



**SURF LIFE SAVING AUSTRALIA
POLICY STATEMENT
THE MANUFACTURE OF CLASS 2
INFLATABLE RESCUE BOATS**

**POLICY
NUMBER
4.2.2
JULY
2007**

Class 2 – Model – Rigid Hull

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Attachment – 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	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
IRB/C2-1 _B	General Arrangement Class 2-Rigid Hull IRB.

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*
	- 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/ 2AC/15N (IRB/CLASS 2[rigid 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 2 RIGID HULL - INFLATABLE RESCUE BOATS

GENERAL

The following covers a series of Rigid Hull Inflatable Rescue Boat models grouped together and categorised as Class 2.

It covers models of Rigid Hull Inflatable Rescue Boats ranging in size from a minimum overall length of 3.75 metres and 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 an inflatable pontoon having at least three (3) separate inflatable buoyancy compartments bonded to a rigid hull.

The inflatable parts of the Class 2 Rigid Hull Inflatable Rescue Boats shall 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.

Except for the rigid hull, transom and deck, the boat shall incorporate all the features, equipment and accessories specified for a Class 1 boat.

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	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.
IRB/C2-1 _B	General Arrangement Class 2-Rigid Hull IRB.

CONSTRUCTION

- i. The following materials and method of construction should be utilised in the fabrication of the hull. Other forms of fabrication will be considered, however, the manufacturer will be required to submit a prototype for evaluation as per SLSA Experimental Guidelines.
- ii. The work shall be carried out by expert trade persons who are fully conversant with the techniques utilised in high quality fibreglass reinforced marine construction.
- iii. The underside of the hull shall have a bright yellow gelcoat finish and shall incorporate a 70mm wide hyperlon rubber, or similar product, wearing strip for the full length of the hull as shown in Drawing No. IRB/C2-1_B.
- iv. Hull lay up.
 - a) One layer of bright yellow gelcoat.
 - b) One layer of 600gm/m² chopstrand mat.
 - c) One layer of 600gm/m² chopstrand mat 200mm wide along the centre for the full length of keel.
 - d) One layer of 225gm/m² chopstrand mat.
 - e) One layer of 12mm thick H-80 Divinycell closed cell foam or equivalent.
 - f) One layer of 450gm/m² chopstrand mat.
 - g) One layer of 300gm/m² woven rovings.
- v. The hull, deck and transom shall be laid up in moulds using resins and shall incorporate the following features to achieve the minimum required strength and memory retention:
- vi. The rigid hull shall be moderate "V" shaped and designed for the fitting of a standard short shaft outboard motor having a rating of 25-30hp and shall be capable of planing whilst carrying a minimum capacity of four (4) persons each of an average weight of 75kg.
- vii. The hull shall incorporate soft rounded lines to minimise the risk of injury when involved in active surf rescue operations.
- viii. The stem of the bow shall have a minimum radius of 10mm.
- ix. Where planing strakes are utilised the edges shall incorporate a minimum radius of 1.5mm.
- x. The weight of the complete boat minus the fuel cell and the outboard motor shall not exceed 90kg.

- xi. The rigid hull and floor deck shall be of foam sandwich reinforced fibreglass construction, or other approved reinforced rigid construction.

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 expired air resuscitation 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 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.
- vi. "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.
- vii. 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.
- viii. 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.

- ix. 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.
- x. The valves for inflating each compartment of the pontoons and butterfly section of each valve can be easily replaced by hand without the use of tools and without damage to the pontoon or keelson shall incorporate a feature such that the non return keelson. Valves which require the assembly to be unstuck from the pontoon are not acceptable.
- xi. 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.

KEEL

Full length spline between hull and deck, comprising 20mm thick H-80 Divinycell closed cell foam, or equivalent, covered with 300gm/m² woven rovings each side.

DECK

- i. 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 deck. 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.
- ii. 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.
- iii. Four (4) ‘D’ ring patches or four (4) recessed fixing points, as shown on Drawing No. IRB/C1-18_A shall be incorporated in the bow section of the deck each complete with 6mm diameter silver (white) polyethelene rope and stainless steel 70mm long snag-free snap hook for securing the selected fuel tank in its correct position, and at least 75mm forward and clear of the crewperson’s starboard footstrap.
- iv. The deck, stern and pontoon mouldings shall have a bright yellow finish. The deck shall incorporate marine plywood or hardwood inserts at the positions of footstraps for screw fixing.

- v. Deck Lay up
 - a) One layer bright yellow gelcoat.
 - b) One layer of 600gm/m² chopstrand mat.
 - c) One layer of 20mm thick H-80 Divinycell closed cell foam or equivalent.
 - d) One layer of 450gm/m² chopstrand mat.
 - e) One layer of 300gm/m² woven rovings.
- vi. 20mm thick marine plywood plates shall be moulded in at the position of each footstrap.
- vii. Two crewperson's footstraps and one driver's footstrap shall be screwed fixed to the deck using stainless steel 4mm diameter round head screws and 25mm diameter washers.

TRANSOM

- i. The transom shall be a minimum thickness of 40mm, shaped to the pontoons and providing a centre height of 380mm to cater for a standard 25-30hp short shaft outboard motor.
- ii. Transom Lay up
 - a) Minimum thickness 40mm.
 - b) Three layers of 600gm/m² chopstrand mat.
 - c) One layer of 16mm thick marine ply.
 - d) One layer of 600gm/m² chopstrand mat.
 - e) One layer of 16mm thick marine ply.
 - f) Two layers of 600gm/m² chopstrand mat.
 - g) One layer of 600gm/m² woven rovings.
 - h) One layer of 600gm/m² chopstrand mat
 - i) The whole to be finished in bright yellow gelcoat
- iii. 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.
- iv. Two eye bolts with an internal eye diameter of 25mm shall be bolted through the transom. Each bolt shall be of 8mm diameter and complete with washer and secured by 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.

- v. 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.
- vi. 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. The transom of the boat shall incorporate two (2) 60mm x 100mm self bailers (non - return drainage ports) at deck level for rapid release of a heavy intake of water. The transom shall incorporate eye bolts, one piece adjustable motor plate and motor safety cable as specified within Class 1 IRB’s - Transom. Removable drain plugs shall be fitted below the deck level to allow any water to be drained from the underfloor space.

JOINS

- i. All joins shall be constructed using resin saturated fibreglass mat, filled resins such as talc. Q-cells or micro balloons are not acceptable. The hull, deck, transom and pontoon mouldings shall be firmly joined together to form a single rigid hull. Where necessary, additional fibreglass reinforcing shall be used to provide the additional strength required to avoid premature failure of the hull when subjected to large surf conditions and in the event of capsizing.
- ii. The pontoons shall be bonded to the hull with an approved tropical proof adhesive similar to SC2000. In addition, 100mm wide strips of pontoon fabric shall be bonded along the full length of the pontoons internally and externally to provide a 50mm wide overlap between the hull and the pontoons. Additional strip reinforcing shall be applied around the join between the transom and the pontoons.

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 90kg.
- 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/C1-2_C. The rope shall be 10 - 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/C1-5_C.
- vi. 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.
- vii. 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.
- viii. 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.
- ix. All timberwork shall be finished in an approved marine varnish or two pack epoxy paint.
- x. 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.