



FOR IMMEDIATE RELEASE
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VOLVO OCEAN RACE REFLECTIONS

Annapolis, MD – The first leg of the Volvo Ocean Race 2005/2006 is now history. Skipper Mike Sanderson, navigator Stan Honey and the crew of *ABN AMRO One* deserve a lot of praise for their magnificent effort on this leg. They were not without their problems from the torment of night one, and the general rigors of the leg. But they exercised a little caution in the first few days, did some fine repair work at sea, got to the favored west side of the fleet when entering the equatorial convergent zones, then kept southwest of pursuers while patiently approaching the westerlies of the Southern Ocean and completed the leg in weather that permitted faster than expected average times.

It is very stimulating for the Farr Yacht Design to have boats of different designs on the racetrack. This is the only way the success or otherwise of the many thousands of hours of research and design time gets tested in the real world. It causes us to review work done and decisions made to see if there is any information coming from the racetrack that may challenge design decisions. It is also very good for the sport when a top sponsor gets good results in a leg following the dismay at their performance in the in shore races. The race becomes more intriguing with some of these variables present.

The competitors and those intimately involved with the race know that the right formula for winning the race is an unknown at this point. We are all on a program of discovery in this new and exciting class. Over the next five weeks we will complete another inshore race and a Southern Ocean leg which will fill in a bit more of the picture. We will be glued to Virtual Spectator to see how our research and design decision-making stacks up. Firstly we want to see the boats make it safely through the Southern Ocean legs, and secondly that the boats perform to our expectations and predictions. While I get encouraged to make predictions for the next legs, I have learnt a long time ago that doing so on a sailboat race is folly indeed. I do have confidence in our team, the boats they have designed and the work they have done with the target of overall race win.

Beams, Rudders and other questions.

The beam question, together with the related single or double rudders question, has drawn much attention from the sailing world since the completion of leg one. There is a range of one meter in rule overall beam which permits an even greater range in beam at the waterline. It is fairly well understood that the wider boat will have more form stability and therefore more righting moment to apply to the rig, but at the price of additional wetted area (drag) and poorer performance in waves. Related to the beam choice is the single versus rudder twin rudder choice.

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At a particular beam size and heel angle, the top of a centerline rudder starts to come clear of the surface of the water and begins to lose efficiency. What also has to be considered here is that the Volvo design rule permits only one degree of freedom for an appendage, therefore does not allow the windward rudder of a twin rudder setup to be kicked up or extracted in the same way that Open 60's can. So the twin rudder solution comes with the perpetual added drag of the windward rudder and added weight of a twin system.

On the plus side the working rudder of a twin rudder system should be more efficient than a single centerline rudder if it is carefully located in terms of incline and position. An added plus is that it does not lift the back end of a boat that is heeled with rudder heavily loaded as much as a single centerline rudder.

Added to this mix of variables is the question of transom immersion or how straight the run should be. The points system that decides the race winner makes the process of comparing design options a complex puzzle. The Farr Yacht Design team reviewed the options at length and made their selection based on the results of our studies including tank work. Time will tell if the single rudder or twin rudders become the norm for this class in years ahead.

Keel problems.

With the exception of *Brasil 1*, the experience for our boats on leg one proved to be humbling. I had followed the boats out of the start in Vigo for about 15 miles and bid them farewell and good luck. Things were looking good for the four teams sailing our designs and by the early morning hours the next day *Movistar* was leading on the eastern flank of the fleet, *Pirates of the Caribbean* looking good to the west and *Ericsson* handily placed in between. Speeds were high and it looked like we were going to enjoy a good race over the next 18 days. At about 2:30am November 13th *Ericsson* was stopped with a fractional chute seriously wrapped around their appendages, followed by both *Movistar* and *Pirates* who made hard left turns at around 7:00am and headed for ports in Portugal. I received phone calls reporting problems and made travel plans to meet up with *Movistar* and *Pirates* to see what went wrong and offer any assistance we could provide. *Ericsson* was continuing but showing signs that she was performing at less than full strength.

The *Pirates* pulled into Cascais where it could be seen that a fairing piece on one side of the keel opening had been ripped from its recess in the hull, causing water to be deflected into the wet box surrounding the keel canting mechanism. At speed this wet box is normally dry, but the crew noticed a vibration and observed the wet box full of water, which was exerting considerable pressure on the covers with water squirting out of joints and penetrations. Had the covers or gaskets become dislodged a lot more water could have entered the central area of the boat in a short period of time in sea conditions that were not hospitable. There was also some damage to a vertical member of a forward frame that required some attention.

Movistar fractured a composite shelf that supported the starboard hydraulic ram for the canting system. This was a sudden failure that occurred when the boat slammed down particularly hard, but an event the boat had seen before and should have survived. The subsequent shock through the structures from the shelf fracture also damaged the bulkhead in a secondary zone above the port ram shelf. There was conjecture that the boat had hit something at speed, an opinion supported by the discovery that the bottom two feet were missing off the rudder and canard. The crew was unable to verify a collision; the noise and violent motions from sailing in those conditions masking any observations of such an event. Investigations back on dry land found that a bond between the shelf and its supporting structure had been progressively decaying along its length for some time. That had led to the shelf being overstressed in its outboard areas. Repair work was relatively straightforward and was completed in a few days.

The trip to Portugal was informative if unwanted. The problems were different and detail in nature. Both the race teams and the Farr Yacht Design were thoroughly disappointed with the outcome of events. On the positive side, we came away wiser and more mindful of new pitfalls that these boats present. I believe all boats experienced damage during night one. Conditions and boat speeds were extreme (a boat speed of 37 knots was noted on one GPS) but there was nothing that the boats had not experienced before, and certainly conditions they should expect again during the race. Our thanks goes to Paul Cayard skipper of *Pirates* and Bouwe Bekking, skipper of *Movistar*, for allowing complete access to the boats to permit thorough investigation and distribution of information to assist with modifications and repairs to all our boats and allowing everyone to gain from their experience..

The Volvo 70.

Glenn Bourke must be admired for his conviction that the Volvo Race deserved a new, exciting boat. “A blindingly quick 70-foot ocean racing yacht” is what he asked for and that is exactly what he got. With 24-hour runs expected to get close to 600 miles, the boats have entered new territory in monohull ocean racing, with all the risks and discoveries that comes with such adventure. Sailors and designers have plenty to discuss and exchange as we get to know the issues facing the crews who have to manage these boats through weeks of high-speed sailing. Our task is to assist the crews in developing sail inventories, searching for sail combinations that work well and sail handling systems that allow reliable and safe setting and retrieval, finding the right combination of keel cant, canard use, reefing sequence, gear stacking and trim tanks use to extract performance without undue risk. Above all the boats should not break under expected sailing conditions. All this has to be developed and digested as the class progresses through the race.

It is blatantly idealistic to point out that a little caution on night one may have kept the damage to that which would have been fixable without significant delay. These are race boats and race crews sailing side by side with a common desire to win. They need to be able to race hard and have their boat perform without breakages. It may take a little more race time before we can reliably deliver on this pledge, and there will always be events at sea that will require a crew’s

good judgment and alert evasive action to prevent damage. Leg one night one was a warning shot for all those involved in the race. These are fast boats and with speed comes increased risk that needs to be comprehended, understood and managed.

Russ Bowler