

# South African Rowing Officials Committee (SAROC)

An organisation affiliated to and under the auspices of:

## Rowing South Africa (RowSA)

Presents

### *A Guide to Pilots and Skippers of Small Power Boats used to Officiate and Coach Rowing*

ROWING SOUTH AFRICA



Compiled by: Ian Maxwell - March 2010

Acknowledgements: Most of the material used in this guide has been sourced from  
“A guide to Certification of Competency for Small Trailer-borne Powerboats - Categories R & E”  
by Stan Walter published by the South African Deep Sea Angling Association (SADSAA)

## 1. Guide and course objectives:

To ensure we have competent and confident pilots in motor boats that officiate and coach rowing, helping ensure the safety of rowers.

The course is a basic introductory course and should not be regarded as a Skippers License course and whilst our pilots and coaches usually are not required by SAMSA regulations to have a CoC (*Certificate of Competency*) or more commonly known as a *Skippers License* and the boats are not required to have a COF (*Certificate of Fitness*), we still want our boat pilots to be conversant with the general rules of boating and basic boat maintenance and have safety on the water as their first priority.

The course also does not include the rules and guidelines for positioning your boat when umpiring in regattas as this is covered in the Rowing Officials Handbook.

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The South African Maritime Safety Association regulations are extensive and comprehensive and in general do not apply to the motor boats we use in officiating and coaching rowing. (new regulation proposing any motorised boat over 4m will require COC and COF in process)

However ALL VESSELS (rowing boats included) are required to follow the general rules of the water and comply with the minimum floatation regulations and carry the minimum prescribed safety equipment and may not operate after sunset unless equipped with the specified night lights and no motorised boat may be operated by a person under the age of 16

## 2. Legal Requirements - Category 'R' – Inland Waters

All craft sailing on South African Inland and Internal Waters fall under Category "R" (Restricted) of the Merchant Shipping Small Vessel Regulations. These craft are only allowed on water areas accessible to the public and contained within ports, fishing harbours, lagoons, dams, rivers, wetlands and lakes in South Africa. All vessels must be operated under the constant guidance of a person who is physically able and of sound mental health and who is suitably qualified.

- 2.1 Voyage detail : this is the information that must be left with someone before proceeding on the water
  - a. The vessels ID number and category, type and make
  - b. The numbers of members aboard and their names
  - c. The vessels ETD and ETA (*Estimated Time of Departure/Arrival*)
  - d. The intended place or places to be visited and their ETA and ETD
- 2.2 Where a regulating authority, authorised agency or affiliated clubs have implemented such reporting mechanisms on inland waters all vessels must comply with these requirements
- 2.3 The skipper must also ensure that the person with whom the information was left is notified of the vessels return.
- 2.4 Every vessel shall carry its Local General Safety Certificate or Certificate of Fitness on board. These certificates are only valid for one year and must be renewed annually. The vessel should be painted in such a manner that it is readily visible in all weather conditions. Failing this, a length of canvas or similar material, not less than 2m x 2m, capable of floating in a spread position, coloured in orange or yellow to be carried on board.
- 2.5 No vessel under 3m may go to sea except in a designated area controlled by a regulating authority and NOT more than 1000m.
- 2.6 Except in an emergency, no vessel may cause or allow the number of persons to exceed the number as certified by the manufacturer or LGSC or COF. (*normal coaching boats = total weight 250kg = 2-4 people*)
- 2.7 No person shall operate a vessel whilst under the influence of intoxicating liquor or drugs having a narcotic effect. (blood alcohol concentration not to exceed 0.05grams per 100ml or breathe of 0,24ml per 1000ml)
- 2.8 No person under 18 years may Skipper a commercial vessel and no person under the age of 16 years shall be allowed to Skipper a sport and recreational vessel. Any child under the age of 16 may operate a vessel of 15hp or less provided they are under the guidance of a person who is the holder of a Certificate of Competency.
- 2.9 All vessels must carry only one the recognised approved registered number systems.
- 2.10 At present (Feb 2010), COF and CoC is not required for vessels less than 7 metres and powered by 15hp or less, new legislation under consideration that all powered vessels irrespective of engine size over 4 metres will require COF and CoC. (*would mean the Umpire boats would have to have a qualified skipper on board*)
- 2.11 The ID number of a vessel is issued to the owner of the vessel, and the onus is on him to ensure the removal of the number in the event of the vessel being sold.
- 2.12 Any mishap or accident caused on the water must be reported to the SAP within 24 hrs as well as any controlling authorities in the area.
- 2.13 You may only launch your boat in commercial harbours, Fishing Harbours, designated launch sites or an area set out by a Regulating Authority. ALL OTHER AREAS ARE NO GO AREAS.
- 2.14 All vessels to be fitted with sufficient built-in buoyancy (not an air filled cavity) such that the boat will remain afloat when fully swamped with all the weight of equipment attached by not the weight of the people who can be in the water attached to the capsized rope. Inflatable/semi-rigid to have at least 3 separate buoyancy chambers.
- 2.15 An Authorised Safety Officer is capable of offering the following:
  - 2.15.1 Registration of a vessel
  - 2.15.2 Boat inspections or seaworthiness
  - 2.15.3 Competency tests (qualified examiners only)

- 2.16 Try to be eco friendly but definitely never dump into the water: Oil, Fuel, Plastic, hazardous chemicals. Always carefully wash your boat and trailer to avoid cross contamination of water sources.
- 2.17 All safety equipment must be permanently marked with the vessels ID number
- 2.18 All vessels must carry at least 1litre of drinking water per person.
- 2.19 All vessels must carry emergency steering if no tiller mechanism is installed.
- 2.20 Four conditions that prohibit a small craft for going on the water:
  - 2.20.1 Unseaworthy vessel or skipper
  - 2.20.2 Inclement weather conditions
  - 2.20.3 Excessive Debris floating in the water
  - 2.20.4 Strong current/flooding or heavy surf conditions
- 2.21 The following are authorised to prohibit a vessel from taking to the water:
  - 2.21.1 Authorised Agent
  - 2.21.2 Club Safety Officer
  - 2.21.3 SAP
  - 2.21.4 Municipal Police
- 2.22 A certificate of Competency can be cancelled for one of the following reasons:
  - The certificate was obtained fraudulently, dishonestly, or if the person is found guilty of negligence or incompetence.
- 2.23 Life jackets or personal floatation devices must be worn when negotiating turbulent waters or when going through the surf. All children less than 12 years of age must wear life jackets at all times whilst on the vessel.
- 2.24 The road trailer for a boat must be permanently marked with the vessels name, ID number, the owner's name and telephone number.
- 2.25 Every vessel must have a towing bollard or bow eye as well as a stern eye.
- 2.26 A skipper must exercise extreme caution at all times and refrain from entering any area set aside for the purpose of specific water sports other than that practised by him and should always observe the no wake zones.
- 2.27 It is an offence to sell a vessel that does not comply with the regulations construction requirements.
- 2.28 The skipper or person operating a power driven vessel of less than 9m in length may not get underway unless there is an operational kill-switch attached to the operator. NB this does not apply to a vessel whilst launching or beaching through surf whilst it is transiting the surf zone.
- 2.29 No skipper can operate as a commercial or dive boat unless he has the appropriate CoC endorsement.
- 2.30 Any vessel powered by more than 15hp or over 7 metres to be under the guidance of a person holding a CoC with his CoC or a certified copy kept aboard at all times'
- 2.31 Water Skiing:
  - 2.31.1 Must be only in an area indicated by Regulating Authority
  - 2.31.2 No skiing between the hours of dusk and dawn or while under the influence of liquor or drugs.
  - 2.31.3 The Water Skier must:
    - 2.31.3.1 Wear a suitable flotation aid
    - 2.31.3.2 Have knowledge of the prescribed hand signals
    - 2.31.3.3 Not let go the rope in congested areas
    - 2.31.3.4 Not create a nuisance or endanger other water users
    - 2.31.3.5 Not use a steel or metallic rope
    - 2.31.3.6 Have a competent person as an observer on the boat or the boat must be fitted with a wide-angle rear view mirror
  - 2.31.4 The boat must carry a 500mm square red flag
  - 2.31.5 The tow rope dropped in the water must be retrieved immediately
  - 2.31.6 Skipper must keep at least 100m from the wake of another vessel and any skipper following a water skier must also keep 100m behind the water skier

2.32 The following safety equipment is to be kept on board in good working order:

2.32.1 Vessels powered by 15hp or less and less than 7 metres

- 2.32.1.1 Approved floatation aids - 1 per person
- 2.32.1.2 500ml water per person (1lt if sea going)
- 2.32.1.3 10m tow line
- 2.32.1.4 Bailing device if vessel is not self draining
- 2.32.1.5 emergency paddle/s
- 2.32.1.6 Emergency repairs tool kit and spares when going more than 3km from base, to sea or boating alone (pliers, adjustable wrench, vice grips, large and small star/flat screwdrivers, open ended spanners 8-18mm, aerosol water repellent, tube clear grease, fine emery cloth, Shear pins/prop lock nut, spare spark plugs, plug spanner, spare propeller, emergency starter cord, spare bungs.)

2.32.2 Vessels less than 7 metres powered by greater than 15hp require in addition to above:

- 2.32.2.1 Suitable First Aid Kit
- 2.32.2.2 1,5kg fire extinguisher – 1 per engine
- 2.32.2.3 Suitable Anchor plus 30 metre anchor rope
- 2.32.2.4 Unexpired approved projectile flare set (sea going only)
- 2.32.2.5 Waterproof torch plus spare batteries and globe
- 2.32.2.6 Hand held spotlight with own 12v battery (only if vessel is operated at night)
- 2.32.2.7 Capsize rope 1,5 times length of boat (not a nylon ski rope)
- 2.32.2.8 Suitable air bellows for inflatable vessels only
- 2.32.2.9 Emergency steering if motor not fitted with tiller arm

2.32.3 There are numerous other safety equipment required if vessel is over 7 metres or going to sea or is a dive boat - refer regulations

2.33 No vessel powered or otherwise may be operated at night unless it carries the correct night lights as specified

2.34 Always leave with at least 25% more fuel than you would require for your voyage.

### 3. Pre-Voyage Checks

Tempting as it may be to set off into the sunset, the reality is that every trip, no matter how short or how often you have done it before, involves some degree of planning. Skimp on the preparation and you may well find yourself fighting a foul tide or strong wind or even something worse.

To these practical considerations has been added a legal obligation under which the master of any vessel, from a paddle ski upwards' is required to ensure that the intended voyage has been planned using the appropriate nautical charts or area publications for the waters concerned. The plan should consider:

- a. An up to date weather forecast
- b. Tidal / current / flood predictions
- c. The limitations of the boat and crew
- d. Navigational dangers
- e. A contingency plan – details of which should be left with a responsible person ashore
- f. Study of a diagram or chart of the area of operation noting hazards and water depths

#### Local Information

Check the rules and regulations from all relevant local authorities of the area of operation. All vessels must operate in the confines of the demarcated area. No vessel may operate in a sanctuary, bathing area or an area set aside for other water sports, even if they are of a temporary nature, or a prohibited area, for example near dam walls or other dangerous areas.

Take note of information regarding the area like hospitals, doctors and emergency services. A venue in a rural/isolated area is not a good idea especially if one is alone on a very big dam. Check what facilities are offered and the hours of operation and if there is a slipway to use or a filling station if you need fuel.

Check the rules pertaining to the area, what documents and local licences are required at the venue (Parks Boards, Local Municipality licences etc)

Once a skipper is sure about all these issues, the voyage can be planned in more detail. The craft should be in a sound mechanical condition, well maintained and serviced. A simple thing like wheel bearings on a trailer should not be ignored and should be checked regularly. Also make sure that the trailer lights are working and that the licence is up to date. This is of critical importance to give the skipper the necessary peace of mind.

One should start at home making sure not to forget anything such as emergency equipment, bungs, fuel and fully charged batteries. To load a boat with camping equipment etc. for the journey is not a good idea. This could damage the craft on the trailer or overload the wheel bearings. You should disconnect the batteries to prevent a current surge which could damage the CDI of the motor. The carburettor should be fully primed to prevent the needle and seat bouncing up and down during the trip.

## **4. Pre Launching Checks and Launching**

### **4.1 Pre Launch Checks**

- 4.1.1 See that the motors are properly secured.
- 4.1.2 Check throttles, gear controls and other controls/switches are working
- 4.1.3 Check propeller securely fastened and sheer pins intact
- 4.1.4 Check steering cables operational
- 4.1.5 Check fuel connections are firmly locked and primer bulb in good condition
- 4.1.6 Connect batteries and electrical switches/equipment
- 4.1.7 Check all safety equipment on board
- 4.1.8 Check all hatch covers are secured
- 4.1.9 Where applicable life jackets are donned
- 4.1.10 Voyage details and signing out has been completed
- 4.1.11 Follow correct departure procedures

### **4.2 Boat Launching**

- 4.2.1 Remove tailboard if applicable
- 4.2.2 Loosen all the boats aft tie downs
- 4.2.3 Disconnect the trailers electrical system from car (*prevents shorting of your car electrics*)
- 4.2.4 Check to see all bungs are in and tightened
- 4.2.5 Couple fuel lines, loosen air breather on petrol tanks and prime fuel. Make sure you have a 25% reserve of fuel for the trip.
- 4.2.6 Ensure all equipment is on board and securely stowed or tied down
- 4.2.7 Ensure motor is tilted in the full up position then reverse the trailer down the ramp until the vessel is ready to float off the trailer
- 4.2.8 Let motor down until it just gets in the water enough to get the cooling system intake under and test start the engine (NB if a motor is started out of the water it should never be for more than 10 seconds). Once your sure engine will start, switch off and raise the motor again.
- 4.2.9 Have a piece of rope, called the painter, tied to the bow of the vessel when floating off the trailer, then loosen the front tie downs and launch boat keeping a secure grip on the painter.

4.2.10 Be considerate and remove your vehicle and trailer from the slipway without delay and park in the allocated trailer parking area.

4.2.11 Always dock your boat on the relevant demarcated jetties/moorings for your type of vessel



Not a good idea

## 5 Rules of the Road and Code of Conduct

### 5.1 Rules pertaining to the right of way:

- These rules apply to ALL craft on internal/sheltered waters and are the same rules as applied to sea-going craft.
- Nothing in these rules shall exonerate any vessel, or the owner/skipper, or any crew member thereof, from the consequence of neglect of any precaution, or any neglect to abide by any local rules.

NB The most important single factor that causes accidents on internal/sheltered waters is alcohol/drugs

### 5.2 Responsibilities between various vessels for Category R in order of priority:

- 5.2.1 Any vessel that is not under command
- 5.2.2 A vessel restricted in her ability to manoeuvre
- 5.2.3 A vessel propelled by man power
- 5.2.4 A sailing vessel
- 5.2.5 A vessel at anchor
- 5.2.6 A vessel towing a water-skier
- 5.2.7 A vessel towing

NB: Special care should be taken of a vessel launching/landing at the slipway or leaving/docking to the jetties. Similarly a vessel powered by man power or a sailing vessel or a boat towing a skier shall also observe the rights of others and not do anything to endanger other water users.

### **5.3 Code of Conduct**

Respect the right of all users of the recreational waterways, both on the water and on the adjacent banks.

- a. Make sure not to pollute the water or dispose of anything in the water. Similarly do not litter the shoreline.
- b. Refuelling should only take place at least 15 metres from the waters edge unless the vessel has built in tanks.
- c. No skipper shall operate – or permit any passenger or crew to act – in a reckless or negligent manner.
- d. Vessels must move in an anticlockwise direction
- e. All circuits should be marked in an anticlockwise direction, and persons using the course must follow the correct direction.
- f. Keep well clear of all anchored vessels and do not come too close to any other vessel/craft.
- g. Keep well clear of the area where boats launch and land.
- h. Always operate carefully in no wake zones and when approaching the shore and always be aware of skiers, fisherman, bathers and other vessels moored on the waters edge.
- i. Observe wildlife areas and do not disturb any wildlife or vegetation.
- j. No person shall operate a vessel while under the influence of alcohol or narcotic drugs.

## **6. Risk of Collision and avoidance thereof**

### **6.1 Skippers Responsibilities**

Skippers shall at all times use all available means, by sight, by hearing and any electronic means, to ensure a clear passage without the risk of collision.

Skippers must at all times ascertain whether the risk of collision exists, and if deemed to exist, every action must be taken to prevent it, even if the skipper has to give way to prevent it. This does not exonerate the other vessel from any liability.

Skippers must always travel at an appropriate speed taking visibility, weather and water conditions, including the depth, wind speed and current into account. Also take into account the manoeuvrability of your own boat, as well as the turning distance with regard to all other vessels in the area, keeping to the starboard (right) side at all times when travelling up or down a river or narrow section of a dam.

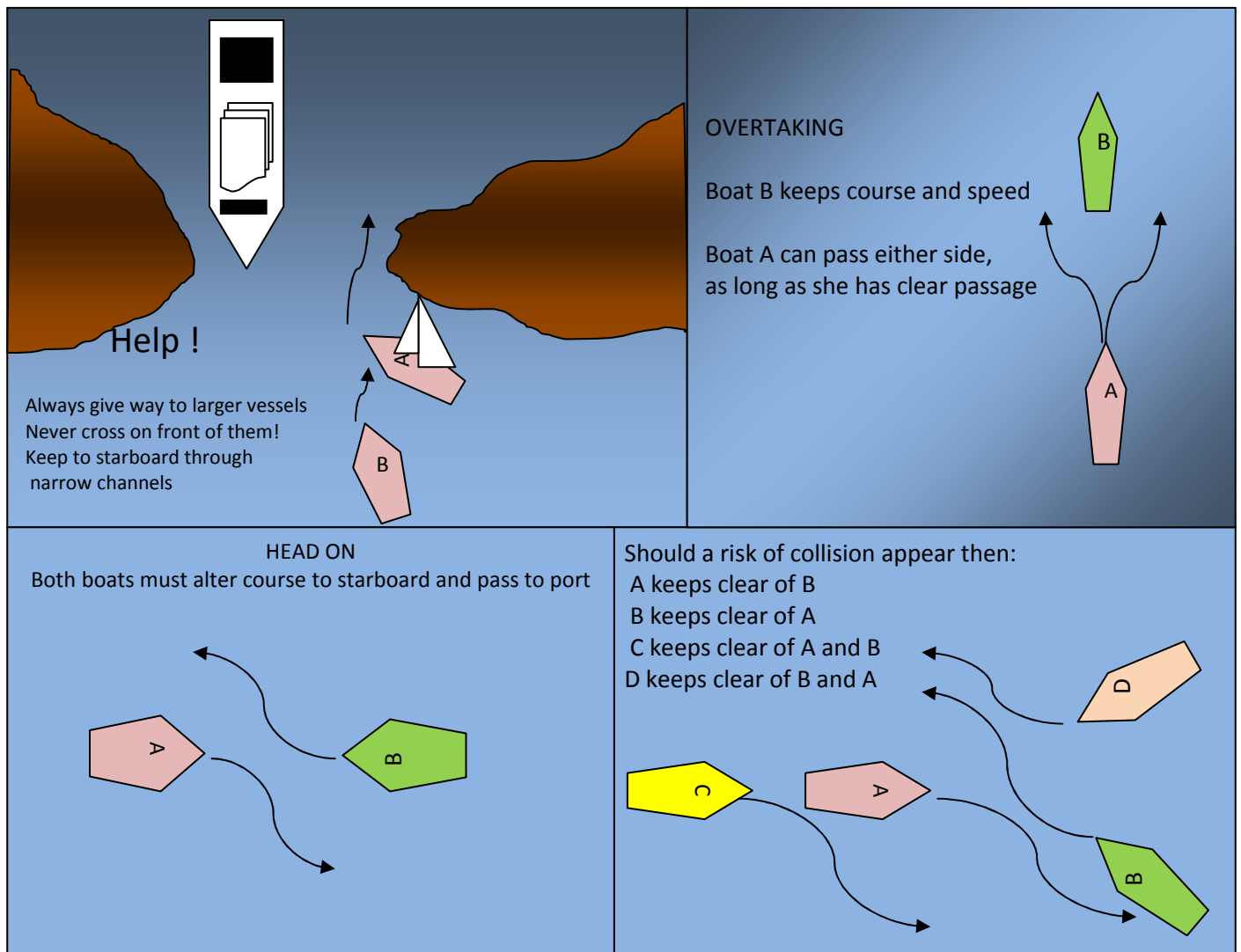
### **6.2 Definitions**

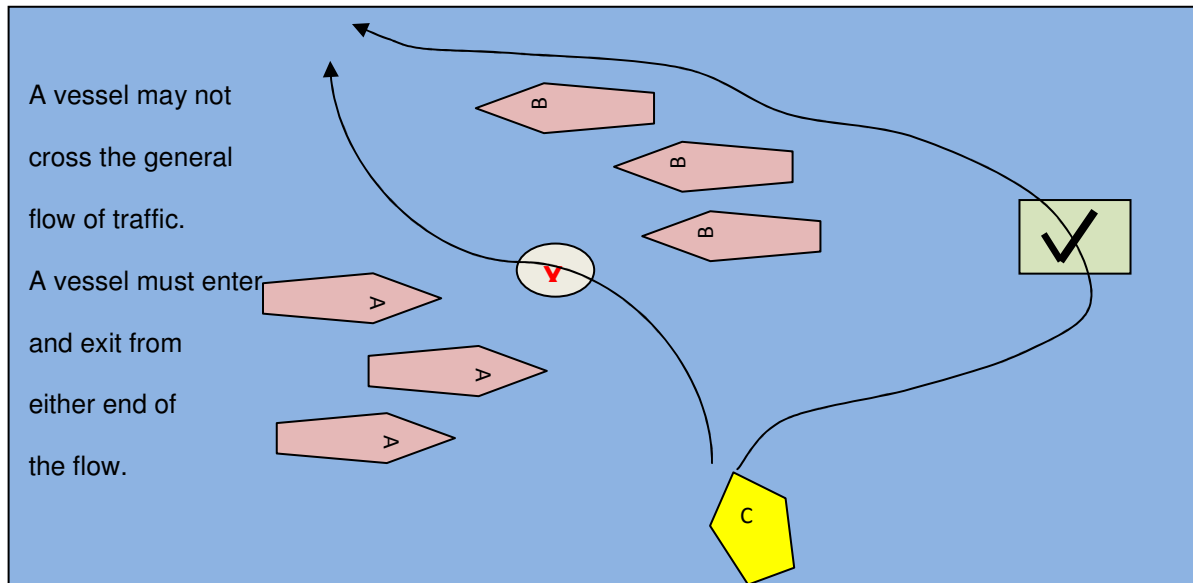
- 6.2.1 A vessel Not under Command is a vessel which through some exceptional circumstances, is unable to manoeuvre and is therefore moved by wind and current only.
- 6.2.2 The Give-Way vessel is the vessel that needs to, as far as possible, take early and substantial action to keep well clear, even by stopping or going astern if necessary.
- 6.2.3 The Stand-On vessel is the vessel that has the right of way and shall keep her course and speed. In the event of the give-way vessel not taking effective and evasive action, she must take action to prevent a collision. This does not relieve the give-way vessel in any way of her obligations.

### **6.3 General Rules regarding Narrow Channels / Rivers**

- 6.3.1 A vessel proceeding along a narrow channel/river shall keep as near to the outer limit, which lies on the starboard (right) side as is safe and practicable.

- 6.3.2 A vessel less than 20m or a sailing vessel shall not impede a large vessel which can only safely navigate within the centre of the narrow channel nor may a vessel cross the channel if such a crossing impedes the passage of a vessel in the narrow channel.
- 6.3.3 A vessel nearing a bend or an area where other vessels may be obscured by an intervening obstruction shall navigate with particular alertness and caution. All vessels shall avoid anchoring or fishing in a narrow channel.
- 6.3.4 Should a collision situation appear to exist, the give-way vessel should take action to avoid a close quarter's encounter. This can only be done by approximating the angle between your fore and aft line and that of the stand-on vessel. If the angle does not change, or if it changes very little as the two vessels close, a dangerous situation is caused.
- 6.3.5 The action of the give-way vessel must be positive and taken early and not left to the last minute. The stand-on vessel must keep her course and speed until the give-way vessel is well past and clear. However, if the give-way vessel fails to take action, and the situation becomes threatening, the stand-on vessel should alter her course away from the threat and/or slow down/stop. Remember – never take action that places you at risk – do not stop your engine so that you come to rest in front of the give-way vessel.





## 7. Know and Care for your Motor

### 7.1 Types of Outboard Motors generally used in boats for coaching rowing

**2 Stroke** = 2 types - both use 2 stroke oil & 93 unleaded petrol

- Normal - The fuel & oil are mixed together in petrol tank (100:1) ie. 200ml oil to 20lt petrol (new motors 50:1 for 1<sup>st</sup> tank). This type can be stored any-side up.
- Self Lubricating – Petrol in Tank, 2 stroke oil in a reservoir in motor and it does its own mixing. This type needs to be stored upright or on its side only as designated by the manufacturer.

**4 Stroke** = 93 unleaded petrol in tank and multi-grade oil in sump (like a car engine) – remember to check your dip stick. Needs to be stored upright or on its side only as designated by the manufacturer.

Both types come in long or short shaft and the type you use depends on the height of your transom.

### 7.2 Propeller Selection

Propellers come in different sizes and pitches – make sure you have the correct size propeller and choose the pitch you require for your needs, generally the smaller the pitch the greater the revs – hence acceleration vs. speed – for rowing we need speed not acceleration - so go for the bigger pitch.

Selection of the correct propeller to suit your boat is of the utmost importance. Without the correct prop your outboard cannot operate correctly. The following are some of the more common pointers to incorrect prop selection: Sluggish to plane; Abnormal fuel consumption; R.P.M. lower than specified; Poor speed.

At full throttle with the correct prop, revs should not exceed manufacturer's specifications by about 500 RPM with alight load. If you find revs are to high change to a bigger prop, if revs are too low change to a smaller prop.

Props should be free of nicks, bent edges, pitting etc. to enable them to develop an even thrust across the entire surface of the blade. Wear or pitting from turbulence or an uneven bite produces hot spots and vibrations that cause loss of performance and **damage to the gearbox.**

## **No. of Blades on the Propeller**

- a. 5 bladed – reduces vibration on large vessels with maximum thrust for starting/stopping (eg. Tugs)
- b. 4 bladed – is used for low RPM on commercial vessels with maximum thrust (eg. Sea going Ships)
- c. 3 bladed – is used for small HP motors with better acceleration for planning at a lower top speed than a two bladed prop (this is what we generally use in our sport and recreational vessels)
- d. 2 bladed – is the best choice for speed racing at 4000 RPM and over. It will perform on a surface with enough bite, yet not cavitate. (eg. F1 racing boats)

Service your prop regularly by removing it and lubricating the threads etc. and replace your shear pin.

## **7.3 Starting your Outboard Motor and its Controls**

### **Starting**

7.3.1 Check motor mounted securely and connect kill switch

7.3.2 Check fuel system: enough fuel, all connections tight and fuel line connected in right way (arrow in primer bulb pointing towards the motor) and air breather on tank loosened. Then prime until primer bulb is firm.

7.3.3 Check oil levels (2 Stroke Self Lubricating and 4 Strokes)

7.3.3 Check Stop switch is turned to start position

7.3.4 Check engine is in neutral (Yamaha/Parsun/Suzuki = gear lever, Mercury = handle on tiller, remote controls = throttle lever in the upright position)

7.3.5 If motor is cold pull choke out/up to about half way and place the throttle grip in the “start” position

7.3.6 Pull the manual starter handle slowly until you feel resistance. Then give a strong pull straight out to crank and start the engine. Repeat if necessary. Electric start = press the start button or turn the key.

7.3.7 After the engine starts, slowly return the manual starter handle to its original position before releasing it.

NB. Most motors are protected from being able to start in gear and should you find that the starter handle will not come out or turning the key produces no reaction – check you are in neutral.

7.3.8 After starting the engine, allow it to idle for 3 minutes to warm up. Failure to do so will shorten engine life.

7.3.9 Check for a steady flow of water from the cooling water telltale and be sure all warning lights/alarms are off/silent. If no water from telltale or an alarm is on – switch off immediately and check. NB. Never run your motor for more than 10 seconds if it is out of the water and not connected to a water flushing supply.

### **Controls**

Know where all your motors controls and levers are located. All makes of motors have very similar controls but they can be different in locations.

- Know how to locate and operate the tilting mechanism. For general use it should be in the unlocked position to allow the motor to ride up if you hit an underwater obstruction but before going into reverse check it is in the locked position
- Know where the warning lights are
- Know the trim mechanisms of your motor
- Know how to get into forward/reverse – there is nothing more embarrassing, or dangerous, than suddenly going in the wrong direction to what you intended.

## 7.4 Preventative Maintenance

In general, outboards do not require a lot of preventative maintenance if properly serviced and looked after. You should get your motor serviced every 100 hours or once a year, however what you should yourself on a regular basis is lubrication – grease all nipples and controls regularly, remove prop twice a season and grease and remove all fishing lines caught up. Failure to do so could result in the shaft seizing.

## 7.5 Storage

Before placing motor into storage for a period of time, run the motor dry and remove the spark plugs, then spray some inhibiting oil through the carbs and cylinders and rotate the motor and engine a few times. Place in a well ventilated, dust free area until required again.

## 7.6 Outboard Motor Submersion

- a. Try to right boat and remove motor before it get too close to shore as once it gets sand into the engine it becomes almost impossible to repair
- b. Once ashore wash motor controls and electrical equipment with fresh water (if boat has been in sea water)
- c. The next step is to get the motor running as soon as possible:
  - i. Remove airbox cover from carburettor and check for sand etc in carbs.
  - ii. Drain water from carbs, generally most motors have carb drain plugs
  - iii. Check petrol tank and fuel filter for water in petrol – if necessary drain water off.
  - iv. Disable the ignition by either using the kill switch or disconnecting the ignition coils. This procedure is of the utmost importance, because if this is not done the unit can catch fire during the next steps.
  - v. Remove all spark plugs and rotate engine to displace water from cylinders. The engine must be rotated at least 20 times
  - vi. Now take a container with clean petrol and add 2 stroke oil at 200ml per 2lt petrol. Connect boat fuel line to container and remove engine fuel connector. Utilising the primer bulb, spray the entire engine with this fuel/oil mix. Next push the end of the fuel line into the first carburettor, while cranking the engine, carry on with until only fuel/oil mixture in blown from the plughole. Repeat for all carbs/cylinders. This will displace any water left in the motor.
  - vii. After completing the above, crank engine for 20 seconds to clear excess fuel. Reinstall fuel connector and prime engine in the normal way. Reconnect ignition coils/kill switch and connect water to engine using flushing muffs.
  - viii. Start the engine and let run for about 30 minutes. During the initial starting, the plugs might have to be removed 2 to 3 times to remove excess fuel.
  - ix. Should sand have entered the motor, NO ATTEMPT to ROTATE or START the motor should be made.
  - x. If your motor has been submersed in sea water, it should be noted that no amount of oil squirted on it will prevent corrosion. Only re-submersion in fresh water and a thorough cleaning will save it.
  - xi. All the above is fine for 2 Stroke engines – but if a 4 Stroke is submersed and water has got into the oil sump it is a different matter – basically you will have to take it as soon as possible to your dealer and hope and pray that it is recoverable – hence it is not advisable to put a 4 Stroke on a vessel that is likely to get swamped, overturn or sink.

## 8. Know you boat and its characteristics

Different types of hull design and power plants behave very differently on the water and consequently just because you have experience in piloting one type of boat does not make you competent in another design. Ask someone with experience in the boat you are to pilot about its characteristics then take it out and “test drive” it before you go operational. If you are alone in the boat then the kill switch must be attached to your body so that if you are thrown out the motor dies. Only boats generally used in rowing are described here.

### **8.1 Boat = Small Mono hull 3-4m with 15hp Tiller-Arm Outboard at back of hull**

Characteristics – Very maneuverable with sharp turning circle, quick acceleration & good control in reverse, but can swamp in reverse. With 1 up tends be stern heavy and doesn't plane well, causing drag and wake. Dependant on hull design can slide in corners at speed. Can be swamped easily, not safe in rough waters. Needs lots of practice to master the handling of the steering and motor controls competently

### **8.2 Boat = Small Non Rigid Inflatable hull 3-4m with 15hp Tiller Arm Outboard at back of hull**

Characteristics – Very maneuverable with sharp turning circle, quick acceleration & good control in reverse. With one up tends be stern heavy and doesn't plane well causing drag and wake but less than 1<sup>st</sup> boat. Dependant on hull design can slide in corners at speed. Hull bends in waves not safe in rough waters. Needs lots of practice to master the handling of the steering and motor controls competently. Cannot stand up in it.

### **8.3 Boat = Small Semi Rigid Inflatable hull 4-5m with 15hp Tiller Arm Outboard at back of hull.**

Characteristics - Very maneuverable with fair turning circle, moderate acceleration & good control in reverse. Planes better than 1<sup>st</sup> two and has less drag and wake. Dependant on hull design can slide in corners at speed. Stable hull and OK in waves and rough waters. Needs lots of practice to master the handling of the steering and motor controls competently. Can stand up in it

### **8.4 Boat = Long Catamaran Hull 7m with 15hp Outboard, console steering wheel and rudders at back of hull.**

Characteristics - Steers like a bus, not maneuverable with large turning circle, smooth acceleration & bad control in reverse. Planes very well and has almost no drag or wake. Due to hull design cannot turn easily. Very stable hull and good in waves and rough waters. Needs practice to master the steering but the rest is easy. Can stand up in it.

### **8.5 Boat = Run About/Ski Boat with +20hp Outboard at back and remote controls**

Characteristics - fairly maneuverable, smooth acceleration but large wake especially at low speeds off the plane. Can handle much rougher weather conditions dependant on size of boat. Suitable as a rescue craft or umpiring on large dams which tend to have high winds and can disperse the large wake. Needs a CoC to skipper.

## **9. General Boat Handling whilst on the Water**

- 9.1 In most venues the slipway and jetties are considered to be a no wake zone
- 9.2 Passing vessels must ensure that it is safe to do so, pass at a safe speed and distance so as not to endanger the vessel being overtaken.
- 9.3 All persons must at all times be properly seated in the craft when it is under way except the umpire.
- 9.4 Obey the general rules of the water and any local rules as well.
- 9.5 Ensure vessel is securely tied to jetties or moorings in such a manner as to ensure it will not be damaged or break free should severe weather conditions occur.
- 9.6 Always slow down in adverse weather conditions and high traffic density areas, a safe speed always allows you time to respond to developing situations and will minimize the risk of collision.
- 9.7 The general accepted conduct on the sea/water is to always go the aid of someone in distress, no matter how inconvenient it is for you.
- 9.8 Remember Wake/Wash: - Wash is always better taken from the front (ie. Bow on) and is not good from the back – and it's best taken at lower speeds but not too low at this could result in no control. Remember wake free zones means absolutely no wake and hence you must go almost at idle dependant on your boat.
- 9.9 Turn into current/wind means you will turn tighter than turning with the current/wind. Both current and wind tend to affect your boats effectiveness and position especially at low speeds/stops so always watch your position and drift.

- 9.10 In heavy weather it is always best to keep your bow into the wind. Where this is not possible due to the course you need to take, get their by using the tack system as used by sailing boats. If you try to go with the wind against your flanks you will tend loose control and to swamp, especially in a typical coaching boat.
- 9.11 Most boats are not designed for go in reverse, so always engage minimal power and steering when going in reverse or the boat will tend to become unmanageable. Reverse is there for emergency and docking type operations only.
- 9.12 Motor Boats do not have brakes and hence you should use good judgement regarding your speed of travel allowing for your boat to come to a stop long before you reach where you have to stop and then use minimal forward thrust to get to your stopping point. A good pilot will very seldom use the reverse to help stop the boat.

## 10. Handling an Emergency or Rescue situation

### 10.1 You are the one in trouble – first thing is get everyone in lifejackets

- 10.1.1 Boat is in danger of swamping/overturning** – try to turn bows on to the wind and lighten your load, get out your capsize rope and make sure it is securely fastened and get everyone into the water (this will lighten the load), check headcount – now try to bail out the water before trying to get back into the boat. Remember to counter balance the boat when someone is climbing in from the water.
- 10.1.2 Boat is powerless and “not under command”** – make sure you make signals to all other boats you are in trouble and try and steer at small angles with the prevailing wind/current to get boat to shore or until help arrives.

### 10.2 You are the rescue boat

- 10.2.1 The approach** – your approach will depend on what the rescue situation is and type of boat you are to rescue and the prevailing weather conditions – but **first ALWAYS check the HEADCOUNT** and ensure everyone is accounted for – now check for possible obstructions in the water that could pose problems. There are 2 forms of approach :-
- 10.2.1.1 Approaching with the wind/current** – the problem you will face is that in the final approach you will have to cut your motor and then by not having control have the danger of being subject to the winds/current and could ride over/collide with those being rescued
- 10.2.1.2 Approaching into the wind/current** – this allows you have more control of your boat in the approach but means that if the winds are strong you will have to keep power on for the full approach which could lead to your prop fouling some debris or even worse hitting a person.

No matter what approach you decide on always keep you bows on to the craft to be rescued – this allows better vision and that you keep your motor clear should you need it. Remember lives are more important and they are always your first priority. Only try to save the boat when you are sure it can be done without risk to the lives you have saved. Always take on board the ones most at risk and leave the stronger swimmers to last – do not overload your boat – rather take on the injured and children and let the others hang on to your capsize rope, even if this means getting some of your original passengers into the water to make room for the needy ones,

- 10.3 When radioing for help always state your position first then your problem – if comms are not good then at least people will hopefully at least get where you are.
- 10.4 When taking a boat in tow ensure that you have proper control over your own boat – too short a rope will mean the towed boat runs the danger of colliding into you and too long a rope will give less control

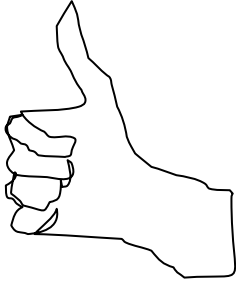

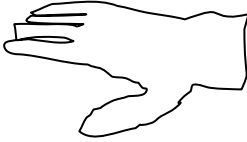
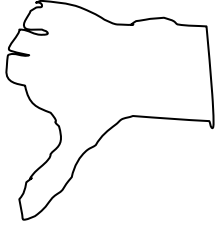

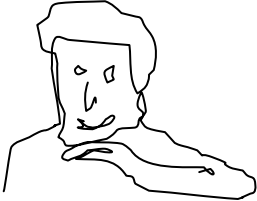

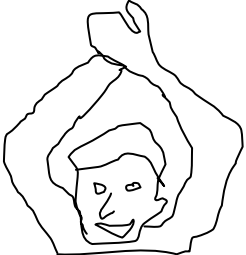
## **11. Anchoring, Mooring, Docking or taking the Boat out of the Water**

- 11.1 Anchoring, mooring or docking your boat should only be done in the designated areas for your type of craft and never where it could cause a danger to other water users.
- 11.2 You should always take care to check that your boat is securely fastened, taking care that it will not come free or cause damage when tides or wind change. Use the docking buoys to prevent damage to craft.
- 11.3 When docking for a length of time it is always advisable to tilt the motor out of the water
- 11.4 Ensure all equipment is safely stowed and locked away and that the keys are removed and covers fitted and securely tied down, if applicable
- 11.5 When taking boat out of the water, reverse trailer into the water to a position that you can get your boat onto it , but do not let your vehicle in to far (when exhaust pipes get to waters edge that's far enough).
- 11.6 Now take our boat and gently drove it onto the trailer, switching off and lifting and locking the motor as you reach your trailer. You must remember to take wind/current drift into account in your approach. (never use the motor to drive the boat up onto the trailer as the chance of the motor grounding is high or you can overshoot and drive the boat over the trailer and damage it – use the winch rather)
- 11.7 Securely fasten the front off the boat to the trailer and then gently tow your boat out of the water
- 11.8 Once out of the water, check boat is straight on the trailer and loosen the drain plugs then move off the ramp allowing others a chance to use it.
- 11.9 Once in the parking area you should then fasten your boat to the trailer and attach the trailer board

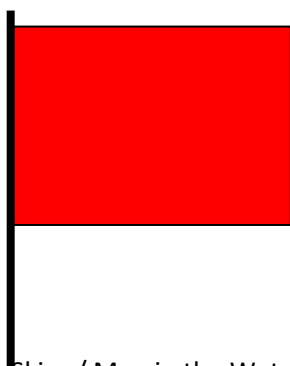
## **12. Towing the Boat on the Road**

- 12.1 The following checks should be made before towing the boat trailer on the road
  - 12.1.1 Trailer board, number plate and licence affixed
  - 12.1.2 Trailer securely fasted to vehicle and trailer lights operational
  - 12.1.3 Wheel bearings and tyres OK (spare wheel too) – do you have a jack and wheel spanner to fit the trailer – do not assume you car ones will fit.
  - 12.1.4 Boat, fittings and coverings securely attached
  - 12.1.5 Motor locked in the correct towing position
  - 12.1.6 If the trailer has a brake system check it is operational
- 12.2 The towing vehicle weight should exceed the total weight of the trailer being towed by 40% unless the trailer has a brake system in which case refer to RSA vehicle towing guidelines.
- 12.3 Never to at high speeds and remember when towing your braking distance doubles,
- 12.4 Remember to go wide at sharp corners as your trailer tends to cut in and you could hit something on the inside – also remember the trailer overhang at the back tends to swing widely if you turn to tight (especially be careful in petrol stations – its not fun hitting a petrol pump)
- 12.5 If the trailer with load weighs in excess of 750kg you need a special licence to tow.
- 12.6 If you find your trailer is tending to sway – stop and check your tyres and the load distribution – it should be loaded in such a way that you have between 50 - 80kg on your hitch. Another reason could be that you have unequal wind resistance.
- 12.7 When you find your trailer swaying behind you do not speed up nor brake sharply, rather keep up the power but start slowing slowly in a controlled manner until it comes into line then either slow to a stop and check or drive at a speed that doesn't cause it to sway.
- 12.8 Stop after the first 50 km and check everything is still securely fastened and the wheel bearings are not overheating – this you do by placing the back of your hand lightly on the cover of the bearing – it should be cool to the touch and definitely not be more than what the sun could heat it up to. Thereafter stop and check every 200km.
- 12.9 Remember reversing a trailer is an art that needs to be practiced and different types of trailer behave differently when being reversed dependant on the length. Always have someone to help guide you when reversing and make sure you understand the signals between you.

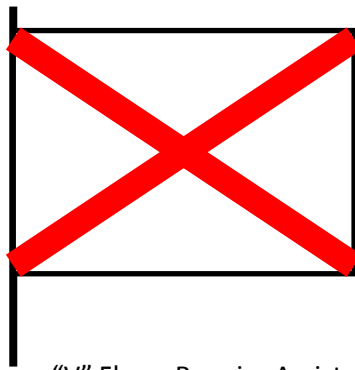
**Internationally recognised boating signals that you may require for “R” type vessels**

 <p><b>Faster</b> Motion upwards with thumb</p>	 <p><b>Speed OK</b> Raise arm with thumb and forefinger make “O” signal</p>	 <p><b>Same Speed</b> Motion left and right across body with hand, palm down</p>	 <p><b>Slower</b> Motion downwards with thumb</p>
 <p><b>Turn Around</b> With index finger extended, motion in air above the head direction of the turn</p>	 <p><b>Stop</b> Finger drawn across throat in cutting motion</p>	 <p><b>Return to dock</b> Pat top of head with hand</p>	 <p><b>I am OK</b> After a fall skier clasps both hands above his head if unhurt</p>

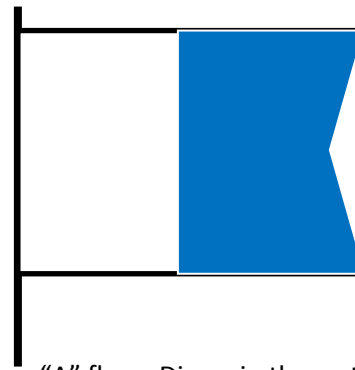
**Flags to take note of:**



Skier / Man in the Water



“V” Flag – Require Assistance  
Please Help



“A” flag – Divers in the water