



January 2009

## SubSea Solutions Newsletter "The Chronicles"

*Rapid Cost-Effective Worldwide Underwater Repair Solutions*

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Repairs

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**Additional information  
may be found on our  
Web Site:**

[www.subseasolutions.com](http://www.subseasolutions.com)

SSA in the News-  
November 2008

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Happy New Year and welcome to 2009. In addition to our friends following the Western calendar, we also wish all of our friends in the Far East a very Happy Chinese New Year Celebration. 2009 is truly the year of the "OX", especially with the charge of jobs that have been performed these past weeks by the member companies of the Subsea Solutions Alliance.

The member companies of the Subsea Solution have been busy repairing vessels throughout the world:

**Large Insert Repairs**- 4 Performed (Europe, Canada and USA)

**Underwater Seal repairs**- 2 Performed (USA and Australia / Micronesia)

**Underwater Bow Thruster repairs / extractions** - 4 Performed (Europe and USA)

**Underwater Propeller Repairs**- 3 (The Azores, Europe and Americas)

**Underwater Stabilizer fin repairs**- 3 Performed (Europe and USA)

The complexity and diversity of jobs performed, majority done simultaneously, these past weeks

clearly demonstrates the global strength of the Subsea Solutions Alliance as well as the technical expertise and coordination capabilities of our underwater repair teams. We remain poised and ready to support your ship maintenance or repair needs.

## THE ART OF THE INSERT

Class Approved Permanent Hull Plate repairs



In late December the member companies of the Subsea Solutions Alliance performed 4 class approved permanent hull plate repairs throughout the world. One repair was performed when an unfortunate grounding caused significant hull damage to multiple locations in the aft section of a vessel while it transitted the Great Lakes. The Subsea Solutions Alliance member company in Canada responded accordingly. Two inserts were required in the curvature of the aft section of the

Engine room. One insert measured 1.9 meters by 2 meters and the second insert measured 2 meters by 2.2 meters. The engineers within the Subsea Solutions Alliance applied their class approved weld procedures and developed a specific CLASS APPROVED PERMANENT REPAIR procedure for the vessel. Working in sub-zero temperatures in very rough sea conditions, specialized cofferdams were fabricated and installed to isolate the affect hull sections. Using welders trained and certified to the Subsea Solutions Alliance Class approved weld procedures, the two inserts were successfully installed under class supervision.

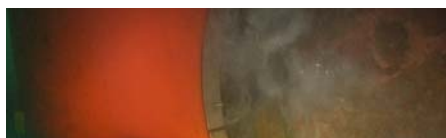
During the same period in December, repair teams from the Subsea Solutions Alliance member companies in Miami and Canada performed two CLASS APPROVED PERMANENT REPAIRS in the Gulf of Mexico. These repairs were made back to back to two vessels with damage in double bottom wing tanks; one over the turn of the bilge. The affected areas, measuring 45 cm by 30 cm, were sealed with a purpose built cofferdam. The affected areas were cropped away and new plates were inserted and welded in with certified divers to the Subsea Solutions Alliance class approved procedure.

Lastly, while all of these inserts were being installed in North America, the Subsea Solutions Alliance team in Europe was busy performing a similar insert repair on a vessel in Antwerp. Alleviating a temporary repair that was put into place by the Subsea Solutions Alliance team earlier this year, the repair team was given 3 days to crop the affected area covering 1.25 meters by 1 meter and perform a Lloyds Register class approved repair. Again, a purpose built cofferdam was installed so that the affected area could be properly cropped away and the surfaces prepared. Using a team of certified welders, the repairs were performed to Lloyds Register requirements under class supervision.

It has truly been the month of the Insert..... Let us show you what we can do for you, anywhere, at any time. Our engineers and diver / technicians stand ready to serve.

## Be the first to Double bag it!

Aft Stern seal replacement- Strut Bearing Seals changed with Revolutionary technique



Right after the New Year celebrations were over, the Subsea Solutions Alliance team on the West Coast of the USA

was tasked by one of the manufacturers of stern seals with the underwater replacement of two stern seals mounted on EITHER side of an oil lubricated propeller shaft strut. This required very specialized skills and the ability to install 2 Transhab hyperbaric seal habitats at the same time. This technique has never been applied before by the Subsea Solutions Alliance or by any other company for that matter, so a thorough engineering analysis and plan needed to be established in order to safely exchange BOTH seals simultaneously within the timeframe of the customer's wet dock period. The engineering team within the Subsea Solutions Alliance together with the seal manufacturer developed a detailed repair procedure that was applied flawlessly without incident. The repair procedure clearly demonstrated the attention to detail and safe process of underwater seal replacement. It also demonstrated the experience of the diver / technicians of the Subsea Solutions Alliance. Local regulatory bodies, the US Coast Guard and other marine service representatives in the region saw FIRST hand the value in this type of repair from an environmental mitigation and economic perspective, compared to other repair alternatives. The once impossible repair to this vessel in-place and in the water no longer exists and that excites not only the local regulatory bodies by the client as well since it significantly mitigates catastrophic impacts from leaking stern seals.

Just prior to the strut seal exchange, the diver / technicians from the same seal manufacturer was tasked with performing a seal repair on a cruise vessel, without taking the vessel out of service. With the vessel traveling in Australia and the Micronesian island chain, a repair team of diver / technicians from the Subsea Solutions Alliance office in Miami Florida performed this repair under the supervision of the manufacturer. With only a certain amount of time to dive in remote ports of a call, the team successfully repaired the seal to satisfaction of the vessel owner and manufacturer.

With careful planning and experienced diver / technicians, the thought to be impossible can be made possible. The member companies of the Subsea Solutions Alliance stand ready to support your needs, please contact us for advice or support.

## For the sake of an even keel

Stabilizer Fin repair and extraction



Vessel operators love their active stabilizer fin systems when they work, but when they don't I am sure that crew members and passengers have some choice words. With this in mind, the Subsea Solutions Alliance repaired 2 stabilizer active fin systems underwater and extracted a damaged fin from an additional vessel for repair. The first repair took place in multiple ports of call while a cruise vessel operated in the Caribbean. Without taking the vessel out of

service, a crew of Subsea Solutions Alliance diver / technicians from Miami Florida performed the weld repair to secure a damaged active fin on the after side of the fin stabilizer system. Using a class approved underwater weld procedure the process and repair was performed without any impacts to the vessels schedule or itinerary.

In addition to the fin repairs performed above, the same diver / technicians from the Subsea Solutions Alliance office in Miami Florida extracted an entire stabilizer fin from an other vessel while it was in a US port. The fin

had sustained significant damaged that required immediate reconditioning at the manufacturers facility. Again, with any delays or impacts, the fin was extracted without any fan fare or issue.

While this repair was taking place another active stabilizer system was being repaired by a team of diver / technicians from the Subsea Solutions Alliance Europe office. While in a port of call in the Mediterranean Sea, the tilt drive system was repaired. Without any delays or impacts to the schedule the team of experts made the repair to cheers from the crew and passengers alike!

Our team of experts is highly skilled in types of equipment repairs. Large or small our attention to detail and focus on planning to minimize schedule impacts shines through when repairs like the ones above are performed.

The Subsea Solutions Alliance (SSA) is a consortium of underwater ship repair specialists including: All-Sea Enterprises Ltd, Miami Diver Inc, Parker Diving Inc and Trident BV. With a dedicated staff of over 130 divers globally, SSA has revolutionized the methods of repair for ship equipment underwater. Through a common shared system of dive equipment, specialty tools, and dive personnel the SSA is able to mobilize quickly anywhere throughout the world with diver / factory trained service technicians for most OEM equipment. From the replacement of aft propeller shaft seals to the exchange of thrusters to straightening large bends in propellers, SSA has become the OEM's choice for all types of complex repairs. With class approved techniques and a highly trained staff in both underwater ship repair and propulsion equipment maintenance, SSA is the clear choice for vessels operating in sensitive environments and on critical trade routes.

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