



**SURF LIFE SAVING AUSTRALIA
POLICY STATEMENT
THE MANUFACTURE OF CLASS 1
INFLATABLE RESCUE BOATS**

**POLICY
NUMBER
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Class 1 – Model – Soft Hull

TOPIC	INDEX	PAGE
IRB Drawings		2
Inflatable Rescue Boat Models and Classifications		3
Class 1 Soft Hull – Inflatable Rescue Boats		4
General		4
Drawings		4
Hull		5
Floor Decking		6
Transom		8
Accessory Bag		9
Rescue Tube and Tow Rope		9
The Boat		9
Accessories		10
Warranty		11
Measuring Jig		11

IRB Drawings

The drawings below can be found on the SLSA website www.slsa.com.au on the SLSA policies page.

IRB/C1-1 _C	General Arrangement Class 1-IRB Side Elevation and Section.
IRB/C1-2 _C	General Arrangement Class 1-IRB Plan.
IRB/C1-3 _C	Stern Details.
IRB/C1-4 _A	Weatherproof Bags.
IRB/C1-5 _C	Detail of Re-righting Rope and Pouch.
IRB/C1-6 _C	General Arrangement Crew Hand Grips and Foot Straps.
IRB/C1-7 _C	Detail of Two Piece Hinged Floor.
IRB/C1-8 _C	20<25 Litre Capacity Flexible Fuel Tanks
IRB/C1-9 _C	Detail of Motor Safety Cable.
IRB/C1-10 _B	Detail of Reflective Tape Layout.
IRB/C1-11 _A	Detail of Optional "V" Planing Strake.
IRB/C1-12 _B	Detail of Mark .1. Motor Bracket Wearing Plate.
IRB/C1-12.1 _B	Detail of Mark .2. Motor Bracket Wearing Plate.
IRB/C1-13 _A	Permissible IRB Signage.
IRB/C1-14	General Arrangement Paddle and Holders.
IRB/C1-15 _A	General Arrangement Rescue Tube Holder.
IRB/C1-16 _B	General Arrangement Tow Rope and Tow Rope Holder.
IRB/C1-17 _A	General Arrangement Foot Strap Locations.
IRB/C1-18 _A	Detail for Securing Fuel Cell to Floor

Please also refer to Policy Statement 1.6 New and Modified Equipment Policy which contains information on the procedure for the Introduction of New or Modified SLSA Rescue Equipment

The IRB drawings stated above are to be used as a guide for the manufacturing of IRB's. Detailed specifications of each model of IRB will be required to be supplied, at the expense of the manufacturer, to SLSA to be used for IRB inspection process.

INFLATABLE RESCUE BOAT MODELS AND CLASSIFICATIONS

This specification covers a series of models of Inflatable Rescue Boats from various manufacturers. As they become "Approved Surf Rescue Craft" each model will be categorised.

The appropriate documentation required by the state waterway authority i.e. Positive Flotation Certificate, must be supplied by the manufacturer and delivered with the craft.

The SLSA number shall be coded as follows:

TYPE:	- IRB	= 1
CLASS:	- Class 1 (Soft Hull)	= 1
	- Class 2 (Rigid Hull)	= 2
	- Class 3 (Cat Hull)	= 3
MAKE:	- ZODIAC	= Z
	- ACHILLES	= AC
	- ARANCIA	= AR
	- COBIA	= C*
	- GEMINI	= G
	- MID COAST MARINE	= M**
	- OTHERS	= Will be coded as approved
	<small>* Cobia code changed to C as of 1-12-06 - formerly coded as IR.</small>	
	<small>** Mid Coast Marine added as an approved manufacturer 1-1-2007</small>	
NUMBER:	- NUMERALS	= The running number of the particular make approved provided by SLSA
STATE:	- State where IRB was inspected and approved	
	- NSW	= N
	- QLD	= Q
	- VIC	= V
	- SA	= S
	- WA	= W
	- TAS	= T
	- NT	= NT
DATE	- Date inspected	
EXAMPLE	- SLSA No. 1/ 1AC/15N (IRB/CLASS 1[soft hull], ACHILLES/No 15 approved, NSW)	

APPROVED SURF RESCUE IRB'S - MANUFACTURERS/SUPPLIERS

Manufacturers of approved SLSA IRB's are required to sign an agreement with SLSA prior to the commencement of supply to SLSA customers. Items within the agreement include the following:

- SLSA inspections and approval plate fixing
- Agent/Service facilities in each State
- Company identification on SLSA IRB's
- Warranty expectations
- Manufacturer/Supplier/Agent responsibilities

CLASS 1 SOFT HULL – INFLATABLE RESCUE BOATS

General

The following covers a series of Inflatable Rescue Boat models grouped together and categorised as Class 1.

Models covered are the fully inflatable type ranging in size from a minimum overall length of 3.75 metres to a maximum overall length of 3.9 metres ($\pm 5\%$ tolerance) and a minimum overall width of 1.6 metres and maximum overall width of 1.83 metres, incorporating a pontoon having at least three (3) separate inflatable buoyancy compartments and a separate inflatable keelson.

Class 1 Inflatable Rescue Boats shall fully comply with the requirements of the International Organisation for Standardisation - Code ISO - 6185 -3 Inflatable Boats.

Alternate features to those detailed in this specification and drawings will only be permitted if approved in writing by Surf Life Saving Australia. Manufacturers who wish to offer alternate features shall refer to SLSA Policy 1.6 – New & Modified Equipment which details the methods to be adopted to obtain SLSA approval.

Drawings

The following drawings shall be used as a guide in conjunction with and form part of this specification. The measurements shown on the drawings are in millimetres.

IRB/C1-1 _C	General Arrangement Class 1-IRB Side Elevation and Section.
IRB/C1-2 _C	General Arrangement Class 1-IRB Plan.
IRB/C1-3 _C	Stern Details.
IRB/C1-4 _A	Weatherproof Bags.
IRB/C1-5 _C	Detail of Re-righting Rope and Pouch.
IRB/C1-6 _C	General Arrangement Crew Hand Grips and Foot Straps.
IRB/C1-7 _C	Detail of Two Piece Hinged Floor.
IRB/C1-8 _C	20<25 Litre Capacity Flexible Fuel Tanks
IRB/C1-9 _C	Detail of Motor Safety Cable.
IRB/C1-10 _B	Detail of Reflective Tape Layout.
IRB/C1-11 _A	Detail of Optional “V” Planing Strake.
IRB/C1-12 _B	Detail of Mark .1. Motor Bracket Wearing Plate.
IRB/C1-12.1 _B	Detail of Mark .2. Motor Bracket Wearing Plate.
IRB/C1-13 _A	Permissible IRB Signage.
IRB/C1-14	General Arrangement Paddle and Holders.
IRB/C1-15 _A	General Arrangement Rescue Tube Holder.
IRB/C1-16 _B	General Arrangement Tow Rope and Tow Rope Holder.
IRB/C1-17 _A	General Arrangement Foot Strap Locations.
IRB/C1-18 _A	Detail for Securing Fuel Cell to Floor

Hull

- i. The hull of the inflatable rescue boat shall incorporate a pontoon, having at least three (3) separate inflatable buoyancy tube compartments in sequence around the perimeter, sponson to sponson.
- ii. The inflatable pontoon shall be a minimum diameter of 430mm and a maximum diameter of 475mm and shall be shaped to a conventional bow, (ie: one that comes to a point and not that of a barge or wedge shape) and extend a minimum of 300mm aft of the transom before tapering to a cone.
- iii. The internal dimensions of the inflatable rescue boat shall be a minimum of 1.8 metres in length from the spray dodger to the transom and a minimum width of 0.725 metres between any point of the starboard and port pontoons. These dimensions are intended to and must allow for sufficient internal floor area to enable rescue breathing to be performed on an outstretched (175cm tall) adult patient.
- iv. The boat shall be fabricated from a durable, impervious material, and shall be sun, oil and petrol resistant, ie, polyester/nylon based material, 75 percent hypalon (outer layer)/neoprene or similar (inner layer). NB: PVC based materials are not acceptable. The pontoon colour shall be air sea rescue red/orange. The hull colour shall be the same as the pontoons, or as an alternative rescue yellow. The minimum grade material used throughout the boat shall be 840 denier for nylon and 1100 decitex polyester base cloth.
- v. The hull shall incorporate a separate inflatable compartment (keelson) in addition to the three buoyancy tube compartments, the inflatable keelson shall incorporate an additional wearing strip 100mm wide on the top of the keelson for its full length to prevent abrasion from the floor.
- vi. The bow of the boat shall be fitted with a spray dodger. Pontoons shall be fitted with chafing patches at crewperson and driver seat positions, to prevent wear on actual pontoons. The drivers patch shall extend aft to the transom to prevent wear from the motor handle.
- vii. The underside of the keel shall be fitted with a full length chafing strip. The pontoons shall have chafing pads fitted to the underside of the rear.
- viii. "V" strakes (strips) of form rubber mouldings may be fitted as an option to the bottom of the pontoons and hull generally as shown on Drawing No. IRB/C1-11_A.
- ix. A heavy duty sacrificial reinforcing strip shall be fitted along the full length of the pontoons and transom, internally, where the floor sections make contact with the pontoons and the transom, to retard abrasions of the pontoons and the hull by the floor. This reinforcing fabric shall be at least double the thickness of the hull fabric and may be achieved by two normal layers which shall extend all the way around the inside of the boat.
- x. The top of each pontoon shall be fitted with an anti hogging strip extending from the aft of the pontoon to the start of the spray dodger at the bow. The

anti hogging strip shall incorporate stainless steel eyelet holes for the life lines. The life lines of 12mm synthetic soft nylon rope shall extend the full length of the anti hogging strip. The life lines shall be fixed through the eyelets so that each loop will not slip. A minimum of 6 loops shall be incorporated along each anti hogging strip. The anti hogging strip, comprising of a lacing cuff, shall be offset to the outside of the boat diametrically opposite to the line where the pontoon is joined to the hull.

- xi. Provide three fuel line loops along the port pontoon just above floor level for securing the flexible fuel line. Each loop shall be 75mm in diameter, 12mm wide by 2mm nylon webbing (marine grade). Each loop shall be stitched and glued to a separate patch then bonded to the boat.
- xii. The pontoons shall be fitted with three hand grips, one for the driver and one for a patient on the port pontoon, and one for the crewperson on the starboard pontoon, and shall be of a soft type. Provide two rubber moulded lifting handles fore and aft on both the port and starboard side of the boat attached no lower than the centre line of the pontoon. In addition, provide a lifting handle on the bow of the boat so that when it is lifted the handle does not squash the hand.
- xiii. The valves for inflating each compartment of the pontoons and keelson shall incorporate a feature such that the non return butterfly section of each valve can be easily replaced by hand without the use of tools and without damage to the pontoon or keelson. Valves which require the assembly to be unstuck from the pontoon are not acceptable.
- xiv. Each pontoon valve shall be recessed (flush mounted) and located clear of the driver and crewperson. The valves for the two main pontoons shall be located aft of the transom and the valve for the bow pontoon shall be located at the bow on the port side under the spray dodger. Each valve shall be fitted with an air tight cap complete with security cord.

Floor Deckings

The floor deck shall generally incorporate the features depicted on Drawings No. IRB/C1-7_C

“Detail of Two Piece Hinged Floor”.

- i. The floor deck shall be of foam sandwich reinforced fibreglass construction comprising two or three sections (forward and aft) joined together with an approved fabric hinge such that the floor deck can be easily inserted into the boat and removed. The floor shall extend from the transom to the bow of the boat and shall be shaped and curved at the bow to form a neat fit without the necessity of a thrust board. All sharp edges shall be removed. The edges of the floor may have a strip of hypalon fabric glued to them by the manufacturer or their approved agent, to prevent wearing.
- ii. The deck shall be fitted with an approved non slip cushion matting (EVA foam 13mm – 165 - 195kg m³). The non slip matting shall extend over the whole main deck area to within 50mm of the sides and within 100mm of the transom. As an option the matting may be fitted to the bow section of the

floor. Whilst the main section of the matting may be grooved to aid the “non slip” feature, the bow section of the matting shall not be grooved. The matting shall be a rescue red, rescue orange, or rescue yellow in colour.

- iii. Each floor section shall incorporate a minimum 840 denier nylon or 1100 decitex polyester reinforced hypalon fabric two way hinging system for connecting the two sections of floor together and allowing the floor to be easily inserted and removed.
- iv. The floor shall be fitted with three non adjustable, or adjustable, foot straps (which may be covered with 3mm maximum neoprene padding similar to windsurfer footstraps), one for the driver and two for the crewperson. All screws and “T nut” fixings shall be stainless steel and have no sharp protruding edges.
- v. The floor for the bow shall be fitted with silver (white) polyethylene rope 6mm in diameter, complete with stainless steel 70mm long snag-free snap hook, for holding the flexible fuel cell in four separate positions, as shown in detail on Drawing No. IRB/C1-18_A, “Detail for Securing Fuel Cell to Floor”. The selected fuel cell shall be secured in its correct position and at least 75mm forward and clear of the crewperson’s starboard foot strap.
- vi. The following materials and method of construction should be utilised in the fabrication of the floor deck. Other forms of fabrication will be considered but must incorporate the single two way hinge principle and the manufacturer will be required to submit a prototype for testing and evaluation as per SLSA Policy for the Introduction of New or Modified Equipment, unless already approved.
- vii. Materials
 - a. 600 grams/m² woven rovings
 - b. 300 grams/m² chop strand mat
 - c. 25mm thick H-80 Divinycell closed cell foam or equivalent
 - d. Polyester Resin
 - e. Coloured pigment - bright yellow
- viii. Construction
 - a. The 25mm thick H-80 Divinycell closed cell foam sheet, or equivalent, shall be cut to size and shape. The sides and edges shall incorporate one layer of chop strand matt covered by a layer of woven rovings fixed to the foam by a thick layer of bright yellow colour pigmented resin ensuring all air bubbles and excess resin are removed.
 - b. All edges shall be sanded smooth.
 - c. Where grid cut block closed cell foam is used; solid closed cell foam panels shall be used surrounding all holes and where the footstraps are fixed.
 - d. The board shall incorporate the necessary front hinge assembly, and foot straps foot block as required.
- ix. All work shall be carried out by a skilled tradesperson.

Transom

- i. The transom shall be a minimum thickness of 36mm of one laminate and of minimum strength equivalent to 36mm thick marine ply, shaped to the pontoons and providing a centre height of 380mm to cater for a standard 25-30hp short shaft outboard motor.
- ii. The transom shall have extra capping with a minimum strength equal to the material of the boat, on the top side where the transom and pontoons meet.
- iii. Two eye bolts with an internal eye diameter of 25mm shall be bolted through the transom. Each bolt shall be 8mm diameter and complete with washer and secured with either loctite (or similar) on bolt type or nyloc nut with not more than one thread protruding beyond the nut. All components shall be stainless steel/chrome plated brass.
- iv. A "Motor Safety Cable" shall be supplied as shown on Drawing No. IRB/C1-9_C. The cable must be flexible stainless steel of 4mm in diameter, PVC, or rubber sleeved, complete with a 70mm stainless steel snag free snap hook at one end and a "D" shackle at the other end. The safety cable shall be 1000mm overall length with a 25mm eye on each end. The cable shall completely wrap around the motor shaft so that it can be clipped back onto itself and shackled to the port side eye bolt. The PVC or rubber sleeve shall encapsulate the crimped cable joint as well as the cable.
- v. The transom must be fitted with an approved "Motor Bracket Wearing Plate" as shown in detail on Drawing No.'s IRB/C1-12_B and IRB/C1-12.1_B. The inner face shall have a 5mm minimum lip to prevent the motor clamps from accidentally slipping off the transom. The wearing plate shall be of one piece configuration (5mm minimum thickness), allowing it to be adjustable in height as per the manufacturers operational instructions. All fixings shall be stainless steel.
- vi. The transom shall incorporate two 60mm x 100mm self bailers (non return drainage ports) to be located just above the floor level for rapid release of a heavy intake of water. Two additional 25mm diameter self bailers shall be provided below the floor fitted with a butterfly/flap device to prevent water returning into the boat.
- vii. Where the floor board meets the transom and transom baton, a 5mm thick sacrificial wear pad shall be fitted to avoid the floor wearing into the transom or baton, as shown on Drawing No. IRB/C1-7_C.
- viii. The transom baton (varnished marine grade softwood) shall be fitted with a minimum of three 6mm hex head bolts fitted through the transom and nylock nuts and washers. All bolt heads, nuts and washers shall be stainless steel.

Accessory Bags

- i. One accessory bag 500mm long, 150mm wide and 250mm high, as shown on Drawing No. IRB/C1-4_A, shall be supplied with the boat. The bag shall be secured in the bow on the starboard pontoon by five reinforced webbing tie lines which are sewn into the bag. The loops for the tie lines shall be glued to a separate patch then bonded to the boat.
- ii. One tool bag 380mm long, 100mm wide and 150mm high, as shown on Drawing No. IRB/C1-4_A, shall be supplied with the boat for housing a small container of tools. The bag shall be fixed to the inner face of the transom by two stainless steel screws and large diameter washers.
- iii. The bags shall weatherproof and manufactured from the same material as the boat.

Rescue Tube and Tow Rope Holders

On the starboard pontoon above the paddle (but not on top of the pontoon), two quick release velcro straps shall be attached for the purpose of securing the rescue tube. The straps shall be attached to the boat through two 'sleeves' individually patched and bonded to allow unserviceable straps to be replaced without ungluing the old and regluing the new straps to the pontoon. Below the paddle two additional straps complete with quick release velcro binding shall be similarly attached to the pontoon for securing the 25 metre long tow rope; all as shown in detail on Drawing No.'s IRB/C1-1_C, IRB/C1-2_C, IRB/C1-15_A and IRB/C1-16_B.

The Boat

- i. The boat shall be designed to suit a 25-30hp rated outboard motor and be capable of planing whilst carrying a minimum of four persons each with an average weight of 75kg.
- ii. The maximum weight of the boat excluding outboard motor and fuel cell shall be 80kg.
- iii. The two paddles shall be secured on the inside face of each pontoon with "quick release" straps in a safe and secure manner, as shown on Drawing No. IRB/C1-14, so they don't become dislodged during operation in the surf but are readily accessible.
- iv. The bow of the boat shall incorporate a crewperson's bow rope, complete with standard synthetic ski-towing handle, as shown on Drawing No. IRB/C1-2c. The rope shall be 10mm to 12mm in diameter, soft synthetic nylon rope incorporating a minimum of four 'figure eight' knots (for additional hand grips). The rope shall be spliced to a reinforced patch and 'D' ring on the bow; the complete assembly shall be capable of continually withstanding a pull of 4.0kN in the forward and reverse direction. (This rope is also used for attaching a tow line for towing other craft.)
- v. The re-righting rope shall be a silver (white) polyethylene rope 6mm in diameter fixed to the starboard pontoon and made to a length capable of re-

righting the boat with one or two people. The rope shall be housed in a pouch complete with “D” ring and be glued to the side of the boat. An arrow 100mm in length, of a bright contrasting colour fabric (eg: yellow) to the pontoons, shall be glued on the underside of the starboard pontoon clearly showing the location of the re-righting pouch when the craft is upside down. The pouch shall be located so that the rope cannot reach the propeller. The pouch, rope and re-righting handle shall be manufactured generally as shown in detail on Drawing No. IRB/C1-5C.

The port and starboard sides of the pontoons shall have the words “SURF RESCUE” sign written in 150mm high white lettering. The appropriate State Government Maritime Registration Number shall be sign written in the required location. Additional club and sponsor signage may be incorporated on the boat but shall be limited in area to ensure that the visual integrity of the “SURF RESCUE” is maintained; all as shown in detail on Drawing No. IRB/C1-13_A - “Permissible I.R.B. Signage”. All signage paintwork shall incorporate a base paint and pigmentation that is compatible with the Hypalon skin of the pontoons and spray dodger.

- vi. The boat shall incorporate retro-reflective adhesive patches in the positions shown on Drawing No. IRB/C1-10_B - “Detail of Reflective Tape Layout”. The patches shall comply with Australian Government Department of Transport Marine Notice 14/1980 dated 14th May 1980. 3150 Scotchlite SOLAS grade high intensity reflective flexible sheeting currently meets this requirement. The patches shall be fixed to the boat in accordance with the manufacturer’s recommendations.
- vii. A stainless steel diver’s knife and sheath shall be fitted to the port of the transom’s internal face, as shown on Drawing No. IRB/C1-3_C. It shall have a rounded tip and all fixings shall be stainless steel.
- viii. All timberwork shall be finished in an approved marine varnish or two pack epoxy paint.
- ix. All screws and “D” rings shall be stainless steel.

ACCESSORIES

The boat shall be supplied complete with the following extras:

- i. Accessory bag
- ii. Tool Bag
- iii. Two paddles
- iv. Diver’s knife and sheath
- v. Foot or hand pump and flexible hose connection
- iv. Pressure gauge marked to show correct inflation
- v. Motor safety cable
- vi. Emergency repair kit with instructions
- vii. Manufacturers Service Manual
- viii. Tow Rope(optional)
- ix. Flexible fuel cell (optional)

WARRANTY

Manufacturers warranty from the date of sale/purchase shall be a minimum:

- i. Pontoons - 5 years against faulty materials and workmanship
- ii. Hull - 1 year against faulty materials and workmanship
- iii. Transom - 1 year against faulty materials and workmanship
- iv. Fittings - 1 year against faulty materials and workmanship
- v. Floorboard - 1 year against faulty materials and workmanship

MEASURING JIG

- i. The Manufacturer shall provide a “V” shaped measuring jig incorporating minimum and maximum ($\pm 5\%$ tolerance) measurements to enable the National IRB Inspector to check the IRB for width and “V” splay depth at a location set back from the bow at the join where the pontoons change from angle to straight, immediately adjacent to the crew handles.
- ii. The Manufacturer shall provide the jig and set of measurements for approval prior to manufacture of the IRB, to enable the following to be measured at the set location:
 - a) Width of boat $\pm 5\%$
 - b) Width of boat where hull joins pontoon $\pm 5\%$
 - c) Diameter of pontoon $\pm 5\%$
 - d) Depth of keel from underside of pontoon $\pm 5\%$
- iii. The IRB shall be measured with the IRB fully inflated to the manufacturer's recommended correct air pressure.