

1 The Boarding and landing of pilots



“Code of Safe Practice”

United Kingdom Marine Pilots Association

Revised October 2003.

The “Technical & Training Committee” of “The United Kingdom Marine Pilots Association” has produced this new version of the code.

Its purpose is to act as a guide to safe practice and is commended to all those involved in the pilot service. It not only covers the act of transfer from pilot boat to ship and vice-versa, but also addresses issues such as the pilot boat itself, boarding and landing areas and training.

Additionally, transfer of pilots by helicopters has been included, as this is becoming a more common and recognised practice.

The code should be used primarily as a basis for safe operating procedures, which are capable of being adopted to suit particular locations or type of operation. Secondly, it is written, to act as a basic training aid for existing and trainee pilots and as an aid to all involved in Pilot transfer operations.

The revision of the code was necessary due to changes in boat construction and speed, increased demand on pilot boarding operations, better understanding in rescue procedures that have occurred since 1991 and new means of pilot transfer. In addition the code has been upgraded in line with recent UK legislation, particularly the “Port Marine Code” and associated “Guide to good practice”

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1. The Pilot Boat

- 1.1 The Competent Harbour Authority must ensure that the pilot boat/boats on service in all ways meet the relevant requirements of:
 - 1.1.1. The Merchant Shipping (Small Work boat and Pilot boat) Regulations 1998.
 - 1.1.2. The “Maritime and Coastguard Agency’s”, “Code of Practice for the Safety of Small Work Boats and Pilot Boats”, Known as the “Brown Code”.
 - 1.1.3. The “Port Marine Safety Code” Sections 2.7.7. To 2.7.10.
- 1.2 Prior to leaving the berth, and at least once per watch, the pilot boat crew shall ensure that their boat or boats are in all respects ready for sea. All openings e.g. Hatches, access to below-deck spaces and the engine rooms should be closed when under way at sea.
- 1.3 On joining and prior to leaving a berth, the coxswain and crew should familiarise themselves with the position and stowage of the safety equipment fitted to that particular pilot boat.

- 1.4 On joining in harbour or at sea, the pilot should also endeavour to familiarise himself with the position and stowage of the safety equipment fitted to that particular pilot boat.
- 1.5 Because complying with 1.4 above is not always easy when landing during darkness, pilots should ensure they are familiar with the normal position and stowage of such equipment on their pilot boats, or, where several different classes of pilot boat are in operation, the normal stowage for such equipment in that class of boat.
- 1.6 Where possible, arrangements should be made for pilot boat mooring ropes to remain at the berth in order to avoid accidental loss or accidents involving same whilst underway. This also avoids clutter of the decks. Additional ropes should be stowed on board in a safe location.
- 1.7 The decks of the pilot boat should be clear of all obstructions allowing clear passage and movement to the pilot and crew. Where deck lighting is fitted to the boats, it should be tested prior to leaving the berth.
- 1.8 An up-to-date and accurate log will be maintained on board each boat, including all checks and safety checks.
- 1.9 Pilots should be careful, particularly during periods of reduced visibility, not to impede the coxswain of the pilot boat in his navigation of the boat, for example, by impeding his view of the radar and use of the boat's VHF.

2. Leaving the Berth

- 2.1 The pilot boat shall not leave a berth unless in all respects ready for sea.
- 2.2 The pilot boat shall be manned in compliance with the "Merchant Shipping Notice MGN 50 (M) dated December 1997".

- 2.3 The Pilot boat shall not operate outside the terms of its MCA Pilot boat Certificate, (PB1), which shall be clearly displayed on board.
- 2.4 Mooring ropes shall be safely stowed (See 1.6).
- 2.5 Radio VHF communication between Port/Pilot boat shall establish that the pilot boat is leaving the berth on task, and has returned to the berth on completion. This reporting procedure should be maintained as a standard operating procedure even though conditions may not appear sufficiently bad to warrant such procedure. This practice is essential when the boat is operating in reduced or nil visibility. It may also be prudent to state the number of persons on board when leaving the berth on task, especially in districts where crew sizes vary and there may be one or more pilots on board.
- 2.6 All pilots and crew on the pilot boat shall wear appropriate protective clothing and buoyancy equipment as approved by the CHA. A minimum standard has been established by the UKMPA in its recommendations as a guide, (see Appendix 2) and there is further reference in Section 22.6 of the MCA's "Brown Code of practice". Pilots should be made aware of the potential dangers associated with wearing auto-inflate lifejackets within the pilot boat, and the associated difficulties that would arise in a capsize/flooding evacuation situation.

3. Boarding and Landing Areas

- 3.1 CHA's have a responsibility to ensure that areas chosen for the boarding and landing of pilots have regard to sufficient sea-room for manoeuvre, depth of water and, where possible, are sheltered from the more exposed elements of predominant winds and weather. Additionally, where possible, these areas should be located where there is little seabed gradient. It should

- be recognised that boarding and landing areas can be affected by wash from passing traffic.
- 3.2 Where possible, such areas should be clearly defined and marked on the appropriate charts, and nautical publications.
 - 3.3 Where possible, the area chosen should not be at junctions or alter course points for shipping and if possible in areas of less dense shipping.

4. On approaching the vessel

- 4.1 VHF radio contact should be established between the Pilot boat and vessel as soon as possible on the channel established by the CHA for that purpose. This channel may be the "Port Control" channel or as published in the "Sailing Directions".
- 4.2 The coxswain of the Pilot boat should establish the position of the vessel to be boarded and, where there is more than one vessel in the vicinity of the boarding area should establish the position of the vessel to be boarded using a relative position to a known navigational aid.
- 4.3 After consultation with the pilot, the pilot boat coxswain should advise the vessel to be boarded on which side the vessel should rig her pilot ladder in order to give the best lee for his approach and the required height of the lower step above the water level. The boarding speed to be maintained shall also be agreed. The decision on which side the pilot will board shall be agreed and communicated to the vessel as early as possible. If there are numerous vessels to board, the vessel may be given a boarding sequence number from the coxswain or VTS.
- 4.4 The pilot boat coxswain shall liase with the vessel in order to make the best lee for safe transfer of a pilot, making due allowance for the close proximity of other vessels and their washes.

- 4.5 On approaching a vessel from a head on position and on the same side as the pilot ladder, care must be taken to insure the wash created by the pilot boat does not interfere with the safe boarding or landing operation. This may require the pilot boat to remain clear of the pilot ladder until the wash has cleared down the ship's side. At night the use of the searchlight to check for incoming washes would be prudent.
- 4.6 During the approach to the vessel, both the pilot and assisting deckhand should remain in the cabin until the pilot boat is at reduced speed and in the lee of the vessel.
- 4.7 At night the pilot boat deck illumination lights should be turned on before anyone goes on deck.
- 4.8 During final approach, the pilot boat searchlight should be turned on to illuminate the pilot ladder and forward deck of the pilot boat. Care must be taken not to dazzle personnel on deck, or adversely affect the night vision of persons on the bridge of the vessel, to be boarded
- 4.9 Particular caution should be taken when a vessel is at anchor and unable to manoeuvre to make a lee. The vessel may need to be underway before embarking the pilot to provide a lee.

5. Low freeboard vessels



- 5.1 When the vessel to be boarded/landed from has a freeboard near or less than that of the pilot boat particular caution should be taken. In this situation there is probably not sufficient flat side for the pilot boat to rest against and the conditions can be worsened if the vessel/pilot boat is rolling or pitching. This increases the potential for damage to the pilot boat and severe injury to pilot and deck crew, as the pilot boat may become hung up on the ship's gunwale.
- 5.2 It may be that a simple step across is all that is required at an opportune moment but in cases where this is not possible a different approach is required. In practice this will involve looking for a suitable access point and waiting for a safe opportunity. In all cases full life saving and ancillary equipment must be in place before boarding/landing is attempted.
- 5.3 The pilot should not be tempted to stand outside the rail of the vessel waiting his chance to disembark.



- 5.4 If using decks above the main deck consideration must be given to the following points:
 - 5.4.1 The ladder must be rigged on the flat of the vessel.
 - 5.4.2 Interaction and pressure waves between the pilot boat and the vessel, near the ends of the vessel, increase the difficulties of manoeuvring the pilot boat safety when alongside. Particular care should be taken as the flare of the ship's bow or turn of the bilge may overhang the deck of the pilot boat.
 - 5.4.3 Because of the changes in pressure interaction with speed, the speed of the vessel must be maintained at a constant speed as agreed between the pilot boat coxswain and master of the vessel to be boarded or disembarked. (as per sect.4.3)
 - 5.4.4 Boarding at a raised poop cannot always be clearly seen from the bridge
 - 5.4.5 Near the stern the proximity of the propellers would give little chance of survival in the case of a man overboard.
 - 5.4.6 Engine room discharges could cause flooding on the pilot boat.
 - 5.4.7 In view of the increased difficulties and time taken when boarding/landing from vessels with low freeboard, consideration should be given to the position, course and speed of the operation to ensure that the vessel is not running into danger. This may cause delays to the boarding/landing of other vessels.
- 5.5 In adverse weather conditions, where the risk to personnel as well as the launch may be too great, consideration must be given as to whether an attempt to board or land a pilot should be aborted.
- 5.6 The decision whether or not to place a pilot boat alongside the agreed location shall ultimately be the responsibility of the coxswain.

6 The vessel

- 6.1 Upon establishing contact with the pilot station/pilot boat, the vessel should rig a pilot ladder or combination on the appropriate side as requested and in accordance with the following: “The International Convention for Safety of Life at Sea (SOLAS 1974) Chapter V Reg. 17”. The MCA publication (Safety of Navigation) Reg. 2002, Regulation 23 “Pilot Transfer arrangements” and Annex 21. “IMO resolution A889 (21) (1999)”. The “Merchant Shipping Act (Pilot Transfer Arrangements) Regulations 1999”. The above, requirements have been laid out in a poster by the “International Maritime Pilots Association”. (See Appendix 1).
- 6.2 The pilot ladder should be rigged and secured at the appropriate pilot ladder boarding position on the ship’s side deck/ side door, which should be as near amidships as possible and on the flat of the hull.
- 6.3 Care should be taken that the vessel is not listing in order to allow the ladder to sit flush against the ship’s side, if the vessel is listing the lee side should reflect this.
- 6.4 During the transfer of pilot between the pilot boat and vessel, the officer supervising the embarkation at the pilot ladder shall be in direct contact with the bridge of the vessel. On large vessels, or when the embarkation point is not visible from the bridge, the communication should be by portable radio.
- 6.5 During the transfer the vessel should maintain steerage way with the engines going ahead at a speed compatible with the ability of the launch to remain comfortable alongside.(as per section 4.3)
- 6.6 The vessel should not be stopped in the water or her engines put astern, except in an emergency or when requested to do so by the pilot boat coxswain.

- 6.7 When boarding with a combination accommodation ladder/pilot ladder, the accommodation ladder must always lead aft.



- 6.8 The accommodation ladder must be rigged sufficiently high to allow the pilot boat to lay alongside the pilot ladder section, with sufficient allowance for swell. This distance may be specified by the pilot boat coxswain, as per section 6.1.

7 Pilot Boarding Operation



- 7.1 As per 5.6, the decision whether or not to attempt to put a pilot boat alongside a vessel is the responsibility of the coxswain. In all cases the decision whether or not to board the vessel must be the responsibility of the pilot.
- 7.2 Any deckhand on deck as well as the pilot must wear buoyancy aids as approved by their CHA. The pilot will wear protective-clothing and buoyancy equipment as defined in paragraph 2.6. In all cases, these are to be fastened in accordance with the manufacturer's instructions.(See Annex 3 UKMPA /PPE)
- 7.3 It is considered essential that the deck hand be secured to the pilot boat whilst on deck without restricting freedom of movement.
- 7.4 Provided that the ladder has been rigged at the correct height, the deck hand should proceed forward, up the safest side, and be ready to lift the end of the ladder clear as the pilot boat comes alongside. It is important that the ladder does not become trapped between the vessel and the pilot boat, which may result in damage and excessive strain on the ladder.
- 7.5 Once alongside, the pilot should proceed forward, up the safest side, to the ladder. The coxswain should be informed as to the side being used. In considering the safest route the following should be taken into account:
 - 7.5.1 The width of the deck space on the pilot boat.
 - 7.5.2 The location and usability of the safety rail.

- 7.5.3 The dangers if taking the inside route if the pilot boat is rolling, restricting the area between the deckhouse of the pilot boat and the flat of the ship's side.
 - 7.5.4 The exposure to the elements if taking the outside route, especially when a good lee is not possible or there is passing traffic.
 - 7.5.5 The heel of the pilot boat during transfer.
 - 7.5.6 The proposed "stepping on" location on the side deck.
 - 7.5.7 The ability of the coxswain to view the transfer operation.
- 7.6 Tripping lines should not be attached to the lower end of the ladder under any circumstances. The use of tripping lines may be accepted after establishing agreement between the pilot boat and boarding vessel. If this is agreed then the line should:
- (i) be attached to the forward side of the ladder above the black steps.
 - (ii) Be secured in such a way that it cannot foul the ladder, pilot or pilot boat.
 - (iii) Shall not be used to lift the ladder when the pilot boat is manoeuvring to come along side.
 - (iv) Shall not be permanently attached to the ladder, and be easily detachable.
- 7.7 Where an adjustment to the height of the ladder is required, the coxswain shall communicate this to the bridge of the vessel by VHF or to the deck officer by deck speaker. The pilot and deck hand shall be recalled to the protection of the pilot boat cabin. The boarding operation should not be attempted until confirmation from the deck crew of the vessel, that the ladder has been re-secured properly is received.
- 7.8 In adverse weather conditions the risk associated with boarding ship are heightened. Neither the pilot nor the deck hands should proceed outside the cabin until the

pilot boat is in the lee of the vessel being serviced and permission to proceed with boarding has been granted by the coxswain. The pilot may as per 7.1 still abort the boarding operation at any time.

- 7.9 Before the pilot steps onto the ladder he should establish it is secure by communication with those at the top of the ladder. If there appears to be no one on deck at the top of the ladder the pilot should not attempt to embark.
- 7.10 The timing of stepping from the pilot boat to the ladder requires the use of proven techniques, e.g. using the top of the wave to step onto the ladder and the roll of the vessel to aid the ascent. If conditions are such that, in the estimation of the pilot a safe boarding cannot be effected, then the attempt should be abandoned.
- 7.11 When the pilot has a reasonably short climb, it is better for the pilot boat to remain alongside while the climb is completed to ensure the pilot boat does not foul the ladder when leaving the ship's side.
- 7.12 With a long climb, the pilot may prefer the pilot boat to move away from the vessel's side in order to avoid serious injury in the event of a fall. Such a decision should be made as a result of consultation between pilot and coxswain prior to the pilot leaving the cabin. If the pilot boat leaves the vessels side, particular care must be made not to foul the ladder.
- 7.13 The use of "man-ropes" to assist the pilot is of personal choice and should be provided or removed as required. This information shall be passed to the vessel at the earliest opportunity, to allow time for rigging.

- 7.14 When boarding by hoist, a ladder must be rigged adjacent to the hoist and available for immediate use in the event of possible mechanical failure. (IMO Resolution A667, Para 4.7.3)
- 7.15 When boarding by hoist, the pilot should climb the flexible short pilot ladder into the rigid upper section before indicating that he is ready to be hoisted.
- 7.16 The pilot boat should move away from the vessel once the pilot enters the hoist "cage".

8. Pilot Landing

- 8.1 As with boarding communication should be established between vessel and pilot boat and arrangements made in advance.
- 8.2 Before leaving the bridge the pilot should inform the master of the surrounding ships, any dangers and the requirements for a lee which must be maintained until the pilot is safely landed and the pilot boat is clear of the ship's side.
- 8.3 Before leaving the bridge the pilot should obtain an assurance from the master that the pilot ladder is properly secured. This should also be verified on arrival at the pilot ladder area, both from the deck crew and visually to his own satisfaction.
- 8.4 The Pilot boat deck hand should be at the bottom of the ladder ensuring that the ladder is rigged at the correct height and clear.
- 8.5 Before stepping onto the ladder the pilot should check that the pilot boat is lying alongside and has not fouled the pilot ladder.

- 8.6 Before reaching the pilot boat the deck-hand should count down the steps to go to the deck to the descending pilot and also when to step backwards off the ladder, giving physical help when required. In adverse weather the stepping off point may not be the lowest step, therefore other verbal communications between the deck hand and pilot will be necessary.
- 8.7 Both Pilot and deck hand shall wear buoyancy aids as described in section 2.6
- 8.8 It is considered essential that the deck hand is secured to the pilot boat whilst on deck whenever possible.
- 8.9 It is recommended that the pilot make his way to the cabin followed by the deck hand. The deck hand may be required to receive the pilot's bag from above or secure a tripping line to the ladder. Once clear of the ladder the deck hand shall check the decks are clear and safe and then proceed back to the cabin. The coxswain shall not leave the lee of the ship until all personnel are safely in the cabin. Once clear of the vessel, the coxswain shall call the vessel on VHF and inform him that the pilot boat is clear and that the vessel can resume its passage.
- 8.10 While the decision whether or not to disembark from a vessel to the pilot boat rests entirely with the pilot, the decision whether or not to attempt to put the boat alongside a vessel is the responsibility of the coxswain.

9. Leaving the vessel's side.

- 9.1 Should the pilot boat have difficulty leaving the side of the vessel, the coxswain should indicate his problem to the master and request that appropriate action be taken.

10. Heavy Weather Operations



- 10.1 Pilot boats should proceed at a safe speed in heavy weather compatible with sea conditions and launch design.
- 10.2 In fast pilot boats maximum use should be made of the seating provided, together with seatbelts where fitted.
- 10.3 To avoid injury on passage, the stowage of ancillary equipment should be designed to be clear of seating areas, with particular emphasis on the space around head and shin.
- 10.4 Loose equipment or stores should not be carried unless properly stowed.
- 10.5 See also paragraphs 7.7 and 7.9 for boarding in heavy weather.

11. Poor Visibility

- 11.1 The pilot boat must be allowed extra time on task in order to proceed at a safe speed in poor visibility.
- 11.2 Pilot boat radar shall be operational where fitted.

- 11.3 Pilot boat fog signal shall be operational.
- 11.4 See also paragraph 4.8 for approaching in poor visibility.
- 11.5 Ascertain, by VHF contact with the ship to be serviced, the ship's position, course, speed and position relative to other vessels or navigational marks.
- 11.6 The coxswain, should navigate, without fail, in accordance with the COLLREGS and especially rule 19, and shall, where possible approach the boarding vessel round its stern and not across the bow.

12. Man Overboard Procedures.



- 12.1 In the event of an "Over the side" accident, the first essential is to locate the casualty and maintain him/her in sight; a task to which all crew and pilots on board must devote their whole attention.
- 12.2 Coastguard, port authorities and shipping should be informed as soon as possible, but long conversations must be avoided. Speed of sighting and recovery remain the priority.
- 12.3 Once found, and as the pilot boat is positioned, retrieval equipment can be prepared and deployed as appropriate.

- 12.4 Recovery should be made as per well-practised drills.
The method will depend on the equipment carried and the weather conditions.
- 12.5 Subsequent to an incident arising during the course of boarding and landing, a full report must be written and given to the Port Authority concerned.

13. Training for retrieval of casualties.



- 13.1 The success or failure of the rescue is related directly to the expertise of the pilot boat crew and pilots and their familiarity with the recovery equipment, training in the treatment of hypothermia and artificial resuscitation.
- 13.2 Retrieval drill for pilot boat crew and check listing of recovery equipment shall be carried out on a regular basis to ensure a satisfactory level of competence with an appropriate logbook entry.



- 13.3 Pilots should all be familiar with the recovery equipment of their pilot boats and during their initial training should receive actual “over the side” training.
- 13.4 All sea going pilotage staff should receive training in resuscitation and the treatment of hypothermia to standards in MGN 50 (M) or Basic Sea Survival Certificate. Various shore-based courses are available from marine training centres.

14. Boarding operations involving non-regular vessels.

- 14.1 When boarding or landing vessels that do not comply with the requirements of the “Pilot Transfer arrangements” referred to in section 6.1 special care must be taken prior to the operation to ascertain a safe means of transfer.
- 14.2 Although normal Health & Safety practice is to risk assess the operation, it must be realised that the decision to board the vessel lies with the pilot alone, as is his chosen means of transfer.
- 14.3 Single and multi-hulled fast craft and some Ro/Ro’s, who do not have flat ship’s sides that allow the ladder to lie flat alongside, may request the pilot to travel to and from the ship, from its port of origin.

- 14.4 Oilrig and FPSO transfers – normal industry practice is to use helicopter transfers. It must be noted that transfer of personnel by basket, is classed as a “high risk” operation. In addition the “Billy Pugh” type of personnel transfer basket does not comply with regulation 5 of the Lifting Operations and Lifting Equipment regulations 1998 (LOLER). It should only be used in an emergency and that all involved, in its use, are trained accordingly.
- 14.5 It should be noted that a rig arriving in port, at transport draft, has a greater freeboard than the normal working draft, and hence the ladders on the casings, could be damaged or suffer from years of marine growth, thus making their use hazardous.
- 14.6 All vessels, where there is a risk that the pilot transfer operations may have to be aborted, should be kept sufficient seaward so as not to be brought unduly into danger.

15. Pilot transfer by helicopter.



Some Pilotage authorities are introducing a helicopter service and are finding helicopters both economic and efficient, particularly in adverse weather conditions and when long distances are involved.

Before establishing a helicopter service, much attention must be devoted to the safety implications of “landing-on” and “winching” operations.



To insure safety, marine pilots must have a perfect knowledge of normal operational procedures and be aware of the actions required in emergency situations.

Training is essential for marine pilots before a helicopter service starts. Pilots should be regularly trained in underwater escape techniques and cold water survival skills. It should be noted that in the event of ditching in the water, immediate assistance may not be at hand and hence cold water exposure times will be longer. Consideration should be given to the use of more appropriate survival clothing i.e. Immersion suits and suitable headgear.

- 15.1 **Training on the airfield / departure area of vessel.**
Safety rules on how to approach and board the helicopter. Safety rules on how to disembark and leave the helicopter. Description of the equipment (radio earphones, seatbelts, winching harness or sling, salvage and survival equipment...) Use of these items (demonstration and training).
- 15.2 **Training on board the helicopter.** Basic safety rules to observe during the flight. Behaviour and movements in the helicopter. Instructions on how to use the equipment.
- 15.3 **Procedure prior to winching operation.** Procedure of boarding the helicopter after winching operations. Attitude during the flight.
- 15.4 **Recall of various phenomena.** Static electricity. Safe use of sling (ring). Vertical line with the winch (to avoid pendulum effect). Twisting during winching operation (action arms/legs). How to take off the sling without letting go the sling when boarding a ship.
- 15.5 **Watching the cable on deck.** Watching the personnel in the vicinity of the winching area. Personal equipment (hats, cap, bag with sholder strap, portable radio with a strap, large and open suits...) Risk of strangulation with straps, danger of loose clothing...
- 15.6 **Pilot Coats-** with auto- type lifejackets and auto-lifejackets should have their auto charge and bottle removed prior to boarding a helicopter.
- 15.7 **Other helicopter references guides:**
 - 15.7.1 ICS "Guide to helicopter/ship operations" 3rd edition May 1989.
 - 15.7.2 IMPA "Shipmaster's guide to pilot transfer by helicopter" (1990)
 - 15.7.3 "OPITO" Offshore Petroleum Industry Training Organisation.

Appendix 1.

IMPA "Required boarding arrangements for pilots"

Appendix 2. Extract from UKMPA “PPE& Clothing for Marine Pilot” document- (2002) Pilot coat minimum standards.



The Pilot Coat or Jacket

The coat should be weather proof and fitted with a hood. The fabric of the coat should be durable and preferably breathable. Detachable linings will increase the range of ambient temperatures through which the wearer will remain comfortable.

External and Internal pockets should be secure and of generous proportions. Hand warmer pockets lined with a

good insulating material may be useful. Zip closures should be oversized, corrosion proof and capable of two-way operation. Velcro fastenings should not have the potential to abrade the webbing material of safety harnesses. If the coat incorporates a lifejacket it should be fitted with a belt and a crotch strap to prevent it riding up in the water.

The upper part of the coat should be of a suitable HV colour with retro reflective tape around the cuffs, arms and shoulders. For practical reasons the lower part of the jacket may be of dark, non HV material.

Lifejackets

Lifejackets may be incorporated into the pilot coat or worn externally. In either case they should be capable of both automatic and manual CO2 gas inflation, with an easily accessible oral top-up inflation tube. Lifejackets and lifejacket/coat combination should comply in all respects with the appropriate BS EN Standards.

Lifejackets or Lifejacket/Coat Combinations should additionally be equipped with:

- a splash guard
- one saltwater activated steady light
- one saltwater activated strobe light with manual on/off switch
- one whistle
- one personal locator beacon, for use with pilot cutter or SAR direction finding equipment.

Appendix 3. Extract from “UKMPA PPE & Clothing for Marine Pilot” document- (2003) Pre-wear checks, inspection & maintenance.

Pre-wear checks.

A pre-wear check needs to be carried out each day the lifejacket is used. This should be carried out in accordance with manufacturers' instructions and will normally include visual checks to ensure:

- the firing mechanism has not been activated;
- the automatic firing capsule and gas cylinder are correctly screwed in place;
- there are no signs of corrosion, cracks or dents in gas cylinder or automatic firing capsule;
- unwanted movement within the firing mechanism ('creepage') has not occurred. Some automatic inflation mechanisms have indicators to show when compression in the spring has been lost. Those that do not have such indicators will require careful inspection to judge whether the spring has lost any compression. Examination of the piston or other visible component may also show whether creepage has happened;
- the whistle (and light where fitted) is in position;
- the oral inflation tube is capped;
- the straps and main body of the jacket are not worn or damaged;
- the jacket is correctly packed in accordance with the manufacturer's instructions (ensuring that any Velcro is correctly fastened and the manual inflation lanyard is accessible).

Inspection and maintenance

As well as pre-wear checks, a more thorough inspection and testing programme needs to be carried out in accordance with manufacturers' instructions. Where lifejackets are used heavily the periods between inspection may need to be shorter than the quarterly inspection recommended by some manufacturers. As a general guide where lifejackets are used daily, inspections on at least a monthly basis may be necessary.

Inspection and testing should be carried out by those competent in recognising defects and the remedial action to be taken. Records must be kept of all inspections and repairs made.

Testing the air tightness of the lifejacket will require oral inflation of the jacket. Some manufactures do not recommend inflation by mouth due to condensation in breath effecting the membrane of the bladder. If this is the case, oral inflation tests should be carried out by the manufacture or under their guidance at pre-set intervals.

The automatic inflation mechanism should be dismantled to make a detailed examination of its condition. Make sure:

- all screw threads are examined for signs of rust. Rust can lead to problems in locating the cocking cap or the gas cylinder in the correct position;
- the gas cylinder is full (gross minimum weight);
- the gas cylinder is examined for corrosion, cracks, dents and other defects. Particular attention will need to be paid to the cylinder cap as any indentations found could mean that the automatic firing mechanism has fired but failed to pierce the cylinder. If this is the case, the reason for activation and the cause of failure needs to be identified;
- the cylinder fitting and groove of the firing pin are checked so that they are free from dirt;
- the automatic inflation mechanism is operated manually (with the gas cylinder removed) to ensure that it operates smoothly, and that there is no obstruction to the movement of the pin which prevents it from piercing the

cylinder. The pin also needs to be checked to ensure that it is sharp;

- the 'salt' or 'paper ring' are inspected for any cracking, dissolving or tearing which has taken place since the last inspection;

- where fitted, the rubber 'O' ring is inspected for damage and that it is correctly seated;

- the mechanism is checked for signs of 'creepage'.

Once the inspection is complete the lifejacket should be reassembled according to the manufacturer's instructions.

Manufacturers generally recommend lifejackets to be serviced every two years by people they appoint. However, where lifejackets are used very regularly, an annual or more frequent service may be needed. MGN 62 (M+F) advises that inflatable lifejackets carried on UK ships and fishing vessels are normally required to be serviced annually, though if compliance is impracticable servicing may be deferred for a period not exceeding 5 months.

If any defects are found with either the gas cylinder or the automatic inflation mechanism, these parts must be replaced. If the lifejacket is in need of repair, return it to the manufacturer. Repairs should only be carried out by people approved by the manufacturer.

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