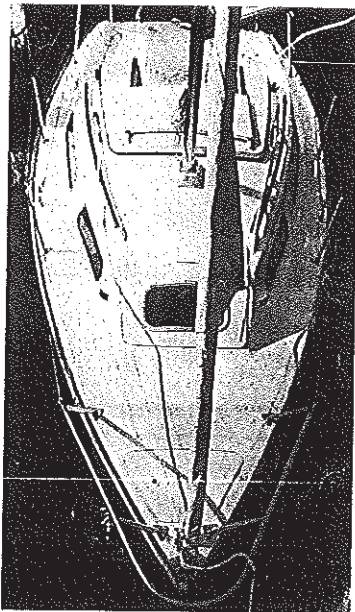
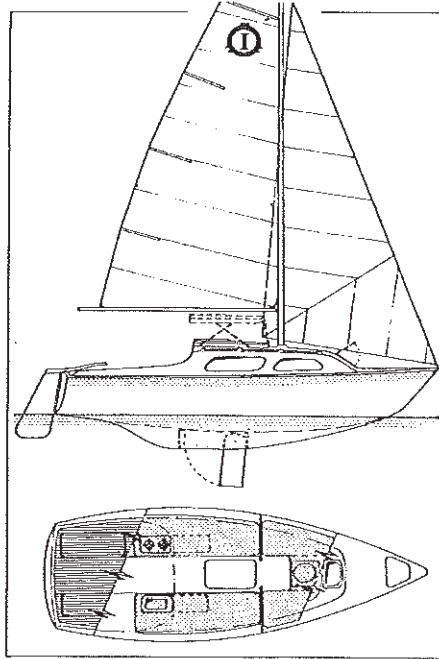


INVESTIGATOR)563

Stats and Calculations

HOME GALLERY REVIEW CRUISING HELMSMAN LINKS STATS EMAIL

LOA
18'6" (5.63m)
LWL 16'4"
Beam 6'11"
Draft
1'9" (board up)
Draft
3'9" (down)
Displacement 1650lb
Ballast
763lb
Working sail
178sqft



Hullspeed 5.4kts
Horsepower 3.0hp
Sail area to displacement (SA/D)
1.3
Capsize ratio 2.3
Ballast ratio 49%
Buoyancy ratio 1.29

Notes to calculations

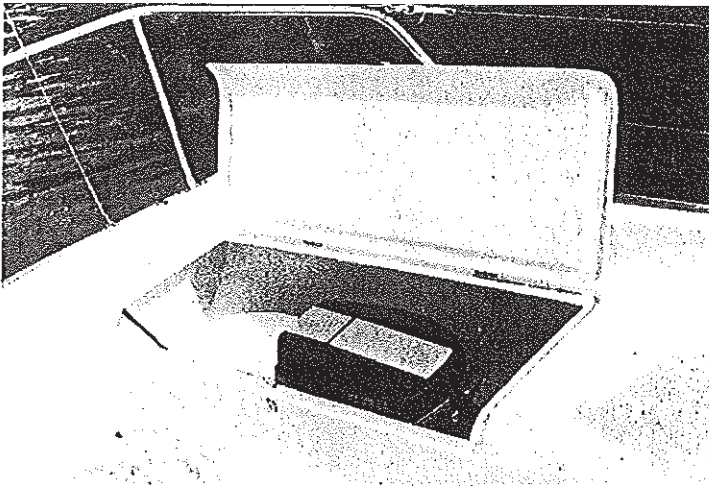
Hullspeed calculated as 1.34 multiplied by the square root of LWL (in ft)

Horsepower refers to the force required to drive the vessel at hullspeed.

Higher figures for *SA/D* are generally associated with racing yachts.

Capsize screening ratios less than 2 imply the vessel is more suitable for offshore work.

Buoyancy ratios greater than one are desirable (based on the requirement for 0.99cu.ft of buoyancy for each 30kg of displacement, plus a 25% safety margin)

**Outboard well**

Early model Investigators had a port-side through-hull opening for an outboard motor. The outboard was simply tilted down when in use, or up when under sail.

Later model Investigators have a transom-mounted auxiliary, with the previous outboard opening converted to a seat/locker.

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Cruising Helmsman



HOME GALLERY REVIEW CRUISING HELMSMAN LINKS STATS EMAIL

Written by Robbie Kirk, a freelance writer and Investigator owner. Reproduced from *Cruising Helmsman*, (March 1999).

When the day came to sail Odette to Queensland's Manly Marina with her new owner I know Ian had mixed feelings. He was so proud of her and she had been a real friend to us through fine weather and the times when we three faced Mother Nature at her angriest. We knew we could count on her to get us there. It was like saying "Bon Voyage" to one of our children. I looked away with tears in my eyes as the new owner took the tiller and steered Odette into a berth at the marina. We had decided to scale down. "You realise you won't be able to sit up in bed and have your morning cuppa?" Ian said, looking concerned. "And you won't have a diesel engine," I countered. "But we can get in close to shore and there's no need for a dinghy," he sighed. All this agonizing was over selling our 25ft Top Hat Odette, and buying a trailer sailer.

Odette was a John Illingworth design and had been our home. She was fitted out for comfort and voyaging. Now our circumstances had changed. We had swallowed the anchor and built a house on Macleay Island in Moreton Bay near Brisbane, so our needs were different. Admittedly the Top Hat did have a huge forward berth with generous headroom. We're not giants - I'm only a squib and Ian is 178cm tall, but in a new boat we would need a double bunk that was long enough for the two of us. The layout would be ideal if it had a couple of settees to laze on when it was raining and we were both below. Not only that, no matter how amorous you are, when the Queensland heat hits one person needs to bail out of the double berth and sleep on the settee for com- fort.

Then there was the question of a galley. What sort of stove would I have? Gas, spirit, or kero? A sink was no problem as I always use a four litre ice cream container to save water. The soft plastic bends to fit the frying pan when washing up. Odette's fridge had been a boon for keeping a beer cold and storing perishables on a cruise, but we would most probably be back on an ice-box in a trailer sailer. We wouldn't have an enclosed head, but we weren't worried about that. And what about a centreboard? Would the case take up too much room down below? Then there was the size of the boat. We had a four-cylinder car and couldn't tow over one tonne. We would have preferred a tilt-trailer to launch the boat off our flat beach. Another justification for selling the Top Hat and going into a trailer sailer was the fact that a lot of money was sitting on the water and not being sufficiently used. Also, with the cyclone season getting closer, being able to tow the boat home and keep it in the backyard was an appealing thought. We mulled over the choice of boats available. We needed something with a shallow draught that we could take into gutters and creeks and wonderful mangrove areas and something that had a good ballast ratio for sailing short distances offshore.

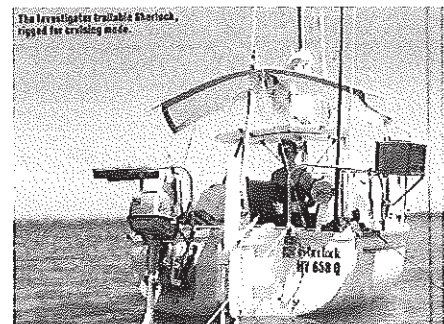


There was a lot to consider before we moved on the change-over. After writing down what we'd miss and what we'd gain and which boats would fit the bill we came up with an Investigator trailer sailer, designed in Sydney by Kevin Shepherd. At 5.63 metres long and with a ballast ratio of 50 percent and a 50cm fixed keel, we felt we could sail in our local bay and still enjoy limited coastal cruising.

The boat we ultimately chose, Sherlock (what a pun!), is perfect for our present needs. On the day of the test sail the wind was light, but we could feel she was a stiff little boat with good canvas and rigging. Her previous owner loved the boat and had kept her and the trailer in immaculate condition. After paying for her and filling out the endless paperwork we couldn't wait to get her out on the bay.

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Since that first tentative sail Sherlock has lived up to our expectations and sails beautifully with about 10 to 20 knots of wind; but she could use a bigger headsail for light airs. One of our early sails put her to the test with a good breeze punctuated by gusts of up to 30 knots. We were on a close reach and flying! It was real dinghy sailing and exhilarating. The difference between sailing a fixed keel yacht and the Investigator is obviously a decrease in power and also that everything happens more quickly, but it only takes a short time to adjust. Hearing the water rush past so close to you and being able to reach over and touch the sea brings out the excitement of sailing.

Everything is a compromise on boats, but the great thing about the Investigator is that the centre board is housed in the keel and this creates more space in the cabin. There is no galley so a barbecue on the starboard rail and a gas bottle with trivet handle the cooking needs. I'll have to learn to cook with heat beads as I'd always used the pressure cooker for an oven on Odette's two-burner spirit stove. We may no longer have a fridge on board, but there's room for an esky behind the toilet - a marine head is installed under the forward berth. There are two settees with small lockers for cutlery, crockery and our silver tea pot. Well, the Captain demands a decent cuppa no matter where he is! The rest of this area

is filled with buoyancy foam. However, the four lockers under the forward berth provide ample space for clothes, towels, food, extra water and tools. Water storage was one of our considerations when scaling down. We store 30 litres of water in plastic bottles under the cockpit. The cockpit lockers are really large and hold another 10 litres of water, fuel, snorkeling and fishing gear and a deep-cycle battery. The Queensland sun can be quite relentless and I was relieved to find a sun awning included with the boat. Odette had a dodger and the 77-watt solar panel above the chook's roost seat at the stern provided shade. We fitted a 20-watt solar panel to Sherlock. There's nothing worse than not being able to play the stereo when we're away for a week or two.

Down below looks very cosy with its arched bulkhead leading to the forward berth and shelves under the sidedeck for navigational charts and tide tables. The blue and white curtains give a simple homely look to the boat that appeals to us. One novelty (for us) was the furler for the headsail. It's great when sailing single handed. She also came with an extra rudder and tiller and a blow up dinghy. The accommodation below is adequate and I'm sure we'll make it very comfortable with a bit of imagination.

The pop-top is a boon, but needs a weatherproof surround with mosquito screens sewn in to make sleeping below more comfortable in rainy weather. Living in a tropical climate is beautiful, but the mosquitoes and sandflies love it too. The last time I sewed a pop-top surround was for our Tropic 520 trailer sailer many years ago and I couldn't get it to fit properly. Of course the pop-top wasn't square and I was nearly beaten until I told Ian, "Get me a bottle of Guinness. Only a drunk could fit this thing properly." Well, it did the trick and the pop-top screen is still used by the present owners!

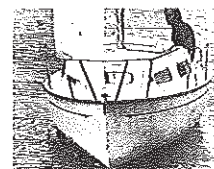
Moreton Bay is a perfect place to sail. The main channels are marked by buoys and beacons, but the areas that dry out at low tide lend themselves to hours of exploring, crabbing, fishing and mucking around the mangroves. A sailor can experience steep seas in the channels when the wind is against the tide. Shallows and sandbanks have to be navigated carefully, but if you do run aground the sea bottom is mainly soft mud or sand. Caution and an awareness of the state of the tide is vital. It's the perfect sailing ground for a trailable yacht. The bay is a marine park and it's not uncommon to see dugongs lazily surfacing after feeding on the sea grass bottom. I was in the dinghy near our mooring when a loud "Pshew" sound frightened the daylight out of me. It was an old dugong we call George who had decided to visit our bay. He was about three feet away from me. Dolphins love to race the bow wave and are a delight to see. They are such friendly, cheeky creatures. Turtles pop their heads up for a look around before plunging below the green water. Migratory birds fly from all over the world to spend time here while the northern hemisphere endures winter.

Also, the whole Moreton Bay area is steeped in Queensland's early European and Aboriginal history. We live on one of four islands known as the Southern Moreton Bay Islands. It's a haven for yachties, with protected bays for moorings and the feeling of serenity that the water and bushland offer. Peel Island, which is five and a half nautical miles from our mooring, was once a leper colony, but is now a Mecca for all sorts of boats. Horseshoe Bay on the southern side of the island has a beautiful sandy beach and it's a perfect place to swim in the clear, clean water. There are often over 200 boats anchored there on a weekend. And yet through the week we may have the place to ourselves. Our special spot is a small bay at the south-eastern end of the island where we rarely meet another boat. We couldn't take Odette in there, but it's perfect for a trailer sailer. We anchor beside the old pioneer stone jetty and snorkel off the wreck of the dredge, Platypus. The little sandy beach is shaded by trees. Wild flowers, a legacy from the lepers' gardens, grow amongst the beach vegetation. This is only one of the many anchorages within a pleasant sail from home and only a short distance to the suburbs of Queensland's capital city, Brisbane.

Parting with Odette and saying good-bye to her at Manly left us feeling sad. I remember Ian and I were silent as we caught the ferry home to Macleay Island. We toasted Odette with a glass of home brew beer then walked out into the backyard and stood looking at Sherlock sitting prettily on her trailer. "You know" Ian said, at last sounding excited, "we're going to have a lot of fun on this little boat. She'll be able to take us to a lot more places apart from the bay. We can do the lakes down south and rivers we haven't even seen yet." "It'll be great, we'll have everything we need," I said. "Only in miniature." Then I couldn't wait for our next sail.

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Review



HOME GALLERY REVIEW CRUISING HELMSMAN LINKS STATS EMAIL

There have always been two major hangups in the trailer-sailer concept. One is the lack of ballast keel to prevent the boat from turning over. The second is the intrusion of the centreboard casing into what is already a fairly small cabin. Not unnaturally, innovations of all kinds have appeared from time to time, in an attempt to get over either or both of these problems. The stubby keel - such as fitted to the Redjacket - was just such an attempt, but while this overcame the two problems it created another in making trailering difficult. And after all, if one has difficulty in trailering a trailer-sailer ... Another attempt to overcome the problems was with bilge keels but this fell down because the performance of the boat deteriorated to a degree that again created new problems as bad as those that were solved. So if the stubby keel and the bilge keel were not the answer it began to look as though the problem was insoluble.

This was the atmosphere in which well known Sydney Designer Kevin Shepherd sat down to design his first trailer-sailer. Convinced that the centreboard casing and risk of capsize had to be eliminated, and knowing that stubby and bilge keels had not provided the answer, he had to open his mind to a completely new concept in looking for an answer. In fact, he found it not in modern, up to date, tank-tested design, but in the yachts of yesteryear. The boats that are now outclassed and often outraced by streamlined modern design, but which can still hold their own against the best in terms of safety, seaworthiness and stability.

Long before adopting the fin keel, which pivots a boat about within her own length, the older yachts were universally fitted with long keels. These had tremendous advantages in keeping the boat steady in a following sea and making her stable and seaworthy. Their only disadvantage was in slowing the speed of her coming about. But by being heavily ballasted, they made the yacht stiff and stable, and because the weight was spread along the length of the long keel, and did not jut downwards beneath the hull, they were of relatively shallow draft. Here Shepherd found one answer - a ballasted keel which would keep the boat upright, yet which was shallow so that she could be trailered.

But such a shallow draft was not sufficient to give the boat windward performance so a centreboard was still necessary. And a centreboard meant the room-consuming casing which chopped the small cabins of trailer-sailers literally in half. The answer to this problem he found in American yachts. The off-shore racing rules in that country permit a boat to increase her draft, and thus windward performance, by lowering a centreboard plate through the fixed keel. Shepherd applied this principle to his long ballast keel, found that the centre-board would fit inside the fixed keel without intruding into the cabin, and there it was - a new concept in trailer-sailers which he named the "Investigator".

To see just how good the designer's ideas were, and whether or not the new concept worked, I took the Investigator Mk 1 for a run down Balmoral Bay and out to Sydney Heads on a shake-down run. The weather was ideal for such a test, ranging from very light breezes (for many boats that perform well in moderate or fresh winds, perform badly in light airs), to gusty Westerly squalls that gave us a chance to really get the feel of this new boat.

But to take things in their right perspective. Firstly, the appearance of this latest addition to the trailer-sailer fleet. She is, as indeed are all Kevin Shepherd's designs, pretty. But pretty! You can have your fancy high performance boats that may outstrip everything in speed, but, look like distorted matchboxes. Most people like a boat to look like a boat. Shepherd has already indicated his preference in this field as designer of the prettiest medium-sized yacht afloat - the Marauder 725. He has carried the same concept into the Investigator, and she is a pretty boat along classic lines.

The hull is standard round bilge with little tumblehome and fair rake at the stem. The entry is fine and clean, and indeed this boat's hull carries much of the Marauder's lines forward, only the broadening of the trailer-sailer transom getting away from the 725 style. The cabin line, too, follows this trend being fairly standard with large windows making the interior light and airy and a wide pop-top hatch which allows good headroom in the hatch-way.

The underwater profile, however, is quite different. Far from standard, the long keel slopes back at a low angle from the forefoot, if, indeed there is a forefoot, for the angle between stem and keel is almost negligible. This permits easy trailering in that the boat literally rolls herself onto the trailer, there being only an insignificant step between the flat of the keel and the rake of the bow. It is in this long sloping area that the 800 lbs of ballast is situated, and through its centre the centreboard plate drops down. Undoubtedly, this is a first class piece of design work incorporating as it does, features of positive righting stability, trailerability, and the recessed centreplate. A number of other interesting design features are to be found in this boat. The transom-hung rudder can be unshipped, reversed and re-shipped to provide a rear crutch for the mast when the boat is on the trailer.

The forward hatch is formed by the opening front window of the cabin a la motor boat style, a good innovation as it gives good light, forward visibility from down below, and through ventilation, a feature many larger boats could copy. The outboard is fitted under the cockpit seat on the port side and is simply pivoted down through a hatch in the hull, so that it never has to be lifted, merely swung up and down.

The moulding of the Investigator is solid. The decks and cabin top have a firm feel when you walk on them, and there is none of the "twanginess" often associated with boats of this size moulded in glass fibre. Except, that is, on the pop-top which is a bit on the light side. However, this would not need to be too heavy, as a common factor among pop-tops on some craft is the hernia that comes with raising it. Non-skid surface handrails and all the usual trimmings come with this boat which is well fitted and rigged. Single lowers and uppers form the shroud rig, with 7/8 forestay and tensionable backstay offering a certain amount of flexibility to the mast. The test boat was fitted with safety rails which, of course, are not standard but which, surprisingly, did not interfere with the operation of the boat as they frequently do on small craft.

<http://www.geocities.com/TheTropics/Lagoon/9150/review.html?200811>

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Down below the lack of centreboard casing makes this a very big little family boat. The four berths make for easy family accommodation, with the two forward bunks concealing a central toilet, either pump-out or suitcase variety. The bunks also house the built-in buoyancy which totals 24 cu.ft in the form of sealed air tanks. Galley and sink are provided for in a slide-out arrangement under the cockpit which means they can be stowed out of the way when sailing is in progress. Inside, this little boat is extremely roomy, light and airy. Apart, as mentioned, from the lack of centreboard casing, which gives her big boat appearance, a unique "oriental" styled bulkhead between the main saloon and forward cabin provides the strength and separation needed at this point without cutting the boat up into small sections.

Together with the forward window, these features enable one to view right through the boat and out onto the foredeck, giving a tremendous feeling of spaciousness. The hatch/window is well secured and sealed to ensure watertightness. A main and jib totaling 17 square metres comprises the rig with the halyards running back to the cockpit so that all sailing operations from hoisting onwards can be carried out from the cockpit position. I found the sail area quite sufficient to move her along nicely in the light stuff, and not over-canvas her in the squalls. But for heavy weather, the boat is fitted with roller reefing so that sail can be taken in quite easily. Winches are not fitted and are not necessary, and the track is mounted right aft out of the way of passengers and crew.

Hard on the wind the Investigator sailed well and pointed up beautifully, although on the test boat the close sheeted jib (on the cabin top) seemed to be back-winding the main, and I would suggest the sheeting points could be eased out to a slightly less acute angle. She responded quickly to main sheet pressure which is necessary in small boats to ensure that they are kept sailing at their best, even through squally conditions such as we encountered. She had only slight tendency towards weather helm, even in the hard squalls, and try as we might, there was no way we could put her gunwale under, so she is not tender and the 50% ballast ratio (the norm for deep-keel yachts) worked well.

Eased off, this little boat really flew through the water. At no time did she give us a moment's worry, handling responsively and riding with good stability through the squalls. I would like to see the tiller hinged as it tended to catch the knees a little when going hard about, and my suggestion to this effect was taken by the builder who intends making this adjustment in future models. Otherwise on or off the wind, she showed no undue tendencies and, as I say, handled like a charm. Dead down-wind is where the long keel showed up and she sailed a line as straight as a die. There was no boom-vang fitted to the test boat but again, this is to be rectified in future versions.

The centreplate has little or no weight in it, and there is no need for the hydraulic or mechanical lifting gear usually associated with boats of this type. A simple light line near the cabin entrance is all that is required to lift the plate and a cam cleat holds it in position. By juggling a little with the centreboard, the performance of the boat can be improved, and this is something that will delight the heart of owners previously used to centreboard dinghies.

Owning and racing one of the Shepherd's Marauder 725's, I was particularly keen to try this little boat, and despite the fact that she has some radical design features, she nevertheless showed Shepherd's touch in her fast sailing and easy handling ability. As a family trailer-sailer she is first class, and that from one who is not over keen on trailer-sailers in general. But this little boat has had a tremendous amount of thought put into her design, and it has all paid off. She is pretty - a delight to the eye - roomy, and a pleasure to handle. Add to that first rate performance, and you must come up with the answer that the Investigator is an ideal little boat for both beginner and enthusiast alike.