



# Surf Life Saving Australia – Circular

February 2009

## Powercraft Manual Review

<b>Document id</b> 59/08-09	<b>Audience</b> Education Officers/ Directors Powercraft Training and Assessment Personnel. Club Powercraft Captains Interested Members
<b>Department</b> Education	

<p><b>Summary</b>          A review of the SLSA Powercraft Manual has commenced and interested members are invited to supply comment on the direction of planned changes to the manual outlined in this circular.</p>
<p><b>Action</b></p> <ul style="list-style-type: none"> <li>Interested personnel to supply feedback through the improvement request portal on the SLSA website by Monday 2<sup>nd</sup> March 2009</li> </ul>

### Background

Since the release of the 6<sup>th</sup> Edition of the Powercraft Manual there have been some significant changes to powercraft technology and surf lifesaving procedures. It has also been identified that the manual does not support clearly the training of the IRB Crew and Silver Medallion (IRB Driver). Information is mixed together with no clear delineation of required learning for the IRB Crew, Driver or what is supplied as supplementary information for an IRB Captain or senior IRB personnel.

An initial working group has reviewed the manual and created a revised structure and list of issues to be addressed by a review of the manual. A sample of the revised index and the current list of issues is supplied at the end of this circular. The manual will be reformatted into five topics and an appendix allowing clear delineation between the areas of required learning for each of the awards covered by the manual.

Topics	IRB Crew Certificate	Silver Medallion (IRB Driver)	RWC Operator Certificate
<b>Core material</b> <i>Information relevant to all Powercraft Operators such as general safety, code of conduct</i>			
<b>IRB Crew specific</b> <i>Information required for IRB Crew. This information is also required for IRB Drivers as pre-requisite knowledge and skill</i>			
<b>IRB Driver Specific</b> <i>Knowledge and Skills required by an IRB driver but not by an IRB Crew Person.</i>			
<b>RWC Specific</b> <i>Knowledge and Skills required by an RWC Operator</i>			
<b>Search and Rescue</b> <i>Knowledge and skills required to participate in a search and rescue.</i>			
<b>Appendix</b> <i>General information useful to powercraft personnel but not assessable.</i>			



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## **Providing Feedback**

When providing feedback please supply as much detail as possible. Feedback that is supported by evidence for change or clear rationale will have a better chance of being included.

Feedback can be about any aspect of the manual and does not need to be limited to issues or changes identified in this circular.

SLSA has recently implemented an Improvement Request Portal for providing feedback on training resources developed nationally. This portal can be found on the Education Resources page from the Quick Links Menu on the SLSA website. For more detail on the how to find the Improvement Requests Portal refer to SLSA circular 58/08-09 Training Resource Feedback

**Only Feedback submitted through the Improvement Request Portal on the SLSA website will be accepted**

All feedback is due by Monday the 2<sup>nd</sup> of March 2009.



## **Appendix One - Revised Table of Contents**

Below is a detailed draft table of contents for the restructured manual.

UNIT ONE - CORE MATERIAL.....	
Proficiency .....	
Recovering objects.....	
Powercraft Code of Conduct.....	
Act responsibly and with care .....	
Be hazard aware and risk savvy .....	
Essential parts of a rescue:.....	
Incident and task location/requirements.....	
Local knowledge .....	
Environmental conditions .....	
Access .....	
Natural access restrictions.....	
Manufactured access restrictions .....	
Arranging to gain access .....	
Weather information .....	
Communications.....	
Radios for inflatable rescue boats (IRBs).....	
General operations principles.....	
Patrols.....	
General operational principles.....	
Determining equipment needed for the task .....	
Checking equipment for serviceability.....	
Stowing equipment for transport .....	
Personal protective equipment.....	
Choosing appropriate protective equipment .....	
Minimum safety equipment .....	
Total equipment exemptions .....	
Personal flotation device (PFD) .....	
Emergency Positioning Indicating Radio Beacons (EPIRBs).....	
Distress flares .....	
Expired flares and EPIRBs .....	
Manual handling.....	
Manual handling of IRBs.....	
How to lift .....	
Log Book of Operations and Training.....	
Operational documentation .....	
Care of equipment.....	
Life expectancy .....	
Procedure for reporting equipment wear .....	
Knots and lashings for securing craft.....	
Bowline .....	
Reef knot.....	
Round turn and two half hitches.....	
Clove hitch .....	
Debriefing .....	
Towing boat trailers.....	
Towing preparation.....	
Road handling .....	
Fire-on-craft drill.....	



UNIT TWO - IRB CREW .....

- Crew configuration .....

  - Maximum number of persons on board (POB).....

- List of safety equipment and items required for operations.....

  - List of equipment in a fully assembled IRB .....
  - Recommended IRB transportation equipment .....

- Log Book of Operations and Training .....
- Personal equipment.....
- Preparing to operate an IRB .....

  - Pre-operation check of log book.....
  - Crew duties .....
  - Pre-launch procedures .....

    - Inflation .....

  - Post-operational procedures .....

    - Recovering the IRB.....
    - Restoring and cleaning the IRB .....

      - Procedure for the crewperson.....
      - Procedure for both the driver and crewperson.....

- Specific maintenance .....

  - Craft .....
  - Operational start checks .....

- Operating an IRB .....

- Crewing position.....

  - Conventional crewing position .....

- Class 3 IRB cat hull alternative crewing position .....
- Launching the boat.....
- Boarding procedure.....
- Negotiating the surf .....
- Punching a wave .....
- Returning to shore .....

- Rescues.....

- Rescuing one patient in clear or open water .....
- Alternative open water rescue technique.....
- Rescuing one patient in broken water .....
- Rescuing more than one patient in open or broken water .....
- Rescuing a patient near rocks or in extreme broken surf conditions .....
- Mass rescue .....
- Patient carry .....
- Sailboard rescues.....

  - Gear failure and/or rider inability .....

    - Rider suffering from exhaustion, hypothermia and/or injury.....
    - Recovery of rider and sailboard.....

- Dismantling a sailboard.....

  - Stowing sailboard on IRB .....
  - Towing sailboard and rider .....

- Kite surfing rescue .....

- Resuscitation in IRB .....
- Emergency drills.....

- Capsized IRB .....



UNIT THREE - IRB DRIVER .....

- Duties of the IRB Driver .....
- Operational checks .....

  - Propeller safety guards .....

- Refuelling .....

  - Petrol.....
  - Fuel storage .....
  - Fuel consumption.....

- Start-up procedures.....

  - Starting the motor.....
  - Changing gears.....

- Cleaning and restoring the IRB to operational readiness .....
- Operating an IRB .....

  - Boarding procedure.....
  - Manoeuvring the IRB safely .....

    - Basic manoeuvres.....
    - Basic manoeuvres for the Class 3 IRB cat hull.....

  - Proceeding through the surf .....
  - Solo driving.....
  - Returning to shore .....
  - Propeller hazards .....

    - Weed, plastic bags and general debris around the propeller .....
    - Other propeller hazards .....

  - Hard driving.....
  - Violent manoeuvres .....

- Anchoring .....
- Rescue operations .....

- Emergency drills .....

- Towing disabled vessels.....
- Fire-on-IRB drill .....
- Abandon IRB drill .....
- Replacing propeller while afloat.....
- Manoeuvring IRB without a motor .....

- Motor Maintenance .....

- Motor restart procedure after submersion .....

  - Spark plugs .....
  - Slow running .....

- Propeller .....

  - Propeller slip .....

- Motor overheating .....
- Motor tilt angle.....
- Surf Lifesaving Outboard Motor Modifications.....

  - Motor in-gear start capability.....
  - Motor tilt lock.....

- Tools.....
- Lubrication.....
- Diagnosing and rectifying basic motor faults .....

- Lay-off period maintenance .....

- Anchoring .....

  - Selecting an anchor .....

    - Danforth .....
    - Plough .....
    - Sea anchor .....

- Anchoring procedures .....



UNIT FOUR – RESCUE WATER CRAFT .....

- Layout of RWC.....
- List of safety equipment and items required for rescue.....
- Preparing to operate an RWC.....
- Operating an RWC.....
- Boarding the RWC.....
- Manoeuvring the RWC.....
- Proceeding through the surf.....
- Punching a wave.....
- Returning to shore.....
- Hazards/problems relating to RWC use.....
- Emergency drills.....
- Rescue operations.....
- Recovering the RWC.....
- Post-operation procedures.....
- Signs and symptoms of RWC operational stress.....
- Refuelling.....
- Motor restart procedure (submerged RWC).....

UNIT FIVE - SEARCH AND RESCUE (SAR).....

- Search.....
- Rescue.....
- Search and rescue (SAR) .....
- Inter-agency operations .....
- Inter-service arrangements and relationships with other emergency services .....
- Initial response and search planning .....
- General principles relating to search operations .....
- Wind current.....
- Ocean current .....
- Craft suitability for SAR operations.....
- Inter-agency (combined) operations .....
- IRB, RWC, jet rescue boat (JRB) and offshore rescue boat (ORB).....
- IRB and helicopter .....
- Patient transfer.....
- Patient transfer to large boats .....
- Suspected spinal injuries .....
- Hypothermia .....
- Initial treatment of hypothermia.....
- Search patterns .....
- Creeping line search pattern .....
- Square search pattern.....
- Special search and rescue techniques.....
- Recovering bodies .....
- After-hours SAR operations — daytime .....
- After-hours SAR operations — night time .....
- Crew fatigue .....



APPENDIX .....

- Boat licensing requirements.....
  - Types of licences.....
    - General boat operator licence.....
    - Restricted operator licence or young adult licence.....
    - PWC endorsement (state/territory specific).....
    - Operating without a licence.....
- Maps and marine charts .....
- Maps and marine charts .....
- Nautical charts .....
- Topographical maps.....
- Metropolitan street directories.....
- State/territory road directories.....
- Cartographic information .....
- Topographical maps.....
- Topographical map scale.....
- Topographic map contours .....
- Nautical charts .....
- Nautical chart scale.....
- Nautical mile .....
- Nautical chart depths .....
- Navigational equipment .....
- Types of navigational equipment.....
  - Compass.....
  - Global Positioning System (GPS) .....
  - Depth sounder .....
- Using navigational equipment .....
- Compass.....
- GPS .....
- Choosing suitable navigational equipment .....
- Navigational techniques.....
  - Dead reckoning .....
  - Compass variation.....
    - Magnetic variation .....
    - Variation correction .....
  - Plotting a position on a chart .....
  - Latitude and longitude.....
  - Resection .....
- Planning a course .....
- Surf Life Saving documentation.....
- Interpreting and using map/chart information .....
- Plotting a course .....
- Step one .....
- Step two.....
- Step three .....
- Identifying natural and manufactured features .....
- Boating regulations, rules and legislation.....
  - Speed regulations .....
- Steering rules.....
  - Power gives way to sail boats.....
  - Powercraft meeting head on.....
  - Powercraft crossing situation .....
  - Powercraft overtaking situation.....
  - In narrow channels or channel approaches .....
  - Responsibilities of craft underway .....
- Buoyage System A.....
  - Direction of buoyage .....
  - Buoyage light rhythm .....
  - Lateral marks .....
  - Port-hand marks.....



Starboard-hand marks .....  
Safe water marks .....  
Isolated danger marks.....  
Special marks .....  
Cardinal marks .....  
    North.....  
    East .....  
    South .....  
    West .....  
Navigational leads .....  
Navigation lights regulations.....  
    Powercraft less than 7 metres and less than 7 knots.....  
    Powercraft under 12 metres .....  
    Powercraft over 12 metres.....  
    Sailing craft under 7 metres .....  
    Sailing craft over 7 metres and under 20 metres .....  
    Sailing craft over 20 metres .....  
Special vessels to keep clear of .....  
Channel blocked/closed .....  
Sound signals .....  
Rules on maximum number of passengers .....  
Alcohol and drugs.....  
Natural environment regulations.....  
List of equipment recommended for basic IRB maintenance .....  
Comprehensive tool kit .....  
Transporting people, supplies and equipment .....  
    The laying, adjustment and recovery of buoys and anchors.....  
IRB maintenance and repair .....  
    IRB fabric repairs.....  
    Procedure for small repairs .....



## Appendix 2 – Issue Highlighted for Review

<b>Powercraft Manual 6th Edition</b>	<b>Change</b>
<b><u>Changes to be made throughout manual</u></b>	
	Should refer to crewperson not crew to avoid confusion of group noun
<b>PART ONE</b>	
<b>UNIT ONE</b>	
<b>NAVIGATION</b>	
Learning Outcomes	Delete - or in line with 33rd Edition
How you might be assessed	Delete - or in line with 33rd Edition
Determining location, destination and resources	Move to SAR
Maps and Marine Charts	Delete
Cartographic Information	Delete - Clubhouse chart
Navigational Equipment	Move to Appendix - possible useful gear
Navigational techniques	Delete all but Planning a course - to be included in SAR.
Interpreting and using map/chart information	Delete - Keep identifying access - give some other examples from around the country - not just geelong -
Navigate to destination	Delete - keep reg verify location - where does this fit - Modifying route - modify and move to operational section
Post-navigational activities	Move post op for driver as appropriate
<b>UNIT TWO</b>	
<b>PREPARING FOR BOAT OPERATIONS</b>	
Learning Outcomes	Delete - or in line with 33rd Edition
How you might be assessed	Delete - or in line with 33rd Edition
Powercraft Code of Conduct	Enlarge - Rewrite code of conduct - to actually be a code of conduct - move and review interservice relationships
Boating regulations, rules and legislation	Put markers at front for crew and confirm currency - add picture 2.5 with boat going downstream - can we add speed and distances
Obtaining operational information	Move to operational area
Knots for lashings for securing craft	Keep
Towing boat trailers	Move to Safety Section -
Anchoring	Need to add sea anchor -
Propeller replacement	As is
Fire-on-craft drill	As is
Boat licensing requirements	As is re-write to show exemption and note for boat licensing requirements - note as per state licensing requirements
<b>PART TWO</b>	
<b>UNIT THREE</b>	
<b>SEARCH AND RESCUE OPERATIONS</b>	
Learning outcomes	Delete - or in line with 33rd Edition



<b>Powercraft Manual 6th Edition</b>	<b>Change</b>
How you might be assessed	Delete - or in line with 33rd Edition
Emergency Signals	Delete
Communications	Add "Being proficient in your bronze you need to ensure you are current with all of your signal" - up date radio information - move to with lifejackets
General search and rescue principals	Move patrols information to appropriate Duty statement in relevant chapter for crew driver and RWC operator
Initial response and search planning	
After-hours SAR operations - daytime	
After-hours SAR operations - night time	Too much gear for a PWC - Pose question to BOL whether Night operations should be in the manual - discussion re whether this should be done and what state requirements are
General principals relating to a search area	as is update tide chart
Search patterns	look at adding other search patterns - multiple craft search patterns
Crew fatigue	add content about dehydration, fluids, sunburn etc
Craft suitability	Move as subheading to General principles
Special search and rescue techniques	Move recovering objects to General principles - Make Body recovery Major heading
Combined operations	Move to Appendix and Revise to a motherhood statement about being aware of the of the other craft that work in your area and be aware of the relevants SOPs
Suspected spinal injuries	Question PG and N Hood regarding suspected spinal variables - known, unknown, in break, behind beak, eg come up to person who tells of incident and lack of
Hypothermia	
<b>UNIT FOUR</b>	
<b>General Comments</b>	Split IRB Driver and Crew into separate topics - Crew topic first will be required knowledge for Driver so no need to repeat safety information for crew in driver topic for example
<b>IRB OPERATIONS</b>	
Learning Outcomes	Delete - or in line with 33rd Edition
How you might be assessed	Delete - or in line with 33rd Edition
Layout of IRB	
Preparing to operate an IRB	
Operating an IRB	
Launching an IRB	Add pictures of class three in launching
Boarding procedure	Need a new series of photos for class three - high pontoons
Manoeuvring the IRB	Create crew section that shows correct punching of waves, - solo driving - need a note to say solo driving should not be done operationally - remove draining manoeuvre?? - better equipment nowadays makes this redundant - better draining, stronger motors
Specific hazards/problems related to an IRB	
Anchoring	Update
Transporting people, supplies and equipment	Remove 4.45 don't show incorrect pictures
Emergency drills	Move to earlier



<b>Powercraft Manual 6th Edition</b>	<b>Change</b>
Rescue operations	Correct for CPR - 4.62 pic needs to show not holding tube, Henry to speak to Terry boardman - crewman jumping in next to rocks photo - 4.59 delete - more pictures to show - To investigate the quick right turn to get patient in boat. 4.61 needs to show rocks, New Castle helicopters could be used for ariel shots - P54 point six needs to be check by Henry with Richard - re-do mass rescue shots - aerial shots may be clearer - show reality with people climbing in front - Research into unconscious rescue are they being done backwards over pontoon. Patient Carry - closer to waters edge - show pics getting out drivers side and both feet in or out not straddling the boat - overhead shot to show where legs are 4.75 patrol pic needs to show patient sitting on the pontoon - Kite Surfing rescue potocol to be check - show with digrams for clarity - break into two sections - person rescue then followed by equipment rescue. -
	Cavitation to be better explained in the driver operations
	Workbook - add cavitation
Resuscitation in IRB	To be revised to be clear - Investigate actual CPR on deck of IRB including the need and possible situations required check with N. hood
Post-operational procedures	Show 4 people in pictures to show team work - specific photos to show proper cleaning of class three - Crew not to fuel cell
Signs and symptoms of operational stress	Correct to just life expectancy and move to generic info at the start - add cross reference to content covered in the bronze
Specific maintenance	Confirmed small fabric repairs - should include in assessment with prac demo on scrap material. - add floorboard repairs -
Motor maintenance	Add diagrams about trim to motor tilt angle - pictures from waterways manuals - Diagram of spark plug gaps and explanations of importances - add photo about idle screw and mixture screw - Check in Surfguard whether we need to have johnson info - need to highlight differences for different props and - group special modifications under one heading with explanation of why done - surf pack, tilt lock, in gear start - reword tools for for available not in IRB - Lubrication , clarify to explain either internal or commercial mechanic
Motor restart procedure	alternate method for e-tech - more photos of components - make sure does not refer to crewperson must say driver. - Motor run for 2hours in a box - delete check for spark
refuelling	Pictures of how to get airpockets out - repeat safety issues in a box. Club houses are smoke free therefore IRB room must be smoke free. - Fire extinguishes should be situated appropriately (not adjacent) - Fuels cells should be full prior to operations - Ensuring correct fuel mix is used
	Different types of fuel cells to be added to pictures of equipement
Winter maintenance	Lay Off period procedures & other maintenance issues - not "winter" maintenance - no must should be, where required - consistency lightly sanding rather than scuffing or abraiding) - p48 second column - obstinate - better word
<b>UNIT FIVE</b>	
Changes across unit	
	Every RWV photo must be wearing a helmet
<b>RWC OPERATIONS</b>	
Learning Outcomes	Delete - or in line with 33rd Edition
How you might be assessed	Delete - or in line with 33rd Edition



<b>Powercraft Manual 6th Edition</b>	<b>Change</b>
Layout of RWC	<p>Format generally OK, re-write throughout to include 4-stroke RWCs - Henry - to update content for 4 stroke</p>
List of safety equipment and items required for rescue	
Preparing to operate an RWC	
Operating an RWC	
Boarding the RWC	
Manoeuvring the RWC	
Proceeding through the surf	
Punching a wave	
Returning to shore	
Hazards/problems relating to RWC use	
Emergency drills	
Rescue operations	
Recovering the RWC	
Post-operation procedures	
Signs and symptoms of RWC operational stress	
Refuelling	To add RWV Operator inducting new crew
Motor restart procedure (submerged RWC)	Add to rescue sled with pictures - Bungy cords should not be under tension - weight should be taken by central attachment
	Fuel cock 4 stroke