

## Re-Engineering the Class E Scow

The current E Scow hull is, in many respects, 1950's wooden boat technology made from fiberglass and polyester resin with scantling rules to match. It does not take advantage of current fiberglass structural or manufacturing technology, and is costly to build because of the high amount of touch labor required. Also, it is not truly self-rescuing. As a result of their recent experience with international classes which use more modern technology, Melges Boat Works would like to re-engineer the E hull to utilize some of this technology. And also simplify rigging and controls to better align with current E sailing techniques. There will be no changes to hull and rig geometry, so existing boats will not become obsolete.

Some of the changes will require modification of scantling rules, which are:

### 1. Part V, II (Hull), 1 (General), B (Materials)

*Add Epoxy to the list of approved materials.*

New hulls would be infused with an epoxy laminate schedule over polyester gelcoat and a single layer of polyester/fiberglass. The single layer improves the bonding of the gelcoat to the epoxy. Present epoxy gelcoats are not sufficiently UV stable. Other gelcoat/epoxy bonding additives may be used in the future to replace the polyester/fiberglass step. The epoxy (shrinkage ~1%) should remove the hand sanding that happens on every boat now due to higher shrinkage of polyester (4-5%) that causes print through. Epoxy also improves human/environmental concerns during manufacture with polyester/vinylester.

### 2. Part V, II (Hull), 1 (General), E (Bracing)

*Bracing of the hull shall consist of at least three trusses. There shall be two bilge trusses whose length shall be at least two-thirds of the boat. The third truss shall be a center truss extending from the bow to the forward end of the cockpit and from the aft end of the cockpit to the stern.*

Presently, this is the two truss structures that make up the board boxes, extending from the bow to stern, plus the main backbone. In the new boat, Melges intention is to integrate the two side trusses into the cockpit (creating watertight side-tanks) and have this structure extend from the stern all the way to the bow; tapering as required under the fore deck. (The images below show the present MC mold with the sealed tanks along with a center truss structure within the cockpit.) This center "backbone" section would be enlarged to serve as a centerline spinnaker launcher tube. The two forward tanks/trusses would be added to the deck/cockpit before the hull and deck are bonded together. These structures would be inline with the edge of the cockpit tapering towards the forestay. Boards would be completely underdeck - with an up and down line at the forward portion of the cockpit(MC image and TO-101).

### 3. Part VII (Adjusting Sails), 2(Main), 5(Vang), C

*may be attached at fixed points only.*

By reconfiguring backbone to fit the spinnaker launcher, the space previously used for the vang purchase underdeck and the vang lever is now occupied. The proposed vang would consist of a strut (1.25" tube – approx 3ft long) attached ~2ft above the boom – the other end sliding on a track on the top of the boom. Control purchase would be run along the boom, then led back to the crew along the top of the backbone. This change would use the current C boat boom section – the flat top allows track mounting and the slightly stiffer section should match the stiffening the current vang lever provides.

Other improvement envisioned; no rules affected:

- centerline spinnaker launcher
- underdeck boards
- sealed cockpit – improved self righting
- forestay adjustable at turnbuckle only; no in-cockpit rake control
- no thru-deck blocks or leads

Melges has submitted an experimental request to build a prototype boat with these features in time for the 2011 Inlands and NCEA Championships. Please convey your vote on approval of this experiment to Matt Schmidt (copy Ted Beier and Art Brereton) by the close of business on 14 July. The Commodore and Rules Committee Chairmen recommend approval of this experiment.

Matt Schmidt  
Ted Beier  
NCEA Rules Committee