***INSERT BOAT NAME***

**Operating & safety manual**

***INSERT BOAT NAME* is equipped to comply with category INSERT NUMBER (1-7) AUSTRALIAN SAILING safety standards**

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# About: BOAT NAME

Design:

Designer:

Manufacturer:

HIN:

Launched:

Owners:

SYC registration: “BOAT NAME”, Sm SAIL NUMBER

State registration:

LOA:

Beam:

Draft:

Displacement:

Engine:

# Crew and visitor briefing

First time crew members and guests are to be briefed on the location of safety equipment, including this manual.

# What’s on board and location

An enlarged print of this diagram is attached to the bulkhead beside the navigation table.

INSERT YACHT’S DIAGRAM WITH SAFETY EQUIPMENT

# Lifebuoy

The lifebuoy is to be positioned on its mounting bracket behind the backstay before the boat leaves the marina, whether intending to sail or simply motoring.

# Life jackets / PFDs

8 x PFDs (with whistle) for use by casual crew and guests are located in the starboard saloon locker.

Regular crew are expected to provide their own compliant PFDs.

PFDs are to be worn:

* during a race for which the race officer has displayed a “Y” code flag
* at night
* when the wind exceeds 20 knots
* when only one person on board
* when navigating a hazard (eg a bar across an entrance)
* at the direction of the skipper
* at any other time at the discretion of the individual concerned

# Throwing line

A throwing line is attached to the steering pedestal:

* securely hold the end of the line which protrudes from the handle section of the container
* throw the container over and beyond the person in the water, which will result in the line unwinding from the inside of the container
* the line will float on the surface of the water
* the skipper will steer the boat so that the line crosses the person in the water allowing the person to grab hold of the line

# Recovery sling

A recovery sling is carried in the starboard side wet-locker which is opposite the head.

With the MOB secured amid ship by rope or the hand of another crew member:

* choose a free running halyard and attach the recovery sling
* run out sufficient halyard to ensure that the sling can be moved freely
* assist the MOB to place the sling around their back and under their arms
* use a winch to lift the MOB aboard

# First aid

First aid supplies and a first aid book are located in the starboard side top locker. The contents of each first aid container is listed on the container lid.

# Fire extinguishers and fire blanket

INSERT BOAT NAME carries three dry powder extinguishers:

* suitable for use on all likely fire sources/fuels
* the extinguishers give off carbon dioxide which will collect in the lower sections of the boat
* ventilation is essential.

Fire extinguisher locations:

* starboard side, beneath the fuel stove
* port side, adjacent to the engine cover and opposite the navigation station
* starboard side, beside the pilot berth and above the engine muffler

Water can be used to extinguish a metho fire but must not be used on electical, oil, petrol or diesel fires.

A fire blanket is carried in the locker under the stove.

# Sea cocks

2 x below-water sea cocks are located in the head and need only be turned on when operating the toilet.

2 x above-water sea cocks are located under each of the sinks.

Wooden plugs are attached to each sea cock to be used in the event of the sea cock failing.

There is no sea cock associated with the engine (the water intake is an integral part of the sail drive unit).

# Buckets suitable for bailing

2 x buckets with lanyards attached, suitable for bailing, are located in the forward hatch.

# VHF radios

The main VHF radio runs through the AM/FM radio

* switch on the “Radios” rocker on the switch board
* turn on both the AM/FM radio and the VHF radio
* on the AM/FM radio, select “Aux”
* on the VHF radio, select the appropriate channel (16 for monitoring, 77 for comms)

A hand held VHF radio is carried at the steering wheel pedestal.

VHF channels

* for emergencies, use channel 16
* for communication with race administrators and other boats, use channel 77 (or as stated in the relevant sailing instructions).

Radio call signs

* This boat “BOAT NAME”
* SYC tower “Sandringham tower”
* SYC start boat “Endeavour 4”

Radio procedure and protocol charts are attached to the underside of the chart table.

# EPIRB

BOAT NAME is equipped with a GPS capable 406 MHz Emergency Position Indicating Radio Beacon (EPIRB) registered with AMSA (Australian Maritime Safety Authority).

To activate:

* the EPIRB is located on the port side, mid-ship, under the side window
* check the operating instructions which are visible beside the EPIRB
* attach the lanyard to a person, the boat or a life raft as appropriate
* ensure the aerial is always vertical to ensure best transmission (the EPIRB will float in the vertical position)
* ensure your body does not cover the beacon

Accidental activation:

* switch the beacon off asap
* contact AMSA on 1800 641 792
* there is no penalty for accidental activation.

# Flares

BOAT NAME carries a set of in-shore flares located in the port side top locker (behind the EPIRB):

* 2 x orange handsmoke, for use in daylight
* 2 x red handflares, for use at night

# Batteries

* Battery #1 is used solely to start the engine
* Battery #2 is for powering all other equipment (radios, lights, navigation)
* Set the battery switch to “Both” when running the engine so as to charge both batteries

# Engine starting and stopping

The instrument panel comprises:

* right side rocker switch – used for engaging and disengaging the ignition
* left side rocker switch – used for warming the glow plugs and testing the alarms
* starter button
* tachometer

To start the motor:

* ensure the gear lever is in neutral
* activate the ignition by pressing down the right side rocker switch (which is to be left in the down position while the engine is running)
* warm the glow plugs by lifting the left side rocker switch for approx. 15 seconds (it will return to the horizontal position)
* press the starter button and release it when the engine starts.

To stop the motor:

* select neutral, reduce the engine revs to idle speed and if possible allow the engine to idle to allow it to cool down
* lift the right side rocker switch and release it when the engine cuts out (the switch will return to the horizontal position)
* the cut-out handle is, effectively, not operational

When under way with engine:

* cruise between 1,500 and 2,100 rpm.

When under way with sails:

* with the engine stopped, select reverse gear to stop the propeller rotating and to collapse the propeller blades

# Engine starting using an auxiliary battery

Using jump leads:

* connect the red jump lead to the +ve terminal of the discharged battery, then to the +ve terminal of the auxiliary battery
* connect the black jump lead to the –ve terminal of the auxiliary battery, then to a good point of contact with the cylinder block, located as far away from the discharged battery as possible (eg an engine mount bracket)
* start the engine and run it at fast idle for approx. 10 minutes
* stop the engine and remove the jump leads in exactly the reverse sequence.

# Fuel

The diesel fuel tank holds 100 litres and is located under the port side quarter berth. The filling point is located on the cockpit floor immediately in front of the steering pedestal. The fuel level is measured by a wooden dip-stick. Refilling the tank is best done using the “jigger”, stored with the tools.

Fuel consumption:

* tank capacity = 100 litres
* engine draws approx. 1½ litres per hour at approx. 1800 to 2000 rpm in flat water
* a full tank = 66 hours at approx. 5.5 knots = 300 NM in flat water
* wave conditions and wind strength will impact fuel consumption

The fuel line which leads from the tank to the engine may develop an air lock if the fuel level is below half-full and the boat is sailed on an extreme heel (refer below for method of bleeding the fuel line).

# Bleeding air from the fuel line

Locate the fuel filter bracket:

* open the vent screw located above the fuel filter bracket
* press the hand pump (it’s a button) located on the fuel filter bracket until fuel with no air bubbles comes out of the vent screw
* keep pumping while closing the vent screw
* pump another 10 strokes
* wipe up the fuel that may have run out
* start the engine and check for leaks around the vent screw

# Water

The water in the on-board water tanks is not drinkable since it is not regularly replaced.

Ensure that there is adequate water for each person for the duration of a voyage (suggest 2 litres per person per day).

#

# Navigation lights

Navigation lights must be displayed from sunset to sunrise and in times of restricted visibility.

When under sail:

* use the tri-colour light (located on the top of the mast)
* if the tri-colour light is out of order, use the side-lights and the stern-light

When under motor, with or without sails:

* the boat is considered to be a power boat and must display lights accordingly
* the tri-colour light must not be used
* use the side-lights and the all round white light (ie the anchor light located on the top of the mast)

# Fixing washboards

Where sea conditions are extreme, the lower washboard should be secured in place:

* insert the lower washboard
* attach a sail tie to the pad eye located on the cockpit step leading into the companionway
* run the sail tie over the washboard and attach it to the top step of the companionway steps.

# Emergency steering

An emergency tiller will be carried in waters where a rescue tow is not likely to be available. When on board, it is located in the wet locker (opposite the head)

The emergency tiller is fitted as follows:

* remove the deck-screw over the rudder post, which is located immediately behind the steering pedestal (using the key which is attached to the emergency tiller)
* fit the emergency tiller directly onto the extension of the rudder post.

If the rudder becomes inoperable, use the spinnaker pole as a sweep oar. A plywood hatch cover may be attached to the spinnaker pole to act as an oar blade.

# Instruments

The B&G display is powered by turning on the B&G rocker on the switchboard. The following information can be selected via the port side button on the display:

* boat speed
* TWA (true wind angle relative to the boat)
* AWA (apparent wind angle relative to the boat)
* TWS (true wind speed)
* AWS (apparent wind speed)
* water depth below the keel
* sea water temperature
* race timer
* distance (trip log)

The TackTick fluxgate compass is solar powered. It provides:

* heading
* degrees being lifted or headed
* race timer

# MOB procedure

In the event of a person falling overboard:

*Immediate actions:*

* shout “man overboard”
* stop the boat immediately
	+ up wind – luff the boat
	+ down wind – luff the boat into a forced broach
* throw the life buoy to the MOB
* allocate a crew member to continually point to the MOB
* allocate a crew member to press the MOB button on the GPS and send a distress alert on the radio

*Prepare the boat*

* lower the headsail or spinnaker
* prepare buoyancy and the throwing line
* clear all ropes from the water and start the engine

*Approach*

* the angle of approach should be a close reach so that the sails can be powered and depowered
* throw the heaving line to the MOB and anything else that is buoyant (eg cushions)
* slowly approach the MOB from leeward, aiming to pick up the MOB on the windward side (or at the stern if there are no waves)
* get a line or sling around the MOB and get them aboard.

# Communicating injuries

The marked-up diagrams of the human body (attached) should be used when communicating injuries to medical professionals:

* when describing a region of pain, quote the corresponding number or letter on the chart
* a clear description will help the doctor to diagnose the injury.

# Assisting a person in a life threatening situation

The Emergency Reference Card (attached) is a useful aid to assist a person in a life threatening situation (eg suffering a heart attack or stroke)

# Leaving the boat / Locking up

Remember

*Sea cocks …. batteries …. hatches*