

INSARK EXPEDITION 45

The “Insark Expedition 45” is a traditional long-keel semi-displacement motor yacht. However such a description could never fully define this unique custom built trawler yacht with the truly “little ship” feel. Conceptualised by Krasni Sutic, a sail & powerboat owner/operator with more than 40 years experience, his boat, named “Beleza”, has all the essentials of a comfortable long-range cruising vessel.

Krasni, in collaboration with Anton Du Toit of Du Toit Yacht Design in Cape Town, chose aluminium alloy construction thus ensuring superior strength and safety. Insark Marine (Krasni’s company) was to build her following their success with the custom 115 foot aluminium sloop “Snowgoose”. The entire design philosophy is based on the concept of a yacht that could be easily and safely handled by a couple, not only docking and cruising, but also everyday systems and boat maintenance. Krasni and his wife Michelle built her to go charter-cruising in Croatia.

Of paramount consideration after a seaworthy and sea kindly hull form was the necessity of a large interior to accommodate a master stateroom with full queen size bed, adequate locker space and en suite bathroom. Two spacious twin berth cabins with a separate bathroom were also essential and needed to be suitably arranged for extended cruising in complete comfort and privacy. The light maple paneling and cabinetry, large stainless steel portholes and the average 2.1 meter head-room add to the spacious feel of the accommodation area.

After extensive in-depth evaluation, a semi displacement design was developed that resulted in a hull that is capable of comfortable long range cruising at fuel efficient displacement speeds while still offering the option of higher speeds for the occasions that demand them. As a result the “Insark Expedition 45” has a clean entry, generous bow flare to help control spray and efficient chine design together with broad surfaces aft to increase resistance to roll and reduce squat. The full length keel aids tracking and helps protect the two five-bladed “Teinbridge” propellers running securely in shallow tunnels. A large single rudder hung on double bearings on the keel with an additional bearing at the rudder shaft head, was a pre requisite to ensure maximum protection for this vital piece of equipment.

The deckhouse design, with bridge, galley and saloon together in one area provides easy communications amongst the crew, either being on watch, maneuvering in traffic, preparing meals or simply in a tranquil anchorage enjoying the scenery. This ensures both a secure operating environment as well as a very social arrangement. The bridge has direct access to the port side deck by way of a sliding door, providing a quick path for the helmsman to both the bow and aft cockpit areas. Combining the pilothouse and saloon area affords a 360 degree view from the bridge making for easy maneuvering and docking, and the ability to switch on the autopilot and radar guard zone and quickly make a cup of coffee or raid the fridge, while still maintaining

a safe lookout. This open plan as opposed to the more traditional separate pilothouse found on long distance cruisers is a great advantage.

The helm station is neatly arranged with all controls close at hand. The centre of the dash accommodates the Raymarine C120 monitor with the ST 60 Tridata and ST 6002 Autopilot symmetrically on either side. The twin diesels are electronically monitored by port and starboard "Murphy" Powerview L.C.D. screens displaying all relevant engine data as well as affording complete diagnostic capabilities. For complete redundancy the electronic monitors are backed up with "Livorsy" analogue gauges. Just aft of the helm seats is the chart table with AC distribution panel above and DC panel below. On the starboard side of the pilothouse is the L shaped galley. The Corian counter affords ample workspace and incorporates large twin sinks and a four burner gas hob. A full size gas oven, stainless steel 280 litre "Kelvinator" fridge/freezer and sufficient locker storage completes the area. In the saloon the "L" shaped couch is fronted by a coffee table which is raised electrically to form a dinning table for six. To starboard the full length of the saloon, is a cabinet with a wide counter top and ample lockers, as well as a LCD television and the audio/video systems. The large saloon and pilot house windows impart a feeling of light and space, and once the wide aft door is rolled back, the saloon and cockpit form a single sociable area. The entire saloon and pilot house is finished in teak and the sole is solid teak decking with black ebony inlay matching the cockpit deck.

The side decks, 400 mm. wide, are securely protected by high, teak capped bulwarks and sturdy stainless steel guard rails. The clear decks afford unimpaired crew access to the fore deck, whether anchoring or handling bow mooring lines when docking stern-to Mediterranean style. The 30 Kg. self-launching "Delta" anchor stows neatly into the recessed channel on the fore deck. The 100 meters of 10 mm. BBB chain is managed by a 1500 watt stainless steel Mako vertical windlass with capstan operable either by foot switches on the fore deck or from controls at the helm.

Having had both four and six cylinder John Deeres on four previous boats, a pair of John Deere Powertech 6068 SFM 50 producing 224-Kw (300 HP) were the first choice. The exceptionally high torque of these electronic engines facilitates driving five-bladed 710 x 790 mm propellers through Dong – I DMT 707 transmissions with a 2:82:1 reduction. At a cruising speed of 8 knots at 1200 rpm, the two engines consume a total of 12 liters per hour, 1.5 liters per nautical mile. This already incredible fuel economy is still further improved when running on one engine. At 1500 rpm and 8 knots, one engine consuming 10 liters per hour, the 3400 liters of fuel gives the vessel a range of nearly 2700 nautical miles. The John Deere reliability and economy is legendary, but equally important is the extremely smooth and quiet operation throughout the power range. The exhaust system is dry to the engine room ceiling and then water cooled and gravity draining to the transom through a "Primex" fibreglass marine muffler. This ensures that there is no water in the system when the engines are shut down. The advantages of wet versus dry exhaust are debatable,

but the wet system was chosen because it is quieter and cleaner. Soundproofing is further enhanced with 120mm. of acoustic insulation throughout the engine room, resulting in average sound levels of under 57 decibels in the saloon at cruising speed.

Steering is hydraulic utilising a “Marsili” system with a 24 volt 550 watt hydraulic pump and 100 bar hydraulic cylinder. The “Marsili” gear is robust and highly reliable, and coupled to the Raymarine S3 Smartpilot, handles the boat with ease even in large confused seas.

The electrical system is engineered to meet most of the electrical needs by means of the main engines while under way. When at anchor the 6 Kw generator needs to be run only every third day to recharge the battery bank. At this time the generator also provides power for the full size washing machine and separate dryer. The rest of the time 230 volt AC power is supplied from the large battery bank via a 3 Kw. “Victron” inverter/charger. This unit also provides additional capacity if the genset or shore power system is overloaded, and the battery charger uses any excess capacity from the genset or shore power to charge the batteries. This allows for a smaller genset that is kept nicely loaded by the battery charger when other loads are light. The system consists of a 24 volt 600 amp hour Sonnenschein gel cell battery bank. When underway the batteries are charged by a 200 amp “Leece – Neville” alternator on each engine. The alternators are remotely controlled by a pair of “Balmar” max-charge computerized digital charge controllers monitored by a “Balmar Centerfielder” ensuring that both alternators remain in operation if either port or starboard regulator fails.

As the vessel was conceived and designed to be operated and maintained by Krasni and his wife Michelle, several important but unusual features for this size yacht were incorporated. A ” Sidepower” 8Kw. bow-thruster enables easier docking. A central vacuum cleaning system and high pressure water washer makes for easy housekeeping. All the stainless steel is 316L eliminating the necessity for constant polishing. The “Awlgrip” paint finish requires very little attention. The remote controlled electric crane allows for single-handed launching of the tender.

Most importantly, to ensure utmost integrity, construction was under “Rina” supervision for certification to CE category “A” ocean service. A truly BIG little boat.

Krasni, originally from Croatia and Michelle, a Capetonian, have just put “Beleza” on a ship for the Med where they will be cruising – mainly in Croatia.

22 May 2009