# Damage report DF 920-77 Cruising "Vaya con Dios", built 2002

This DF 920-C was sailing on the Ijsselmeer, Holland on 3 October 2009 in wind force 5-6 Bft. (17-23 knots) with smaller frequent waves – one reef in the mainsail. Sailing course was approx 70° to true wind, boat speed approx 11 knots. Onboard were 2 persons (owner + a sailing friend).

Suddenly there were cracking noises – the boat heeled over and both SB-side wings folded back and broke up. The boat rolled over to SB-side, and the owner had time to pick up the VHF and call for help, where the professional water rescue service was nearby to assist. No personal injury – the crew did not even get wet. The boat was towed into the nearest dock.

Mr. Jens Quorning from Quorning Boats has inspected the boat and found the following conclusion to the incident.

The cause of damage is a chain-reaction of mistakes. In total, Quorning Boats has now built 165 of the Dragonfly 920's since 1996, of which 110 are Cruising, Racing or Touring versions and 55 in the Extreme version. We have found that the Swing Wing lines and maybe cables, sometime at an earlier stage have been replaced (not by Quorning Boats). By replacement of this, the special Frederiksen block inside the aft wing has been demounted and mounted again in the wrong position. This is a single block in stainless with becket and a single Delrin sheave. By installing it all back, the Swing Wing outhaul cable has been fitted in the becket end of the block only for rope (this has a 6 mm Cleves pin only), and the rope was fixed at the strong end, where you have an 8 mm Cleves pin. Like this, the rope also does not run correctly in the block.

This has resulted the block inside the aft wing – the small weak 6 mm cleves pin – to bend the block open, and the cable for the Swing Wing outhaul system to come loose! Thus, the actual Swing Wing system was out of function as backup! We still have the aluminum safety tube fitted on the backend of the side of the cockpit and on to the aft wing though! Why did the boat then collapse?

By a closer look at the boat and parts, we could see that the aluminum safety tube has been secured OK by locking it with the stainless locking pin. However, this 10 mm stainless pin was bent – and, we found this aluminum safety tube in the boat – partly bent – one end broken off by the hull side and at the "wing end" the stainless fitting on the wing was ripped off and was still attached perfectly to the aluminum safety tube. All the 6 special 6.5 mm Monell rivets were still perfectly intact, and these did not show any sign of damage, as if for example the stainless fitting and rivets were sheared off!

Going through the history of this particular boat, we know that it has had two collisions on the SB-front wing. The last collision was so serious that the front wing had to be replaced last year. The investigation of the boat proved to us that the whole stainless fitting at the end of the aluminum safety tube had been punctured through the composite back wall of the aft wing, which normally will never happen and which we have never seen before on any other DF 920.

The aft wing has had hidden damages from the two earlier incidents at and around this stainless fitting. The aluminum safety tube also clearly shows older defects, as the holes for the locking pins were quite elongated and was dramatically different from the port side tube on the same boat, which looked safe, sound and in normal condition.

Obviously, we are very sad at Quorning Boats to see things like this happen, where the boat quickly gets blamed for the damage, and we must urge the owners of DF 920 Cruising, Racing and Touring models to carefully check this part of their boat, if they have run into some kind of collision with the boat.

However, this can be backed up by a forward diagonal safety cable from the bow of the centre hull to the outer end of each forward wing like on the DF 920 Extreme and the DF 35 models. This is an easy thing to install – on existing boats as well.

The damaged boat, "Vaya con Dios", has suffered amazing little damage. On photos everything from the incident looks dramatic, but basically there is only a very small GRP-repair under each SB-side wing base. Two new wings are needed and repair on the deck of the SB-side float. All inside interior is OK. Mast and rigging are all intact – except for windex and top light as well as a bent/broken head foil and a new SB-push pit in the cockpit.

The boat will be back sailing on the Ijsselmeer next spring.

For and on behalf of
QUORNING BOATS ApS

Jens Quorning