by the Jacket book to be published at a later date. The top three stories chosen will receive prizes donated by West Marine who has partnered with the campaign to promote boating safety. Prizes include a Skedaddle-2 Inflatable Kayak with two X-Treme One Design Life Vests, a "Weekend Water Sports Package" including a West Marine Super Saturn Blaster, inflation pump, tow rope, life jackets, and four Aquazookas, and two West Marine "Comfort Series" Manual Inflatable Belt Pack PFDs.

Promotional efforts featuring Rudy included a television public service announcements and a multi-city radio tour beginning before the hectic Memorial Day weekend and the start of the summer boating season. Since the start of National Safe Boating Week over 100 TV hits have been recorded, articles have been published in major dailies in Sacramento, Houston, Dallas, Baltimore, NewYork and the Audio News Release has been picked up in Dallas, Los Angeles and Chicago. Rudy will continue the promotional tour throughout the summer to keep boaters focused on staying safe throughout the boating season. For more information on Rudy or to obtain press materials on the "Be a Survivor" initiative, please visit our website at www.safeboatingcampaign.com.

All of these efforts have been successful in gaining media coverage for National Safe Boating Week and informing the public about the importance of boating safely, wearing your life jacket, and being responsible while on the water. Congratulations to all the organizations that had successful Safe Boating Week events! We appreciate all of your hard work and effort to promote safe boating during National Safe Boating Week and throughout the year.