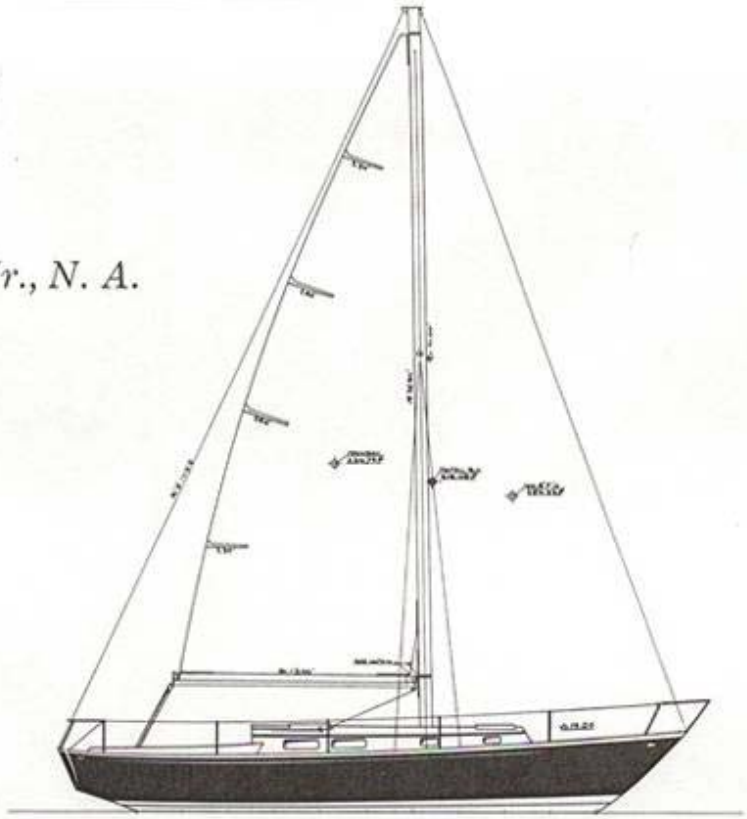
DESIGN FORUM

"S & S" No. 1904



Tartan 34

Commentary by Robert G. Henry, Jr., N. A.

In 1961 the Tartan Twenty-Seven was introduced and has been a popular contender in Midget Ocean Racing Club events ever since. Now, there is a larger version, the Tartan Thirty-Four by the same designers and builders. The first of this new class was launched in December 1967 and went south to win her class in the 1968 Southern Ocean Racing Conference. Her estimated Cruising Club of America rating is 27.5 feet.

The large separate rudder is supported along the entire leading edge by a skeg. This combination should provide complete control in all kinds of reaching and running and, in my opinion, is better than the separate spade type rudder which has been known to stall out on a few occasions in rough going.

The engine is a Universal Atomic Four and its installation under the port berth in the main cabin is worthy of note. I am sure we will see more of this in future designs because it places the major weight low and near the fore and aft center of gravity, while the three degree horizontal shaft angle will counteract propeller torque so that the boat will travel in a straight course under power. Angled propeller shafts are not new; heretofore the engine was on the centerline and the propeller off center which made the boat difficult to maneuver in tight places. In this case the propeller ends up on the centerline where it should be. With this type of engine location, it is important to provide good ventilation and insulation of the engine enclosure to keep excessive heat and noise out of the main cabin.

While on the subject of interior arrangement, I'm not sure I like the double entry to the head. It prohibits the wash basin from being placed near the centerline where it will drain overboard on either tack.

The designers and builders of Tartan Thirty-Four have given careful attention to detail. For example, the only exposed through-hull fitting below the waterline is set in flush for least resistance, others discharge inside the centerboard trunk.

The base price is quoted at $21,800 and includes working sails and Barient winches as standard equipment.

DIMENSIONS:

L.O.A., 34' 5"
L.W.L., 25' 0"
Beam, 10' 2"
Draft, (board up) 3' 11"
Draft, (board down) 8' 4"
Displacement, 11,200 pounds
Ballast, 4,600 pounds (lead)
Sail Area (sloop), 517 square feet
Vertical bridge clearance, 44 feet

DESIGNER:

Sparkman & Stephens, Inc.
79 Madison Avenue
New York, New York 10016

BUILDER:

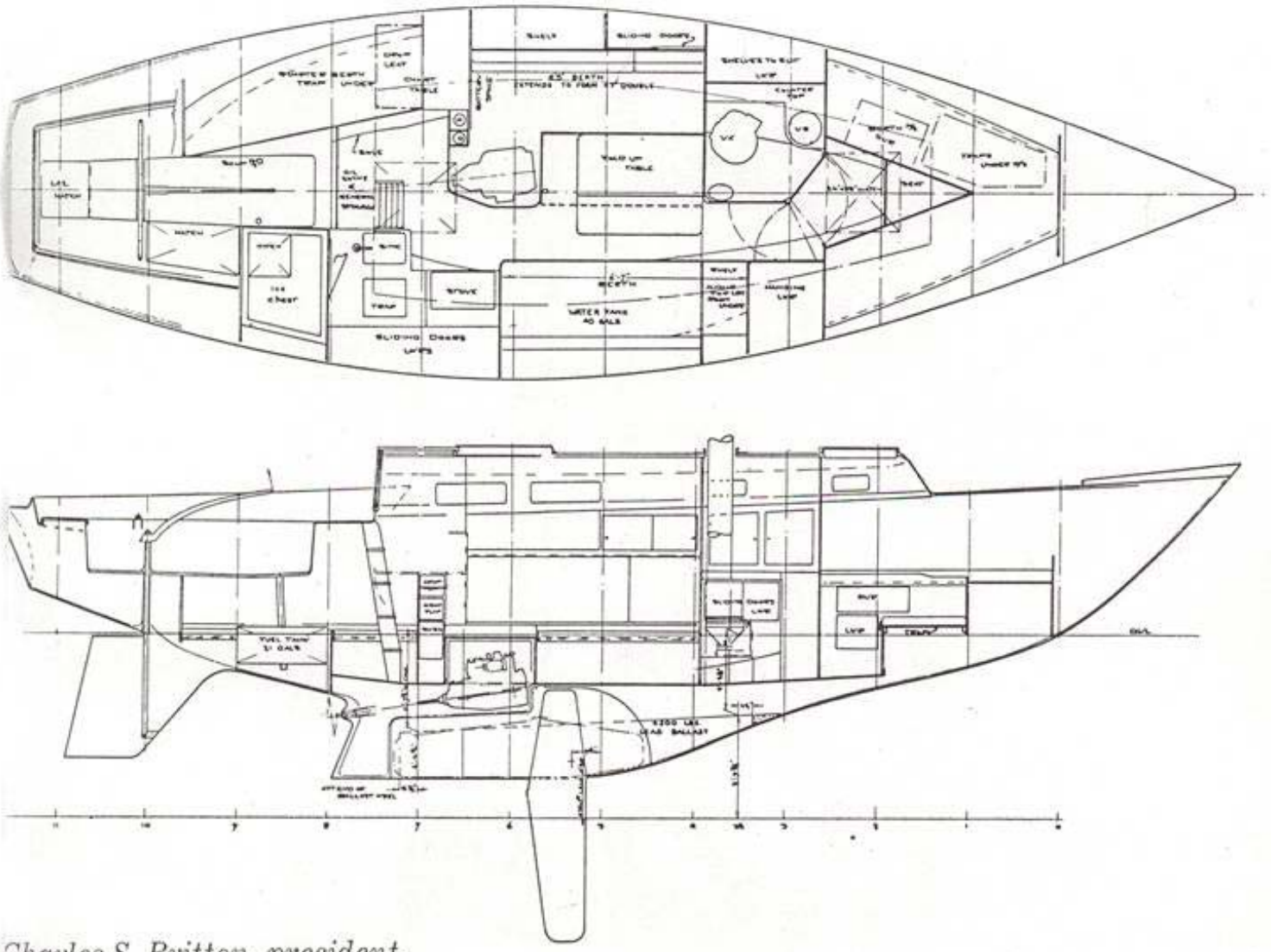
Douglass & McLeod Plastics Corporation
320 River Street
Grand River, Ohio 44045

Commentary by the Builder

In 1960, Douglass & McLeod turned to Sparkman and Stephens for the design of our first auxiliary, the Tartan Twenty-Seven. Since her introduction in 1961 she has proven to be the most consistent winner under thirty feet over long distance courses. In 1965, in keeping with our philosophy of developing significant designs that were separate unto themselves, we undertook the Ted Hood-designed Black Watch and Tartan Thirty-Seven. With this design proven in competition and the market place, we recognized the need for an auxiliary that fell between.

For this development we returned to Olin Stephens, who at the same time had been commissioned to do the *America* and the Twelve Meter *Intrepid*. As in the case of Tartan Twenty-Seven, our request was for a high performance offshore cruising-racing boat.

Tartan Thirty-Four embodies all that has gone before as well as several new innovations. She features a high aspect



Charles S. Britton, president.

rig with a high ballast to displacement ratio for a centerboarder. Indeed her weight distribution, adapted from the Twelves, puts as much required equipment weight, i.e. engine, as close to the center of balance as possible. Her divided rudder, well aft of a scepter keel section, is supported along the entire leading edge by a skeg. This innovation provides much greater stability and helm balance, particularly off the wind, than a freely suspended rudder. As a point of practicability, protection to the vital steering mechanism is also afforded by this arrangement.

High glass, low resin content Tensil-Cor construction of the hull employs optimum flexural, tensile, and compressive qualities, with minimum hull laminate weight above the waterline. The hull's sandwich construction permits the builder to increase ballast displacement ratio while keeping the boat floating on her designed waterline. Tensil-Cor eliminates oil canning in the relatively flat sections of the bow, and gives the hull ability to withstand heavy loading on the headstay. Condensation is markedly reduced, temperature fluctuations are brought under control, and the hull's sound deadening qualities are much improved.

From builders' trials and from her racing efforts to date, the following observations have been made:

a) Greater sail carrying capacity is apparent, even in Florida waters where a one hundred seventy percent LP would have been an improvement over the one hundred fifty percent carried.

b) Down wind control is absolute with any sail combination. The overgrown rudder will remain at the same area for that reason.

c) She is a much stronger reaching boat than we had anticipated, while her ability to foot on the wind did not seem quite as good as we had expected.

d) The relatively deep board weighs sixty-five pounds and is positively controlled by bell crank and cables in raised and lowered position.

e) The off-center engine location over Station Six combined with movement of other weight components amidships has made her most sea kindly and dry. The shaft angle has offset propeller torque successfully.

f) The long cockpit is fine as long as the crew stays out of her quarters on the wind.

g) The accommodation plan offers a large two-way entry enclosed head. Storage is bountiful with the engine spaces under the cockpit opened up. Objectionable is the breadth of the cabin sole when trying to straight leg a seat on the weather transom. We have installed a number of pilot and transom berth combinations to port which seems to make better sense.

We currently have fifty-five of the boats on order and I think, thanks to Olin Stephens, have developed a pleasing competitive little boat.