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MEMORANDUM

President of Shields Class
Frank Scully
Ralph Thacher - December, 1975
and revised March - 1983

SHIELDS CLASS AIR TANKS

It would be our recommendation regarding the sinking of a few Shields that the Association send out the following instructions. Also, recommend that Class Rules specify that none of the hatches be opened during racing.

It is our opinion that a Shields Class sloop should float for at least (4) hours after the cockpit is filled with water. A permanently-installed pump with a 1½" diameter discharge and at least (1) or (2) buckets the boat could be bailed in a reasonable period of time. Small hand pumps are fine for rain water; however, they are entirely inadequate in an emergency.

The Shields Class on the original plan had (4) air tanks. The bow and stern were integral with the hull and deck and the bulkhead with a removable manhold cover or hatch. The remaining (2) tanks are amidships (port and starboard) consisting of the area under the seat and fiberglass floor. Sometime into the Chris-Craft production the mold was changed for these port and starboard tanks and the hull liner was incorporated in the tank. It has been found on a number of boats that the area where the hull liner is joined or meets the underneath surface of the deck that this joint has become ruptured and no longer air tight. Due to use and age on a few boats, the fiberglass tabbing of the bulkheads has come loose and are no longer air tight. Every effort should be made to seal off all deck fastenings, including the toerail screws. We would suggest placing a drain plug at the lowest point on each bulkhead by reinforcing the bulkhead to a half inch thickness and drill and tap for 1/2" pipe plug. Similar plugs could be used on the seat tanks. Drain plugs should be always installed when at anchor or sailing. The only time they should be removed is for draining and checking of tank. To check for the

integrity of the tank, a bicycle pump or an air compressor is necessary. Using the small drain hole in the tank approximately (1) to (2) pounds of air should be put in the tank and a solution of a liquid dishwashing detergent "LUX, JOY, IVORY, etc." mixed about 50/50 with water and put into a trigger sprayer bottle and spray over all corners or joints in the tanks. Adequate light is necessary and leaks can be detected by bubbles rising from cracked areas. In a few cases, leaks could not be found by this method, and the only thing left was to fill the tanks full of water and examine where the water squirts out.

After finding the leak or leaks, fiberglass repair work may be done by non-professionals. It is, however, advisable to have it done by experienced fiberglass workers. The areas should be thoroughly dried and washed with acetone to remove dirt and salt and any remaining moisture. Then sand with rough sandpaper. Apply at least 3-ply of 1½ ounce mat properly saturated with polyester resin. On the boats with the liner that extends up the hull to the deck, the liner should be cut back about 2"; the gelcoat should be sanded for another 1½" and 3-ply of strips of fiberglass should be installed all along the liner. If the liner is not reduced, there is a good chance of leaks from the toerail screws. It would be recommended for a boat owner to climb into the bow and stern tanks and with his foot apply gentle pressure onto the bulkheads to prove that they are securely sealed. The stern tank cannot be air tested without plugging the (2) holes: One, where the backstay wire enters and the second where the rope lanyard for the backstay exits into the cockpit. These holes are occasionally under the water when a boat is fully submerged due to wave action. For this reason, it is imperative that the remaining portion of the air tank is tight. In normal conditions, no water will enter the stern tank; however, if there is a leak low down water will enter and air will exit on top; there is no trapping action.

The hatches in the bulkheads should be fitted with proper foam rubber gaskets. They must,periodically, be checked and maintained in good order. The joint in the gasket should be installed so that it is on top. The bulkhead door should be held in place with four pressure bearing fastener. PERKO hatch fastener #957 is a fine example where the wing nut can be adjusted to insure even tension all around the hatch. It has been found that in hatches with only (2) dogs, if the boat is half full of water uneven pressure is applied and a leak may develop.

For many reasons, we do not recommend installation of foam flotation in the air tanks. The tanks would have to be completely filled to provide adequate flotation and in time the foam would absorb water and make the boat heavier affecting

the one- design characteristics. Repairing of the boat, due to collision damage, would be extremely expensive and difficult. Service to the backstay tackle would be impossible for the stern tank.

We would be glad to help you with any questions regarding these procedures.