



A SPECIAL DIIA REPORT ON SUBMERSIBLE SYSTEMS INC. USA www.diiia.us

"Shaken - Not Stirred"

Or how to turn a near tragedy into a business saving lives...

With a little help from James Bond 007



They say, it was a guy called 'Ovid' (Publius Ovidius Naso 20 March 43 BC - AD 17/18) - a Roman poet best known for his stories of falling in love who also came out with that famous quote, "Misfortunes often sharpen the genius."

He wasn't far wrong.

A few years later (well nearly 2,000 years to be more precise), Larry Williamson, a machinist who owned a small workshop in Huntington Beach, California making parts for the aerospace industry had 'fallen in love' with our underwater world and was making his first night dive - chasing lobsters. Problem was, on that night, at 140 feet, he simply ran out of air!

Larry nearly didn't make it back to the surface. He blacked out on ascent but was lucky to be extracted from the water (unconscious) by the boat captain. So to cut a long story short, in the days and months following that near tragedy, Larry - although suffering from nightmares and the recurring thought 'if only I had one more breath of air' - decided to find a solution for other divers that might find themselves in a similar predicament.



It was the late 70's and James Bond was taking cinema audiences by storm: underwater in his submersible car or on other occasions, diving beneath the waves with Q's array of special gadgets that included a portable mini re-breather device - that according to one film script 'would supply him with 4 minutes of emergency air'. Fantasy at the time but that gave Larry an idea. Like many machinists, he had that inventor's mind and the end result was a product called SPARE AIR: a system that only came about

by Larry re-inventing the regulator. Larry might have had original thoughts of producing a James Bond gadget that you wore on your wrist and gave you one emergency breath. In the end, he designed a very small life saving aid that delivered far more: one that over the years has literally and often ensured the difference between life & death.

"At about 80 feet my regulator started breathing very hard. I switched to my Spare Air and continued my accent uneventfully. You can rest assured I will never dive without this piece of equipment - I consider it a must!"

Richard Bass, Diver

The Company refers to its product as “A Diver’s Reserve Parachute”

I Call It - A Diver’s Life Jacket



Larry started out by inventing SPARE AIR for the hobby diver but soon, professional divers realized the potential of and need to carry such an aid on all types of dives. SPARE AIR started to sell well. It wasn't long before he changed his company name from Williamson Machine Shop to Submersible Systems Inc. (SSI). Larry was now well and truly in the diving business.

“I had just begun to head for the surface and my dive computer was signaling for me to slow my descent. Right then I felt myself take my last breathe of air from the tank. It was empty, I was at 75 feet, and my dive buddy was nowhere to be seen. I grabbed my Spare Air and took the sweetest breath of air in 36 years. By the time I got to the surface, that Spare Air was empty and I am convinced that I couldn't have made it up without the edge your product gave me.”

David F., New York

Now many will suggest that ‘sharing air’ when in difficulty is the answer but in truth - that’s no solution. If that next breath has to come from your buddy, first you have to find him - then hope, having done so, that he has enough air left for two. You don’t need to have to be making those types of calls 100 feet below the surface. SPARE AIR is the obvious, cost effective insurance policy. You could call it a diver’s life jacket.

[READ WHY SHARING AIR IS NOT THE SOLUTION!](#)

Why the Need for SPARE AIR?

1. Forgetting to watch the time and staying down too long
2. Using air quicker than planned due to overshooting depth, getting caught in a current, getting lost, nitrogen narcosis, diving in cold water and getting caught in kelp or fishing line
3. Sudden Regulator malfunction due to corrosion or too much time between overhaul
4. O-ring failure on any of the First Stage Regulator ports
5. Regulator stuck in “free-flow” due to foreign particles or sand
6. Regulator freezing up in cold water leaving you suddenly without air
7. Stuck Pressure Gauge reflecting incorrect pressure in your Tank
8. Air cut off due to Tank Valve not turned on all the way
9. Rupture of SCUBA Tank O-ring due to misalignment or wear
10. Second Stage Regulator Diaphragm develops a tear or slips out of place
11. O-ring failure on BC Air Inflator or Valve stuck in the open position
12. Burst Disc failure on SCUBA Tank Valve due to corrosion or age
13. Clogged Filter on First Stage Regulator due to sediment or rust from Tank
14. Leak develops at any one of the High or Low Pressure Hose fittings
15. Mouthpiece on Second Stage suddenly coming off Regulator
16. O-ring failure on Pressure Gauge
17. Rupture of either High or Low Pressure Hoses
18. O-ring failure on Octopus Regulator
19. Rental Tank not filled completely
20. Damaged First Stage Regulator due to falling object or impact
21. High or Low Pressure Hose cut or severed on sharp rock or other obstacle

*Data from Submersible Systems clients / global accident reports/ diving magazines.

“While diving in Aruba, I was given a newly serviced tank. Someone had used the wrong size o-ring for the valve. The result was that after a few minutes, and at 95', the O-ring blew, emptying my tank in seconds. The young lady that I was asked by the local school to supervise did not have an Octopus and was on her third dive! So I had to rely entirely upon my SPARE AIR.”

Frits A. Louw, Netherlands

The benefits of SPARE AIR are simple to appreciate. It's there when you need it: so easy to use, simply put SPARE AIR in your mouth and breathe.



Max Capacity (300): 3.0 cu ft / 85 liters
 Max Capacity (170): 1.7 cu ft / 48 liters
 Diameter: 2.25" / 5.71 cm
 Max Pressure: 3000 psi / 200 bar
 Weight (300): 2.17 lb. / .985 kg
 Weight (170): 1.51 lb. / .687 kg
 Surface Breaths*: 57 (300), 30 (170)

*based on 1.6 liter breath size

NO knobs to turn, it's always on and ready to use. Refill your SPARE AIR in seconds off any full SCUBA tank using the refill adapter included with every package. For you or your buddy, SPARE AIR can easily be passed to a buddy without any risks. When you dive with SPARE AIR both you and your buddy are protected!

So, by now you should be getting the general idea as to why SPARE AIR is a product worth consideration: in fact, with over 250,000 units sold during the

last 30 years, I'd say most now view this diver's safety aid as being essential.

If you haven't already ordered your own personal SPARE AIR - take the opportunity of doing so now by accessing: <http://www.spareair.com/dealer/dealerlocate.html>

Please note: Visit [Traveling with Spare Air](#) for all the details on taking SPARE AIR on commercial aircraft.

Military, Coast Guard, Search & Rescue



The US military were also quick to notice the life saving products coming from Submersible Systems, Inc in the early days. Suffice to say that the company were equally fast in coming up with the exact specifications for a compact, lightweight and reliable self contained breathing apparatus for the armed forces - the HEED.

Over time, this device was enhanced and upgraded and today Submersible Systems, Inc. supply the Helicopter Emergency Egress Device 3 (HEED 3) designed to provide increased survivability of military (and commercial) personnel in short-term 'out of air' emergencies.

As one letter received by the company confirms:

"My wife and I thank you for your superior product and wish your corporation success in this tough economic economy that still lies ahead. I have no doubt that without your product this letter would have never been written! God Bless."

LCDR James R. San Diego, CA



HEED 3 provides lifesaving air needed to egress from a downed aircraft or a rolled vehicle in the water. It is ideal for all helicopters, fixed wing aircraft, float planes, watercraft and vehicles that operate around possible water emergencies.

An added advantage is that HEED 3 protects personnel from inhaling dangerous and lethal toxic fumes from fire or smoke. The HEED 3 device is also known as the SEED (Supplementary Emergency Escape Device), the STASS (Short Term Air Supply System), Spare Air® (The SCUBA recreational dive version), Spare Air Industrial (packaged for commercial personnel exposed to toxic fumes),

The HEED 3 device is suitable for law enforcement in riot scenarios, for ships that might have an emergency or for scientists that have to respond to a fire at a research station. All in all, the HEED 3 can be deployed by all branches of the armed forces, emergency services and by a range of other organizations, companies and groups simply to save lives.



"The aircraft entered the water while in a near level attitude (right wing low). The PIC inflated the floats as the aircraft rolled inverted to the right. The co-pilot (left seat) egressed without delay. The pilot (right seat) and flight mechanic activated personal HEED bottles located in their survival vests and successfully egressed from the wreckage."

ASTCM Keith J., Helicopter Rescue Swimmer Program Manager, USCG

For 30 years, Submersible Systems has been manufacturing, assembling, and selling life-saving breathing systems worldwide from their factory in Huntington Beach (Orange County), California. Now, SSI is making all those years of expertise available to you!

Not so long ago, the company announced SSI's new Manufactured Components Division. Their machine shop specializes in aluminum and plastics and is capable of working with most materials. Utilizing two 4 axis turning centers, their auto bar feeders enable 24/7 production.

SSI's necessity for close production tolerances enables them to offer the same precision necessary for applications to .0001" (.0003mm) and is verified by superior quality control procedures required to produce quality CNC machining. One of only a handful of DOT/TC (DOT 3AL) approved manufacturers of small aluminum cylinders in the USA, SSI produces several sizes of small high-pressure aluminum cylinders for many applications. Whether you have your own design for your machined component or require engineering services, SSI can help bring your prototype to production to meet your deadline.

On Her Majesty's Secret Service



Information has been obtained by the Defense Interaction Intelligence Agency (DIIA) that the founder of Submersible Systems Inc. Larry Williamson has now taken deserved retirement and his daughter Christeen has taken over the helm with her husband Tony. Reports from global military & civilian organizations confirm that her father built a fine company and it's certainly being kept that way. From a small company that started out providing hobby divers with a useful safety aid, SSI has moved forward assisting both military and professional divers, have seen their products deployed on land, sea and in the air - not forgetting SPARE AIR has also been used in a myriad of movies such as Jaws, Waterworld, Spy Kids 2, Baywatch, The Fugitive 2, Sphere, and Perfect Storm.



Now anyone can have the reassurance & life saving air this product provides with Spare Air® Escape (photo left) - for Submersible Systems now offers an affordable package to help you save your own life in a fire-smoke emergency. Simply insert the mouthpiece and breathe life saving air. Then place the mask over your eyes and calmly exit the danger area. The panic free moments can mean the difference between life and death for you, and can give you valuable time to find loved-ones and pets to help them escape.

Photo: [Spare Air Escape](#) (includes a mask to allow home users to escape from smoke and fire).



DIIA also notes with interest that this family run business is proud to display the 'Made in the USA' symbol on all of their products. As the British author of this report, I will be naturally asking my department why 'Q' did not take advantage of adapting and enhancing Bond's original mini re-breather gadget at the time - back in the 70's. Now that was certainly a British Intelligence blunder!

For Your Eyes Only

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Dive Photo by Beverly Factor



*So Many Essential Uses – You Couldn't Ignore Spare Air
Let's Face It – As Bond Would Say – "You Only Live Twice"*

READ THE FULL SUBMERSIBLE SYSTEMS REPORT AT: www.diiia.us