



HANDBOOK

for

**PREDICTED
LOG TRIALS**

HANDBOOK
for
PREDICTED LOG TRIALS
incorporating
RULES,
INSTRUCTIONS FOR OFFICIALS,
RECOMMENDATIONS TO
CHECKBOATS
and
CODE OF PRACTICE
Rules Effective from
August 2001

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- (e) Check crews should report any observed rule breeches.

7. ADMINISTRATION

- (a) Results should be posted on the approved Record of Results Sheet (available from the V.Y.C.), or if any other format is used it must contain all information on the approved sheet.
- (b) When promulgating results on the day of the event the organiser must also display the current standing of participants in the V.Y.C. Log Trial Aggregate, correct at the completion of the previous event in the series.

- (b) Start times should be available to entrants at least six (6) days prior to the event.
- (c) Each check crew should be given written directions which clearly indicate their position; what they are to check, and a facsimile of the relevant section of the chart indicating location transits and sight lines.

5. VERIFICATION

- (a) All documentation described in INSTRUCTIONS FOR PREDICTED LOG TRIAL OFFICIALS must be verified by an experienced log trialer prior to distribution.
- (b) The experienced log trialer should be named on the Briefing Notes and Result Sheets.

6. CONTROL

- (a) Each event in the series should be planned with a minimum of seven (7) checks, which may comprise both time and course checks at the discretion of the organiser.
- (b) When planning the course, the organiser should ensure that a minimum of two (2) water based or boat checks are used.
- (c) The event organiser should ensure that at least one (1) member of each check crew is familiar with the check procedure described in RECOMMENDATIONS TO CHECK BOATS.
- (d) Each check crew shall be provided with a Record Sheet similar to the example available from the V.Y.C. The Record Sheet must contain the names of boats entered in the event, *listed in the order they are expected to arrive at the check point*, and include the speed at which each boat entered the event together with the theoretical arrival time at that check point.

PREFACE

The following rules and recommendations for the conduct of Predicted Log Trials consist of revisions and additions to rules established initially by the Port Phillip Power Boat Association, and later superseded by the Powerboat Association of Victoria/Victoria Yachting Council rules.

Sections covering Instructions for Predicted Log Event Officials and Recommendations for Checkboats are included in an endeavour to standardise the approach by event organisers, and increase the competence of crews handling events.

It is recommended that all those both competing in and organising events study the enclosed data, so that greater enjoyment of the sport can be attained.

Delegates from the following clubs and organisations have worked to produce these rules and recommendations.

Royal Victorian Motor Yacht Club
Sandringham Yacht Club
Baumaris Motor Yacht Squadron
Mordialloc Motor Yacht Club
Patterson River Motor Boat Club
Australian Volunteer Coast Guard
Powerboat Association of Victoria
Victorian Yachting Council, Power Boat Division

RULES FOR PREDICTED LOG TRIALS

1. INTRODUCTION

- (a) Predicted log competitions are for Motor Yachts of any type, power or size, provided they are considered seaworthy for the waters where the competition is held.
- (b) The following rules have been designed to give an equal chance to all competitors, irrespective of size, power or speed.
- (c) In keeping with the spirit of the activity, skippers are requested not to deliberately pre-run the course and/or investigate check boats on the day of the event.

2. SAFETY

- (a) Competing vessels must comply with the safety regulations as defined by the Marine Act 1988 and associated Regulations plus any extra requirements which may be prescribed by the Club organising the event.
- (b) Current International Regulations for the Prevention of Collisions at Sea shall apply at all times.
- (c) If conditions on any part of the course are considered unsuitable, due to weather, the Officials may cancel or postpone the event or any part of the event at their discretion.
- (d) Where practicable Officials should notify competitors of any cancellation or alteration one hour prior to the Official Course Start Time in the case of internal Club events, or two hours prior to the Official Course Start Time, in the case of open events.
- (e) A Competitor retiring from the event for any reason shall notify the Officials of the day as soon as practicable.
- (f) Every vessel must render all possible assistance to any

CODE OF PRACTICE

1. GENERAL

- (a) The contents of this CODE OF PRACTICE should be adopted as guiding principles for all log trials conducted under the Victorian Yachting Council Rules.

2. RECOGNITION

- (a) Both Skippers and Navigators should be recognised equally in awards for individual events and the Aggregate series.

3. PLANNING

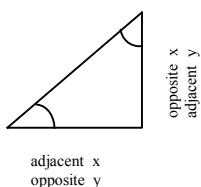
- (a) When planning the course, the latest edition of a chart must be used. Preference should be given to using the V.Y.C. charts. Briefing Notes must clearly specify the edition of the chart used in planning the course.
- (b) Briefing Notes must meet the minimum standards listed in the Rules and as recommended in this Code.
- (c) Briefing Notes and course details must be available with event Entry Forms, one (1) calendar month prior to the date the event is scheduled to be held.
- (d) All controls, conditions, local rules, warnings etc, should be listed in the Briefing Notes and should not conflict with the Rules and this Code.

4. INFORMATION

- (a) Entry Forms must seek nomination of both Skipper and Navigator.

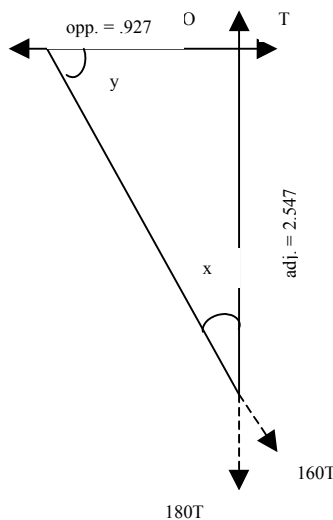
BRIEF EXPLANATION OF TRIGONOMETRY INVOLVED

Triangles have 3 sides and 3 angles. When any 3 parts are known, providing one of them is a side, the other parts may be determined. The sum of the angles of any right angle triangle is 180° , and one angle is always 90° . The sides of the triangle are named as per the sketch. The hypotenuse is always opposite the right angle.



Tables of Trigonometrical Functions assist in calculations. (See Page 27) The sine (sin) of an angle is the length of the Opposite side divided by the length of the hypotenuse, and the cosine (cos) of an angle is the length of the Adjacent side divided by the hypotenuse.

When determining dimensions of the triangle constructed around a course, the hypotenuse is known, being the leg length, and the angles x and y can be calculated from course headings.



Using leg 2 of sample course as an example (160 T for 2.71 NM), angle $x = 180T - 160T = 20$, and angle $y = 160T - 090 = 70$, or 180 (sum of angles) - $20 - 90 = 70$.

Using one angle as a basis, from Trig. Tables it is found that $\sin 20 = .3420$ and $\cos 20 = .9397$.

$$\sin 20 (.3420) = \frac{\text{opp}}{\text{hyp}} = \frac{\text{opp}}{2.71}$$

$$\cos 20 (.9397) = \frac{\text{adj}}{\text{hyp}} = \frac{\text{adj}}{2.71}$$

By transposition, length of sides =

$$\text{opp.} = .3420 \times 2.71 = .927 \text{ NM}$$

$$\text{adj.} = .9397 \times 2.71 = 2.547 \text{ NM}$$

- (g) It shall be the responsibility of each skipper to withdraw from the event if he/she considers for any reason that the safety of their vessel or of persons on board that vessel may be endangered.

3. RULES

- (a) Competitors shall comply with the Rules from the Official Course Start time. The Committee of the organising Club reserves the right to refuse to allow any vessel to start.
- (b) Club Burgee will be flown by all competitors, and if applicable, a Sponsor's pennant may be flown below the Club Burgee.
- (c) Steadying sails may be used.
- (d) A competing vessel may be ordered off the course by the Officials without being given a reason at the time, and must immediately comply with the order.
- (e) A vessel approaching or overtaking one or more vessels from abaft the beam shall be known as the overtaking vessel, as soon as she becomes near enough to be anywhere within range of risk of collision. The overtaking vessel must keep out of the way of the overtaken vessel until all risk of collision is passed.
- (f) Where two or more vessels are approaching a marker buoy and are abeam of each other, the inside vessel(s) must be given sufficient sea room to complete their turn.
- (g) A vessel overtaking two other vessels which are abeam, or nearly abeam of each other shall not force a passage between the two leading vessels in a manner which causes the overtaken vessels to alter their course to allow the overtaking vessel to pass.

- (h) An overtaking vessel cannot set course for a new mark until clear ahead of the overtaken vessel.
- (i) No vessel shall bear away out of her proper course, or do any other act which is calculated to impede an overtaking vessel(s). In such case the overtaking vessel (s) may be considered to be fouled.
- (j) A collision with a course marker buoy, however slight, shall be considered a foul.
- (k) If a vessel considers itself fouled during an event, or has any reason to lodge protest it must immediately do so by displaying a white flag and fly same in a conspicuous position during the remainder of the event.
- (l) All vessels having completed the course must proceed in a direction which will keep them clear of other competitors.
- (m) Vessels may be entered by Members of recognised Boating Clubs and Associations, or by special dispensation of the event committee.
- (n) The following navigation and other equipment may be used:
 - G.P.S., satellite navigation, automatic pilot, R.D.F., radar, range finders, any over the ground speed measuring device, onboard computers (laptop or otherwise) or any combination of these and whether interlaced or not. All other navigational equipment may be used unless prohibited by the event briefing sheet.
 - Skippers will be required to state on the entry form whether he/she intends using any of the named devices while competing.

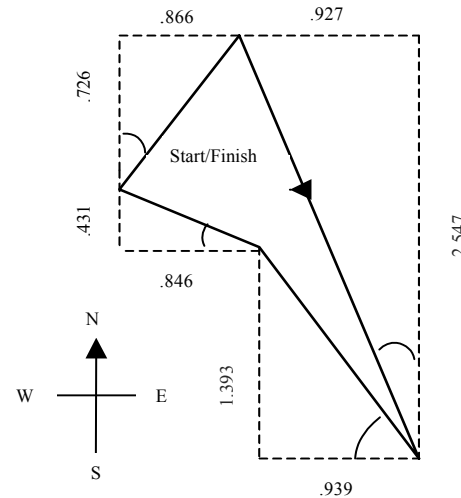
EXAMPLE OF TRIGONOMETRIC COURSE CHECK

Draw and measure course. Then construct right angle triangles on each leg using the course leg as the hypotenuse of each triangle. From course bearings calculate one angle of each triangle. Using trigonometry, then calculate the lengths of each side of each triangle correct to three decimal places. Total the N, S, E or W components of each leg. (eg: leg 1 has .726N, .866E; leg 2 has .927 E, 2.547 S, etc.) The accuracy of the course layout must be such that for the whole course, the total of Northings is the same as the total of Southings, and the total of Eastings is the same as the total of Westings, to within 0.1 cables (0.01 NM) in each case.

COURSE

Leg 1.050T, 1.13 NM
 Leg 2.160T, 2.71 NM
 Leg 3. 326T, 1.68 NM

Leg	N	S	E	W
1.	.726		.866	
2.		2.547	.927	
3.	1.393			.939
4.	<u>.431</u>			<u>.846</u>
	2.550	2.547	1.793	1.785
Diff.		.003 NM		.008 NM



POSITIONING

The skipper shall position his/her vessel in the correct location, and then allow time for the vessel to settle at anchor. He/she and at least one crew shall then check vessel location to ensure that accurate timing of competitors can be achieved.

SAFETY

It is essential that the start point notify checkpoint vessels as to the number of vessels started and when the checkpoint vessel has recorded the same number it will report to the start that "x" number of vessels have been recorded and ask permission to return to port. If the number of vessels starting should not total the same at the check point then the start point shall be notified and any previous checkpoint queried, if no report has been received re: breakdown or withdrawal by a competing vessel then immediately checkpoint vessels shall check the leg on which the vessel went missing.

GENERAL

CHECK POINTS are considered to be manned by responsible persons and it is their duty to record any infringement of the Rules and it is the responsibility of the Event Official of the day to penalise the vessel concerned in accordance with Rule 8.

If a check point vessel should get into difficulties after the event has started it will report directly to the Event Officials as to the nature of the trouble and what assistance is required.

4. IDENTIFICATION

- (a) Each vessel shall display Club Identification numbers in block letters, which shall be matt black, set against a white background and placed to be clearly visible from 45 degrees ahead of abeam to abeam from Port and Starboard. Identification numbers shall not be illuminated, and MUST be located above the gunwhale line of the competing vessel.
- (b) Prefix letter and numerals shall be minimum of 460mm high, 230mm wide and 50mm in breadth.
- (c) Spacing of letters or numerals shall be a minimum 75mm apart.
- (d) Prefix block letters allocated to each club shall be:
 - B - Beaumaris Motor Yacht Squadron
 - C - Australian Volunteer Coast Guard
 - M - Mordialloc Motor Yacht Club
 - P - Patterson River Motor Boat Club
 - R - Royal Victorian Motor Yacht Club
 - S - Sandringham Yacht Club
 and as allocated from time to time by agreement between the competing clubs.

5. INDEMNITY

All those taking part in events, races or log trials conducted under these rules do so at their own risk and responsibility. The conducting Club or authority, the sponsor or any of their respective officials shall not be responsible for the seaworthiness of any vessel, motor boat or yacht, nor for the

adequacy of its equipment, nor for any damage to any vessel or motor boat, or for injury suffered to any participant whether skipper or crew during the conduct of the event. It shall be the sole responsibility of each vessel, motor boat or yacht to decide whether or not to start or continue to race. The conducting club or authority reserves the right to refuse any entry.

6. PROCEDURES

STARTING AND FINISHING LINE

- (a) Unless required to do otherwise by the organising Club, all vessels shall cross the start and finish lines as near as practicable to right angles. Vessels shall be as close as practicable to being on course at their nominated speed for a distance not less than 0.5 cables before the start line.
- (b) Official time shall be Telstra (1194) time.
- (c) After Official Course Start Time all vessels must keep clear of the Start line by 0.5 cables unless actually starting.
- (d) Vessels crossing the start line in either direction after Official Course Start Time shall be deemed to have started in the event.
- (e) Times taken at start, Check Points and Finish, shall be taken when the bow of the competing vessel crosses the sight line.
- (f) The Start and Finish Vessel in night events shall be identified by a quick flashing light as detailed in the briefing, and so placed on the Start and Finish vessel so as to be visible 360 degrees for the duration of the event or as otherwise noted in the briefing.
- (g) In night events, vessels will be started at not less than 60 second intervals.
- (h) Vessels to keep 1 cable clear of the start datum for practice starts after the official race start time.

SUGGESTED CREW

A check point crew should consist of a minimum of three persons, preferably four, at least one of whom is experienced in checkpoint duties.

The duties of each of the crew are:

SPOTTER who identifies the approaching vessel and clearly calls its identification number. If this is not visible, then the name or description of the vessel should be recorded to enable identification after the event.

CALLER watches the vessel approach the sight line of the check point and calls "IT" as the bow of the vessel passes the sight line.

TIMER is requested to start the tape recorder by the Spotter and then loudly and clearly calls the hour, minute, and second followed by a count off in seconds giving the change of minutes as they appear.

PENCILLER shall pencil in the vessel's number on the rough sheet when given, listen to the time count, and record the minute and seconds when the word "IT" is spoken.

When only three persons are available for the crew the SPOTTER and CALLER are combined.

At the completion of the event replay tape and check times against the rough sheet, also check after transposing from rough sheet to event result sheet. Remember that the spoken second is the one recorded as actual time.

RECOMMENDATIONS TO CHECK BOATS

EQUIPMENT

ANCHORS of sufficient size and ground tackle to suit, so that the vessel may be securely positioned. A stern anchor should be used to prevent swing.

WATCHES or clocks which are accurate and shock proof, with digital readout. Watches or clocks to be checked against Telstra Time Signal and double checked against Master Clock prior to and after the event.

TAPE RECORDER with sufficient tape to cover the check point time range.

COPY OF COURSE of event with directions of travel shown, also Check Boat position to be marked in using two sets of fixed objects in transit for positioning, wherever possible.

PENCILS, paper for rough sheets, binoculars, hand bearing compass.

EVENT result sheets or details showing the event starters, their numbers in order of arrival, and approximate time of arrival of the first and last vessel.

RADIO, tuned to nominated event frequency of the day.

7. SPEEDS

- (a) Vessels may enter at any one speed between 5 and 15 knots providing they conform with the official briefing.
- (b) Nominated speeds shall not exceed 10 knots in night events.
- (c) Any vessel entering restricted speed areas shall observe speeds applicable to the area concerned.
- (d) A displacement class boat shall not be capable of exceeding 9.5 knots in flat water.

8. PENALTIES

- (a) For changes from nominated speed in an attempt to better time or position on the course
50 points
- (b) For changes in course in an attempt to better time or position on the course.
50 points
- (c) For failure to navigate to or pass on the correct side of a check point, properly laid sight line, or course marker buoy.
50 points
- (d) For major breaches of 8 a) , b) or c) above.
100 points
- (e) For collision with a course marker or buoy.
50 points
- (f) For failure to comply with any Start or Finish line procedures excluding Rule 6 d).
50 points

- (d) Time pieces used must be accurate, reliable and able to withstand shock or jarring.
- (e) All official vessels should be able to check their timing devices during the event.

7. **COMPETING VESSELS**

Shall be timed as the bow appears at the check line.

8. **CHECK POINTS**

- (a) Except at start and finish points, no time check will be within one (1) cable of a turn point, and no course check will be within 1/2 a cable of a turn.
- (b) Objects used for checking shall be properly plotted navigational aids or charted land marks.
- (c) Wherever possible check boats shall be positioned using two sets of charted transit markers where the transit lines are at least 70 degrees apart.
- (d) Where practicable, the positions of checkboats should be checked by other event officials to ensure they are on station.
- (e) The angle of the check point line shall not be less than 75 degrees to the course line.
- (f) Check point officials shall keep an accurate check of all competing vessels and inform the Control Centre of any competitor failing to pass a check point, or who has retired.
- (g) Check boats are to remain on station until cleared to leave by the Officials of the day.
- (h) If a reciprocal course is used with vessels sailing in opposite directions in the same event, check points must be located in positions that are fair for competitors sailing in either direction.

- (c) Protests lodged shall be considered and resolved preferably on the day by the Event Officials of the day.

11. **EVENT RESULTS**

- (a) The winner shall be the vessel with the least number of points lost. If two vessels have equal results with one early and the other late at the finish line, then the late vessel shall take precedence. If both early, or both late, the one losing the least number of points at the finish line shall take precedence. If still equal, reverse through the check points using the same procedure as above until a result is achieved. Placings shall be determined in the same manner. In the event of 3 or more ties the same procedure is to apply.
- (b) In all Open and Inter-club events, a result sheet showing the performance of all competitors shall be forwarded to each competing Club as soon as possible after the event.
- (c) Results are to remain provisional for a period of at least 30 minutes after the nominal winner has been announced and results posted. Any protests against the posted results are to be made in the 30 minute period prior to the result being declared final. No protest against the posted results will be accepted after formal declaration of the winner and placegetters.

12. AGGREGATE POINTS

- (a) Aggregate points will be allotted to placegetters as

Position	Points	Position	Points
1st	100	11th	9
2nd	90	12th	8
3rd	80	13th	7
4th	70	14th	6
5th	60	15th	5
6th	50	16th	4
7th	40	17th	3
8th	30	18th	2
9th	20	19th	1
10th	10	20th	Nil

- (b) Assessment of the best aggregate score for the VYC series will be a percentage basis of actual points to possible events. This will enable skippers who are appointed Event Organiser on the day of their club's event (maximum of one event within the VYC series) to compete on an equitable basis.

eg: Boat A can compete in all aggregate events - say 8 in total.
 Therefore possible points = $100 \times 8 = 800$
 Say actual score is 600 points
Therefore percentage is $\frac{600}{800} = 75\%$

(contd.)

- (b) Alternatively, a sight across two fixed points set to a given datum point. In this instance a buoy shall be laid to seaward denoting the course boundary from the shore but not necessarily the start point.
- (c) On an offshore start or finish, an imaginary line sighted across two plotted fixed objects on land or sea and conducted from a vessel or suitable structure. The Start and/or Finish Vessel in night events shall be identified by a quick flashing light as detailed in race briefing, and so placed on the start and/or Finish vessel so as to be visible 360 degrees.

5. LIMIT BUOYS IF USED

- (a) Must be accurately laid by means of transits, and shall be at least 0.5 cables from the actual course line. Buoys shall be substantial, easily identifiable by a mast of minimum 1 metre in height flying the Club Burgee of the day, and moored securely on the shortest possible line. Check vessels must remain clear of the limit buoy and not impede any competitor's view.
- (b) Limit buoys on a straight line course must be at least 0.5 cables either side of actual course line and check vessels are to stand well clear and not impede any competitors.

6. TIMING

- (a) Checkpoint timing devices shall be of the digital readout type.
- (b) All timing devices must be accurately set to Telstra time signal (1194).
- (c) Check point timing devices shall be checked by the Event Officials of the day prior to and at finish of the event

- (g) Courses shall then be accurately measured one leg at a time from the given datum, using the Latitude scale on the chart if available. The measurements shall be taken to three decimal places, .004 and under being graded down and .005 and over being graded up, thus correcting the length of each leg to two decimal places.
- (h) Wherever possible, the course should be checked trigonometrically to ensure Northings cancel Southings and Eastings cancel Westings to within 0.1 cables. Refer to example at back of this Handbook.
- (i) On completion of the course layout and measurements, and prior to issue to competitors, the event briefing, check point positions and check point times shall be plotted and checked by an experienced Log Trialler not competing in that particular event. For inter club events, the course check shall be carried out by an experienced Log Trial official from other than the host Club.

3. START AND FINISH LINES

- (a) Starting and Finishing Lines shall be not less than 75 degrees to the course line of the starting and finishing leg.
- (b) Where a start or finish line uses a charted marker as one of its extremities, datum points shall be nominated in course briefings a minimum of 0.5 cables on a given bearing from that marker.

4. START AND FINISH SIGHTS SHALL BE:

- (a) An imaginary line from the start or finish tower or vessel to a buoy laid off shore on the line of the start or finish and at a point beyond the datum. Sighting is made across one or more fixed pointers to the buoy.

eg: Boat B, that of an official in an event can compete in only 7 of the 8 events.

$$\begin{array}{rcl} \text{Therefore possible points} = & 100 \times 7 = & 700 \\ \text{Say actual score is} & 550 & \text{p o i n t s} \\ \text{Therefore percentage is} & \frac{550}{700} & = 78.6\% \end{array}$$

Boat B would therefore have a higher placing than Boat A.

- (c) Should any vessel competing for a Club aggregate be asked to officiate in the running of any event then the formula in 12 (b) above shall apply.

13. ENTRY FORMS AND BRIEFINGS

Entry forms for inter club events shall be in the hands of the competing Clubs at least one calendar month prior to the scheduled date of the event. Late entries may be accepted.

If any VYC Series event is not able to be run on either its scheduled date or its pre-notified back-up date, any subsequent running of the event shall be excluded from the calculations of the VYC Aggregate Series for that season.

All entry forms must provide for the following data:

- i. Name of vessel
- ii. Club identification number
- iii. Hull length and colour
- iv. Engine data
- v. Nominated speed for the event
- vi. Skipper's name and phone number

- vii. Navigator's name and phone number
- viii. Number of crew anticipated for the event
- ix. Address for correspondence
- x. Closing date for entries
- xi. A **Yes/No** checkbox for Skippers declaration regarding use of electronic aids as specified in Rule 3(n)

All event briefing sheets must clearly specify:

- (a) Course to be sailed for the event.
- (b) Chart or charts on which the course is to be plotted, showing the last amendment numbers to that chart or those charts.
- (c) Bearings, nominated in degrees True.
- (d) Distances nominated in Nautical Miles correct to two decimal places.
- (e) Official Course Start Time.
- (f) Official time to be used for the event. This shall be Telstra 1194.
- (g) Course datum points including chart change datum points if more than one chart is being used for the event.
- (h) Start and Finish lines accurately defined.
- (i) Radio frequency, call sign and times of radio operation for the event.
- (j) Warnings to competitors covering any hazard that may exist in proximity of the course, or any speed restriction applicable to the course area.
- (k) Speeds available for the event.
- (l) Additional conditions of entry, if any.
- (m) The names and phone numbers of the host Club and the event officials.
- (n) Penalties, if applicable, for late entries.

INSTRUCTIONS FOR PREDICTED LOG TRIAL OFFICIALS

1. OTHER EVENTS

Officials will endeavour to ascertain if any high speed "off shore" races, or Yacht Club sail events will be held on the day and time of their event in the area proposed for the course. If so, the respective Officials should endeavour to reach mutual agreement on such course or time variations as will ensure that safety of all concerned. Particular attention should be paid to areas used by small "off the beach" yachts.

2. COURSE LAYOUT PROCEDURES

- (a) New copies of the relevant chart/s shall be used.
- (b) Intended positions for checkpoints shall be plotted first and the course then plotted to comply with the requirements listed below.
- (c) The course is to be plotted to pass no closer than 0.5 cables of the checkpoint positions determined in 2(b) above. Land based checkpoints and nighttrials excepted.
- (d) Where a course is plotted to pass within 0.5 cables of a charted navigational aid, the course instructions to competitors are to nominate on which side competitors shall pass the said navigational aid.
- (e) The minimum distance between time checkpoints shall be three cables.
- (f) The course of the event is to be accurately plotted on a scaled chart using preferably whole numbers of degrees as leg bearings. Use of fractions of a degree is limited to half a degree and should be avoided if possible.