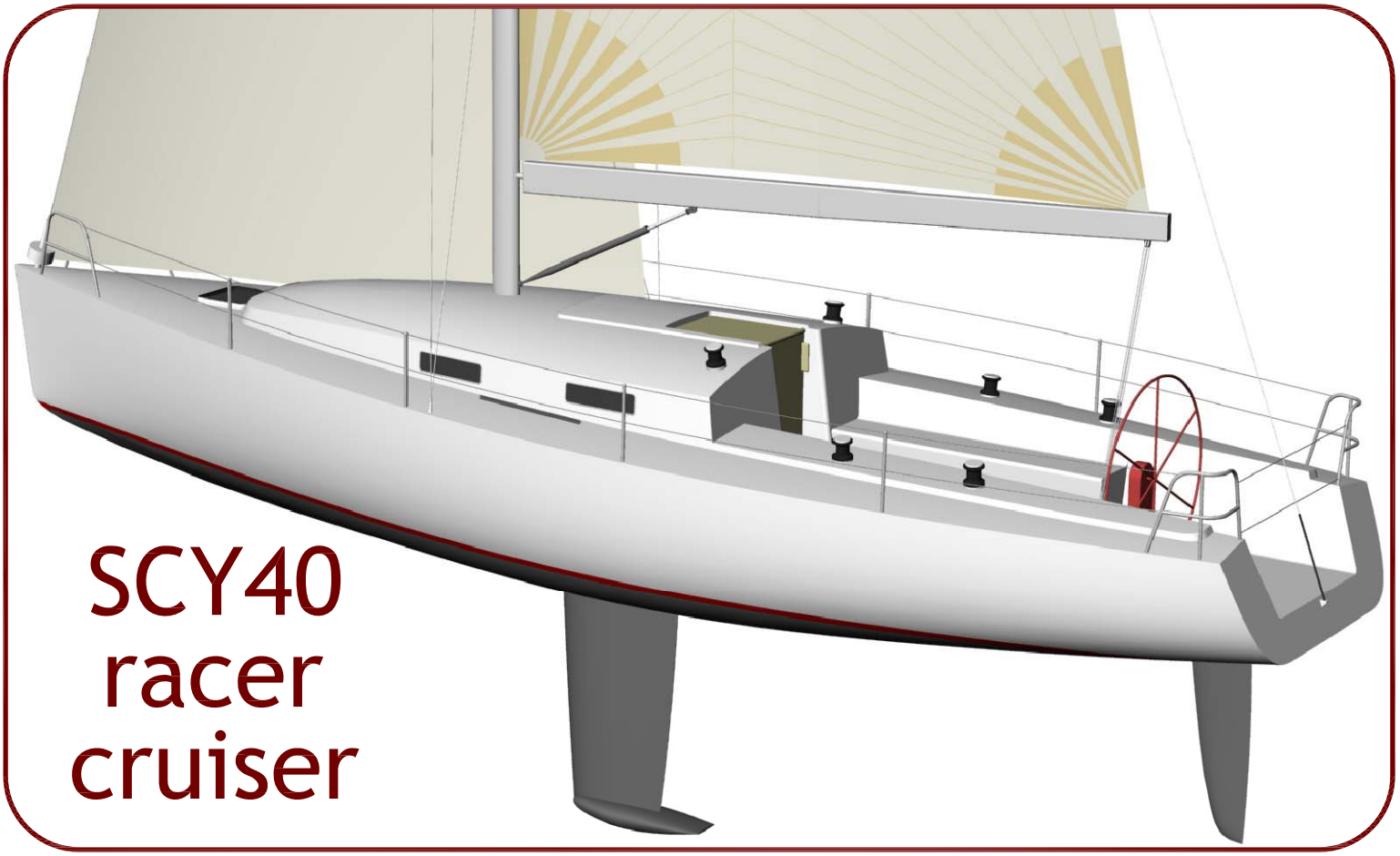


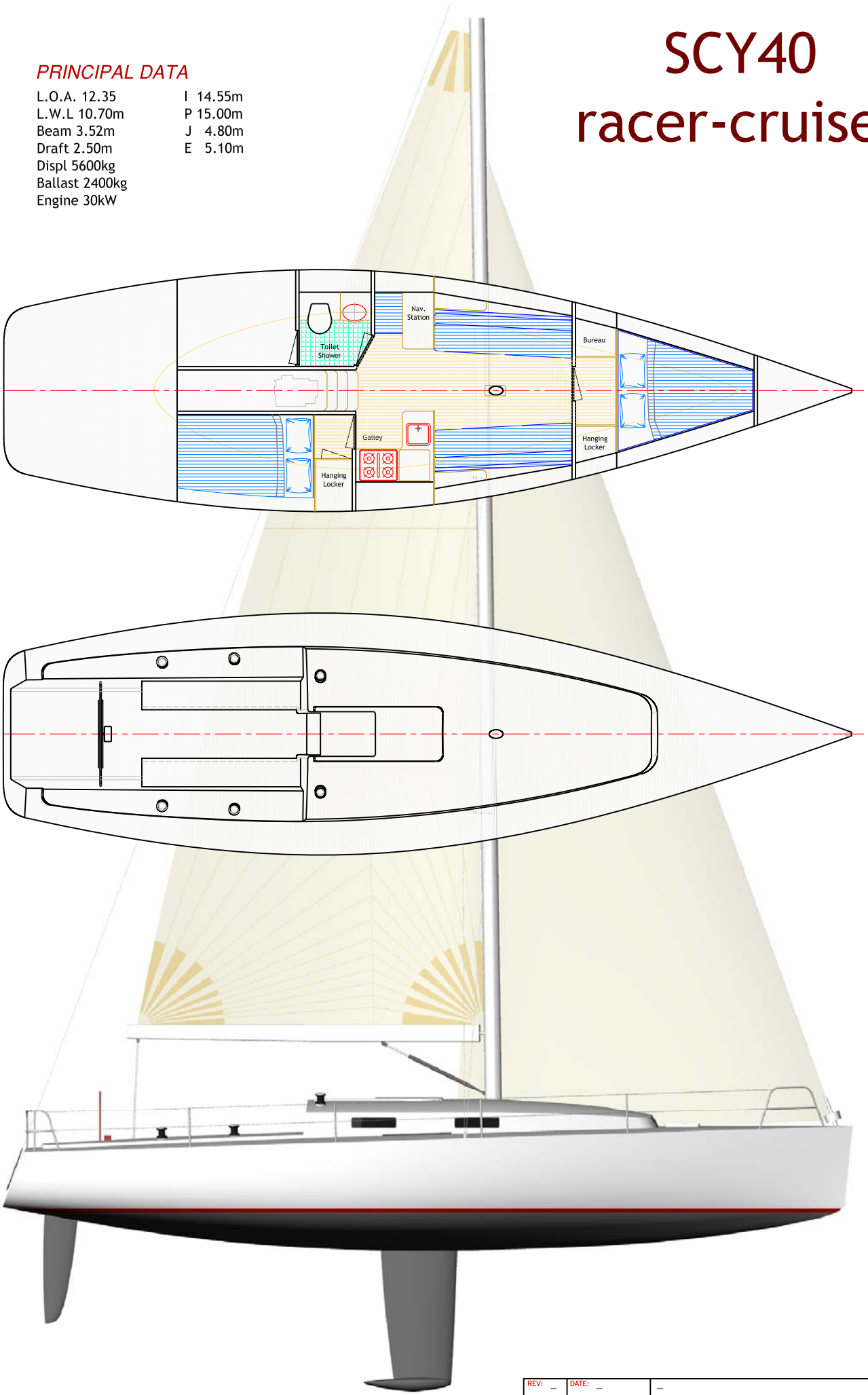
SCY40
racer
cruiser

SCY *DESIGN*
48 Sweetgum St, Ashmore, Qld 4214, Australia
Ph: 617 55973521 www.scy.net.au

SCY40
racer-cruiser

PRINCIPAL DATA

L.O.A. 12.35	I 14.55m
L.W.L 10.70m	P 15.00m
Beam 3.52m	J 4.80m
Draft 2.50m	E 5.10m
Displ 5600kg	
Ballast 2400kg	
Engine 30kW	



REV: –	DATE: –	–			

SOUTHPORT CUSTOM YACHTS

VESSEL: 40ft Racer–Cruiser

TITLE: PRELIMINARY GENERAL ARRANGEMENT

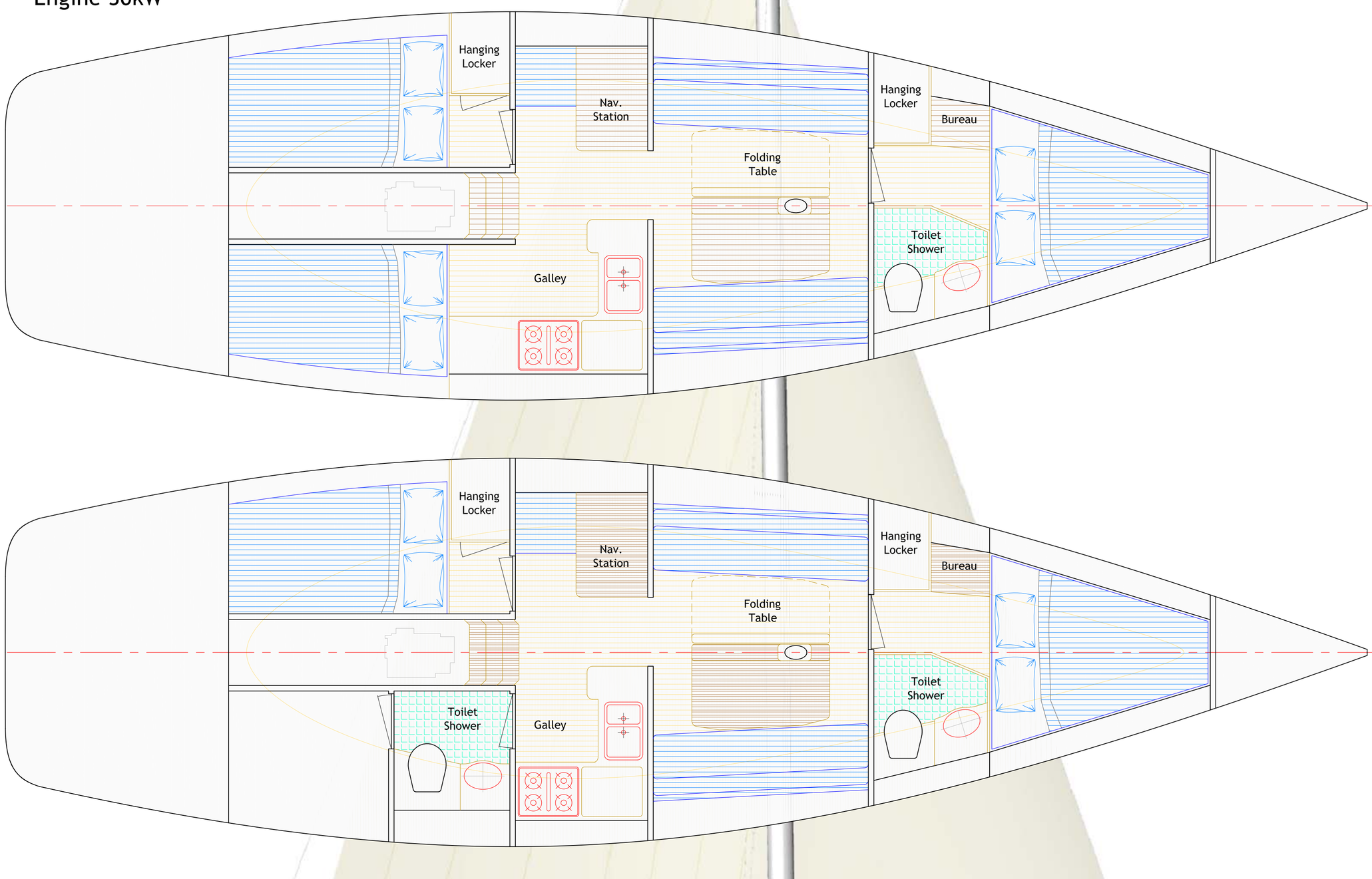
DWG No:	DATE:	SCALE:	DRAWN:
TY RC–100	14/6/2007	A4	MDW

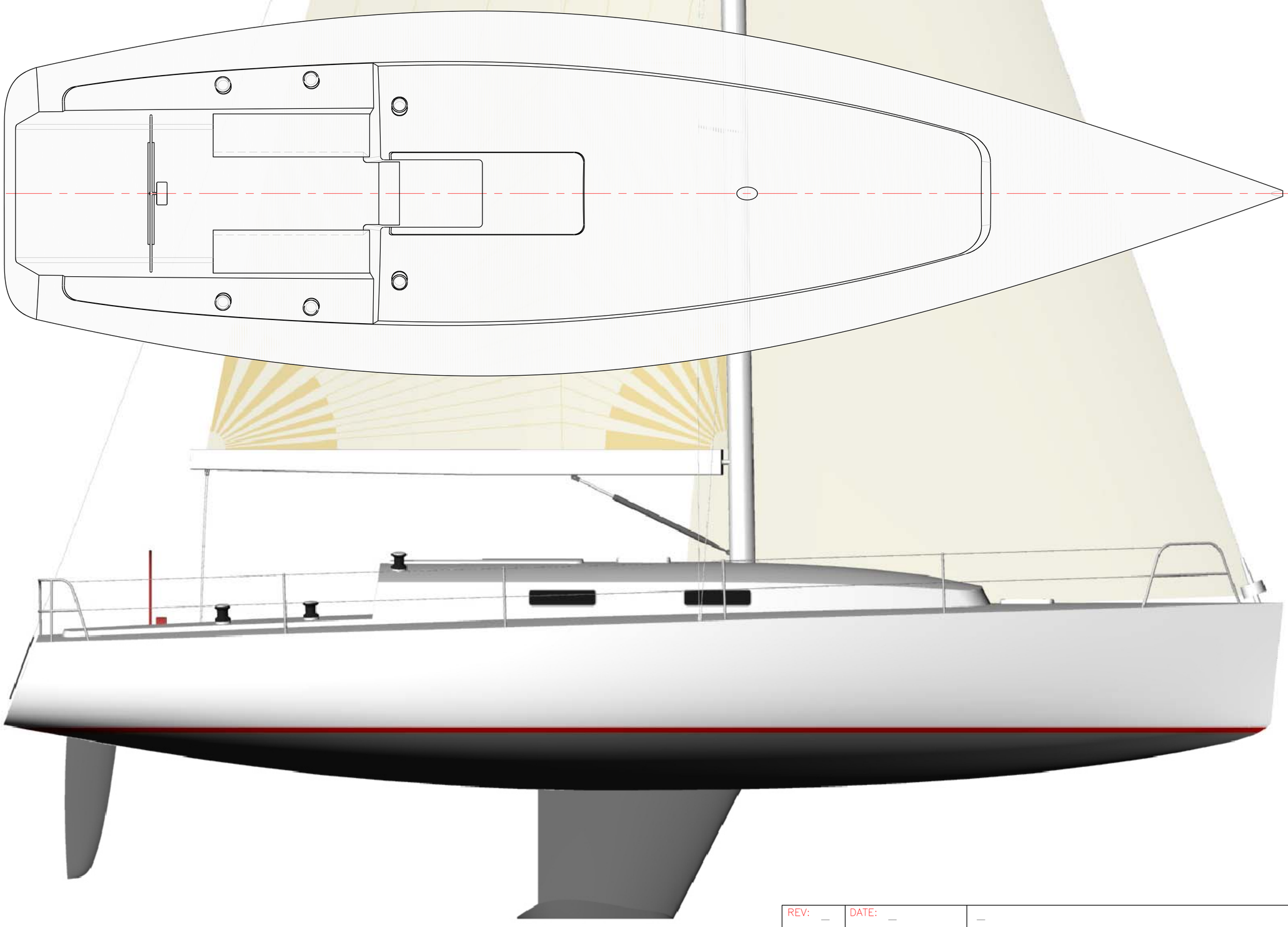
SCY DESIGN
48 Sweetgum St, Ashmore, Qld 4214, Australia
Ph: 617 55973521 www.scy.net.au

SCY40
cruiser-racer

PRINCIPAL DATA

L.O.A. 12.35	I 14.2m
L.W.L 10.86m	P 14.6m
Beam 3.52m	J 4.8m
Draft 1.70m	E 5.1m
Displ 6000kg	
Ballast 2200kg	
Engine 30kW	





REV:	DATE:	
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SOUTHPORT CUSTOM YACHTS

VESSEL: 40ft Cruiser–Racer

TITLE: PRELIMINARY GENERAL ARRANGEMENT

DWG No:	DATE:	SCALE:	DRAWN:
TY CR–100	14/6/2007	A4	MDW

SCY *DESIGN*
48 Sweetgum St, Ashmore, Qld 4214, Australia
Ph: 617 55973521 www.scy.net.au

SCY40 Racer / Cruiser – Design Notes

Our philosophy for our new racer/cruiser designs was to design a boat that the average club racer could race well. She will be easily driven, forgiving and easy to sail fast. With our new designs we are striving to design boats that people will enjoy to sail racing and cruising. Good balance and sweet lines mean the boats almost steer themselves.

Current competing designs are quite beamy and shallow; therefore once the optimum heel angle is exceeded they slow dramatically and go sideways. They also require the windward rail to be stacked with crew to achieve acceptable upwind performance. As a result these modern racer/cruisers only perform well in the hands of the best sailors and don't make very good cruisers.

The rating rules penalise features that improve the speed potential of a design. Low displacement, high sail area and length are examples. To optimise a design for rating the length is traditionally reduced from what it should be. In our designs we have chosen to keep the length at the best number for the sailability of the boat. The longer and slightly narrower boat has sweeter lines with lower drag and will happily take the rating penalty. Offsetting the higher rating we have the following advantages:

- Longer waterline length means less wave drag and more speed.
- Better motion in a seaway.
- More directionally stable.
- Less inclined to broach.
- More forgiving and easier to sail fast by all standards of sailors.
- Sleeker and better looking.
- The ability to sail higher upwind and deeper downwind.

The innovative hull design is shaped to perform in a wide variety of conditions. The static prismatic coefficient is quite low ensuring great light air performance while the bow and stern shapes ensure that when the boat gets near hull speed these fuller overhangs have effectively increased this coefficient to reduce wave making drag at these higher speeds. Take a look at the latest AC designs of Team New Zealand and Allingi and you will see that this is soon to become a mainstream feature. The bow overhang also makes the boat safer for nosediving / bow tripping considerations.

The hulls are quite slab sided with only a little flare as well as being narrow. Although this sacrifices some stability it has the following advantages:

- The heeled hull sits lower in the water and generates more side force just when the keel is losing its side force.
- Sitting lower heeled also immerses the bow and stern overhangs increasing sailing length and further reducing drag.
- The optimum heel angle is higher and the effect of exceeding this is greatly reduced.

- When the sails and rig can't be de-powered any more this boat can simply be allowed to heel a bit more gaining some righting moment / power with minimal loss in performance.

Our hull shape features deeper aft sections between the keel and rudder. They reduce the boats wake, lower wetted area and improve directional stability. Many designers believe that their flattish aft sections help promote planing / surfing but this is a myth. They can only produce dynamic lift if they have an angle of attack to the water flow. Flat sections with little volume contained add greatly to the wetted area of the boat and these designs require large sail areas to move them in light airs.

The SCY Racer / Cruisers are designed to perform in a wide range of conditions. Their moderate sail plan has ample power in light airs and is easy to handle when the breeze come in. The designs ability to de power with extra heel give added safety and speed in conditions when you can't change down sails as quickly as you would like. You will come to appreciate that they are not grand prix racers and that ***you*** can sail them closer to their ultimate potential.

Stuart Friezer
June 2007