

# **CAT 4 & 5 CHECK LIST**

3.09 For Category 4 or 5 races, yachts may either obtain a certificate every 3 years or sail individual races with a skipper's declaration of compliance

## **4.5 Category 4**

Short races, close to shore in relatively warm or protected waters.

## **4.6 Category 5**

Short races, inside harbour limits or within fully protected waters to Category 4 or 5 **are** in general, "round the buoys" type or short course, **harbour and inshore** racing

A yacht shall be designed and built to resist capsizes.

9.1 (K) Floors must be through-fastened and (preferably) carry a percentage of keel bolts.

(K) All keel bolts to be inspected and tightened regularly.

For any vessel over ten years old, inspectors may request the withdrawal of any bolt.

## **10.0 DECKS**

10.1 Deck beams to be of adequate size and properly housed.

10.2 Hanging knees or equivalent structures must be fitted, particularly around mast area.

10.3 Lodging knees or stiffening must be fitted and properly fastened.

10.4 Beam shelf is recommended in larger wooden yachts.

10.5 Gunwale deck beams and carline to be properly tied together with tie rods (not applicable if deck is of plywood).

10.6 Coamings to be of sufficient thickness to enable them to be through-bolted through carline main beams and coach-house tops.  
(Not applicable if coamings are of plywood).

10.7 Where deckhead or coach-house tends to be of light construction a strongback (fastened in place) carried through and supported from keel or floors to deckhead must be carried.

10.8 Decks and working areas must be coated or fitted with non-skid material.

**11.2 Cockpit companionways.** If extended below main deck level, must be capable of being blocked off to the level of the main deck at the sheer line abreast the opening. This is often achieved by locking in a lower washboard of appropriate height. When such blocking arrangements are in place this companionway (or hatch) shall continue to give access to the interior of the hull

**11.3 Cockpits** shall be structurally strong, self-draining and permanently incorporated as an integral part of the hull. Cockpit floors must have adequate bracing. They must be essentially water-tight, that is, all openings to the hull below the main deck level must be capable of being strongly and rigidly secured. Any bow, lateral, central or stern well will be considered a cockpit. Self draining cockpits must be able to be completely sealed.

The maximum volume of all cockpits below lowest coamings shall not exceed 9% loaded water line times maximum beam times freeboard abreast of the cockpit ( $9\%L \times B \times FA$ ) The cockpit sole must be at least 2% length overall above loaded water line (2% L above LWL).

## **11.0 COCKPITS and COMPANIONWAYS**

**11.6 (K) For yachts 8.53m (28ft) length overall and over.** Cockpit drains adequate to drain cockpits quickly but with a combined area (after allowance for screens if attached) of not less than the equivalent of four 20mm ( $\frac{3}{4}$  in) diameter drains. Yachts built before 1 January 1972 must have drains with a combined area (after allowance for screens if attached) of not less than the equivalent to two 25mm (1 in) drains. Cockpits must drain at all angles of heel

**11.7 (K) For yachts under 8.53m (28ft) length overall.** Cockpit drains adequate to drain cockpits quickly but not less in combined area (after allowance for screens if attached) of the equivalent to two 25mm (1 in) diameter drains. Cockpits must drain at all angles of heel

## **12.0 HULL STRUCTURE: BULKHEADS, FLOORS**

**12.1 Composite construction (Foam Core):** All boats built after 1 January, 2000 shall have a declaration by an accredited engineer, or the yacht designer, confirming suitable engineering specifications and construction which must be provided on inspection from 1 January, 2005.

**12.3** In the event of the vessel having no bulkhead or knees in the way of mast partners, adequate lodging knees must be fitted to the deck and/or cabin top.

**12.4** Brass fastenings shall not be used underwater.

12.5 Plywood partitions/bulkheads must have solid doublers fitted from the deck to the hull. All knees must be through bolted in place.

### **13.0 FLOODING PREVENTION, HATCHES, WINDOWS, BILGE PUMPS, STORM COVERINGS**

13.01 The hulls, floats, including decks, coachroof and all other parts of the yacht shall form an integral and essentially water-tight unit; and any openings shall be capable of being immediately secured to maintain this integrity. For example, running rigging or controls shall not compromise this watertight unit. Centreboard or dagger and outboard trunks shall not be open into the interior of the hull

13.02 (K) Hatches. No hatch forward of the maximum beam (BMAX) station shall open inwards excepting ports having an area of less than 710cm<sup>2</sup> (110 sq.in).

13.03 Hatches to be of adequate strength comparable to deck

13.04 All hatches shall be permanently fitted so that they can be closed immediately and will remain firmly shut in a 180° capsize

13.05 Hatches and skylights in accommodation areas must be fastened from below to allow for emergency exit.

13.06 All external storage hatches must be able to be fastened from the deck.

13.07 All deck openings must be able to be blocked off in an emergency.

13.08 Hatches must be clear of the water at 90° capsize.

13.09 Companionway doors, hatches and locker doors must be able to be made strong and water-tight. Rebates for slides must be particularly strong

13.13 Bilge Pumps. All bilge pumps shall be of a size & capacity commensurate with the displacement & type of yacht and be fitted with strum boxes or strainers.

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13.16 No bilge pumps may discharge into a cockpit unless that cockpit opens aft to the sea. Bilge pumps shall not be connected to cockpit drains.

13.17 Unless permanently fitted, each bilge pump handle shall be provided with a lanyard or catch or similar device to prevent accidental loss.

13.19 Two buckets of stout construction each at least 9 litres (2 galls) capacity. Each bucket to have a lanyard.

## **14.0 MAST STEP, CHAINPLATES**

14.1 The mast(s) must be adequately stepped. All boats must have a mast step preferably spanning several floors, or to be fitted in such a way as to spread the load. The heel of the mast shall be securely fastened to the mast step or adjoining structure sufficiently to retain the mast in place while sailing.

14.2 All chainplates and similar fittings shall be through-bolted where applicable.

14.3 Stemhead fitting and deck fittings must be adequate in relation to yacht's displacement and must be through-fastened.

14.4 Mast collars shall be water-tight.

14.5 Mast wedges shall be secured. Rubber cushioning band instead of wooden wedges are recommended for alloy masts.

## **15.0 MASTS, SPARS, RIGGING AND SAILS**

15.02 Rigging screws, shackles etc to be made fast by lock nuts, split pins or seizing.

15.03 All clevis pins shall have lock nuts or split pins through them.

15.04 Clevis pins, shackles, rigging screws etc must be of equal strength to rigging.

15.05 Mast tangs must have through-fastening as well as screws or rivets and must have adequate bearing for clevis pins or shackles.

15.06 Mast sheaves shall be properly fastened and of sufficient diameter to avoid fatigue and crimping of halyards.

15.07 Roller furler and all mast fittings shall be of suitable size for the vessel

15.09 Masts shall have no less than two halyards, each capable of hoisting a sail.

15.11 Tools and spare parts including **adequate** means to disconnect or sever the standing rigging from the hull in the case of need. Tools shall include a hacksaw with 12 blades, an adequate hammer and drift{ cat4}

15.13 Sheet winches shall be mounted in such a way that no operator is required to be substantially below deck.

All new storm sails built after 1 January, 2005 shall be Air/Sea Rescue Orange in colour.

(c) One **heavy weather jib** of suitable strength for the purpose with the area not greater than 13.5% of the square of the luff of the largest headsail (0.135 IG<sup>2</sup>) and which does not contain reef points{cat4}

15.18 Storm sails designed for a seastay or luff-groove device shall have an alternative method of attachment to the stay or a wire luff. Trysail slides must be metal and compatible with the mast track. (cat 4)

15.19 A suitable sail repair kit (cat 4)

## **16.0 ACCOMMODATION: Galley, toilet, ventilation, bunks, stowage, food, water.**

16.01 There shall be no area of the accommodation from which a galley or engine fire would prevent exit

16.03 Toilet, securely installed or fitted bucket. Note: The skipper is responsible for compliance with the sewage discharge requirements contained in the Marine Pollution Regulations

16.04 Bunks suitable for use at sea including lee cloths where required

16.09 Gas appliances. Installation shall comply with NZ Standard 5428:2006. See SR Appendix 5.

This notice of minimum size 75mm x 150mm shall be visible adjacent to the stove. “**TURN OFF GAS AT BOTTLE**”

16.11 Galley facilities.(cat 4)

16.13 At least one securely installed water tank (cat 4)

16.15 Suitable containers for water

16.17 Ballast and heavy equipment. Inside ballast in a yacht shall be securely fastened in position. All other heavy internal fittings (such as batteries, stoves, gas bottles, tanks, engines, out-board motors, etc) and anchors and chains shall be securely fastened so as to remain in position should the yacht capsize 180°. No heavy objects including ballast and chain should sit directly on the planking or hull skin.

16.18 Yacht's name or personal identification on lifejackets, harnesses and lifebuoys.

17.02 Fire Extinguishers, at least two, readily accessible and visible in suitable and different parts of the boat. Total weight if dry powder, not less than 4kgs

17.03 Fire extinguishers shall be serviced/tested/replaced at the time intervals specified by the manufacturer

## **LIFEJACKETS**

NZS 5823:2005. Type 402 or its equivalent (cat 4)

NZS 5823:2005. Type 403 or its equivalent (cat 5)

17.06 Whistles (without peas) attached to lifejacket and lifebuoys. All lifejackets must be fitted with marine retro-reflective tape (cat 4)

## **HARNESSES**

(b) 50% of the crew must be equipped

## **LIFEBUOYS and DAN BUOYS**

17.13 (a) At least one suitable lifebuoy marked with the yacht's name and equipped with a **drogue**, **pealess whistle**, a **self-igniting light** having a duration of 2 hours. Lifebuoys shall be predominantly brightly coloured and fitted with reflector tape each side.

Note: Inflatable devices meeting these requirements are acceptable. Note that these devices usually require annual servicing and must be in date.

17.14 Heaving line. Must be designed for the purpose and be 16m (52 ft) minimum length, 6mm ( $\frac{1}{4}$  in) minimum diameter of brightly coloured floating line with a floating weight tied or spliced at the outer end.

17.15 Emergency Knife. A properly housed sharp knife shall be stowed with ready access to crew in the cockpit

## **SAFETY RAILS**

Adequate handrails must be fitted to allow safe movement of crew around the deck. Handrails shall have a large percentage of through-fastenings. Adequate hand holds should also be fitted below decks

17.18 Lifelines shall be taut. When a deflecting force of 50N (5kg) is applied to a lifeline midway between supports, the lifeline must not deflect more than 50mm.

17.19 (a) (K) Lifeline terminals. A taut lanyard of synthetic rope may be used to secure lifelines, provided that when in position its length does not exceed 100mm (4in) and that sufficient turns are used to maintain strength.

(b) (K) For in harbour racing i.e. **REGATTAS**. The top lanyard must always be taut. However the bottom lanyard can be loosened to allow up to a maximum of 200mm movement as measured from the middle of the LOWER lifeline. Sufficient turns must be maintained to preserve STRENGTH

17.20 (K) Stanchions shall not be angled at more than 10 degrees from the vertical at any point above 50mm (2in) from the deck. Stanchions shall be straight, except that one bend is permitted in the first 50mm (2in) above deck. They may be displaced horizontally from the point at which they emerge from deck or base up to 10mm (3/8in) For yachts with an Age Date of 1 January 1987 or later, stanchions, pulpits and lifelines shall not be made of carbon fibre. Stanchions may be fibreglass or alloy, but shall not be weaker than similar stanchions of stainless steel.

17.21 (K) Overlapping pulpits. Lifelines need not be affixed to the bow pulpit if they terminate at, or pass through adequately braced stanchions 60cm (2ft) [45cm (18in) for yachts under 8.53m (28ft)] above the working deck, set inside and overlapping the bow pulpit, provided that the gap between the upper lifeline and the bow pulpit does not exceed 15cm (6in).

17.22 (K) Pulpit and stanchion fixing. Pulpits and stanchions shall be through-bolted or welded, and the bases thereof shall not be further inboard from the edge of the working deck than 5% of maximum beam (BMAX) or 15cm (6in) whichever is greater. Stanchion bases shall not be situated outboard of the working deck.

17.27 (K) Toe rails. A toe rail of not less than 25mm (1in) shall be permanently fitted around the deck forward of the mast, except in way of fittings. Location to be not further inboard from the edge of the deck than one third of the local beam.

17.29 Anchors and ground tackle to be carried shall include: Two anchors with: (cat 4 (i) A cable the boat's length on deck of chain (min) plus 60m (195ft) of rope or chain, the bitter end of this cable to be secured to the hull. (cat 4) (ii) A second anchor cable of 6m (19ft 6in) minimum of chain plus 40m (130ft) of rope or chain. (cat 4) Floating anchor warp not acceptable. At least one anchor must be complete with tackle and ready for immediate use at all times.(cat 4) One anchor, suitable chain and warp.(cat 5)

17.30 Anchors and any chain shall be securely fastened in position when not in use. Where anchors are stowed in wells opening to the deck, they shall be lashed in place or the lid of the well shall be fitted with a positive action catch. Weight or size of anchors, chain and warp shall be computed on the basis of LOA of yacht as follows:

17.34 (M) Grab Bag see Appendix II. To be packed in a floating container complete with lanyard

### 17.35 **FIRST AID KIT**

(a) Skippers and crew must have the knowledge and stores to cope with any reasonably expected medical emergencies that occur during the voyage taking into account the following conditions: trauma of all types and causes, medical problems involving pain, breathing, shock, infections, temperatures and dental accidents

18.2 (i) Installed Marine VHF radio (55 channel), call sign and operator or handheld license required.

18.3 Radio receiver capable of receiving weather bulletins.

18.4 Category 5 must have either a waterproof handheld VHF radio **OR** a Cellphone protected from water ingress on board

### **FLARES**

18.7 Distress signals conforming to the current International Convention for the Safety of Life at Sea (SOLAS) Regulations to be stowed in waterproof container(s), and meeting the following requirements for each category as indicated.

(c) Two red hand flares.

(d) One white hand flare or spotlight minimum 500,000 candle power (cat 5)

(f) One orange smoke day signal.

Flares must not be more than 3 years old as indicated by the expiry date. Flares that are in good condition and not more than 5 years out of date may be carried on board provided they are **IN** addition to the flares required to be carried as per regulation 18.7.

### **FLASHLIGHT**

18.8 Two flashlights, one of which is **floating**, suitable for signalling, water resistant, with spare batteries and bulbs. Spotlight recommended.

19.01 Compass. Marine type properly installed and adjusted with current deviation card. (cat 4)

### 19.03 **CHARTS PUBLICATIONS & PLOTTING EQUIPMENT**

(c) Reasonably large scale marine charts of area to be sailed.

(d) Plotting equipment, dividers etc

#### **19.04 NAVIGATION SYSTEMS**

(d) Echo (Depth) Sounder.

#### **19.07 NAVIGATION LIGHTS**

To be shown as required by the Collision Prevention Rules to be permanently mounted and wired so that they will not be masked by sails or the heeling of the yacht, and are mounted above the level of the main deck.

Lights must be switched on from sunset to sunrise and in restricted visibility.

Vessels with an engine fitted must also have fitted the correct lights for a vessel under power i.e. masthead light.

(Refer to the Collision Prevention Rules Section 2, Lights and shapes 20.22.)

Sectored navigation lights shall not be fitted to rotating spars. Spare bulbs and fuses for navigation lights shall be carried as appropriate.

Yachts under 7m (23ft) LOA shall comply with the Collision Prevention Rules. For those between 7m (23ft) and 12m (40ft) LOA (ie they shall exhibit side lights and a stern light).

19.09 Foghorn to be readily at hand for use in manoeuvring signals

#### **20.0 ENGINEERING SYSTEM: Fuel, Electrical, Plumbing, Skin-fittings, Valves and Propeller Shaft**

20.01 Engine. If fitted, installation of the engine shall be such that when running, the engine can be securely covered, and the exhaust and fuel supply systems are securely installed and adequately vented and protected from the effects of heavy weather, and water siphoning. The installation shall prevent movement of the engine during a severe knock-down or capsize. The engine compartment shall be adequately ventilated and moving parts protected from loose items.

All hoses below the water line are to be double clipped including exhaust hoses.

(b) Vents on water tanks and fuel tanks to be fitted in such a manner as to prevent the loss of liquid or ingress of salt water when the vessel is heavily heeled.

(c) Vents on fuel tanks to allow fumes to escape outside hull.

(d) All tanks to have cocks in accessible places, with remote control if necessary, on all outlets except air vents.

Electrical work should conform to the current version of Standards AS/NZS 3004

20.04 All batteries must be installed securely in adequate battery boxes. The bottom of the box must be above the level of the cabin sole. Battery boxes must be acid proof unless all the batteries are fully sealed units. (Refer AS/NZS 3004)

20.06 Petrol engines shall have efficient flame traps on their carburettors.

20.07 Fuel storage tanks shall be properly constructed and securely fixed in place. Fuel tanks, batteries and other heavy items must be secured so as to remain in place during a knock-down or capsize

20.08 The minimum amount of engine fuel to be carried shall be as follows.

The minimum amount of engine fuel to be carried shall be as follows:

LWL(m) Litres

20.09 Where petrol is used as fuel, tanks shall be of metal or such other material certified by the manufacturer as suitable for the intended use and shall be vented to the open air.

The tank filler should be so positioned so that spillage and fumes cannot enter the vessel.

20.10 For diesel fuel, tanks shall be of metal or such other material certified by the manufacturer as suitable for the intended use

20.11 Fuel tank shut-off valve. A shut-off valve or cock shall be fitted directly to the tank at the outlet with remote control if necessary.

20.12 Fuel lines. A fuel pipe-line to an engine shall have a flexible connection to the engine of a type manufactured for that purpose, or sufficient coils in the pipe at the end connected to the engine to allow for the effects of engine vibration. Except for the special flexible connections, all fuel pipes shall be of metal and clear of the part affected by engine vibration and the pipes shall be rigidly clipped in place. Alternately a fire resistant flexible line may be used throughout provided that the material and terminal fittings are designed for the purpose and certified by the manufacturer to that effect and are adequately separated from exhaust lines.

20.13 Outboard motors. Where a yacht is propelled by an outboard motor and carries fuel in separate containers, such containers shall be supplied by the fuel tank manufacturer for that purpose and shall be secured on deck or in a separate ventilated compartment.

The outboard motor(s) must not be located near accommodation

It must be demonstrated that the outboard motor(s) can be placed in the operating position and operated without the need for any crew member to be substantially outside the stern pulpit or lifelines.

Yachts with other than outboard motor(s) having integral fuel tanks shall be able to demonstrate that the tank can be refilled when the motor is in its operating position. It is recommended that an outboard motor mounting at the stern be of the "long shaft" type. An outboard motor of the "standard shaft" type must be able to be operated efficiently and safely.

20.14 Sea cocks or valves shall be fitted on all through-hull openings with the exception of integral deck scuppers, shaft log, speed indicators, depth finders, and the like, however a means of closing such openings when necessary to do so, shall be provided.

20.15 Transom outlets. When these are fitted securely, gate valves need not be fitted at the Inspector's discretion providing that the outer hull aperture is in such a position that a suitable plug can be inserted at a maximum reach of arm's length from the deck. All such plugs shall be permanently attached to the hull by suitable cord or chain, long enough to allow insertion without disconnecting such cord or chain.

20.16 Soft wood plugs, tapered and of the correct size, to be attached to, or adjacent to, each skin-fitting

## **22.0 SAIL NUMBERS AND NAME**

22.1 Yachts shall clearly display in legible characters at least 50mm but preferably 100mm in size, their registered name and sail number.

22.4 Yacht's name or personal identification shall be marked on miscellaneous floating items such as grab bags, spare lifejackets, containers of spare fuel, equipment, cockpit squabs, etc.