Droitwich Waterways (Pamela May) Trust Ltd

Registered Charity Number: 1149844 Company Number: 7662700 www.droitwichcanals.co.uk

Pamela May Operation Procedures Manual

April 2018 Issue 1.8

This document can be downloaded from www.droitwichcanals.co.uk/pammay

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PAMELA MAY OPERATION PROCEDURES MANUAL

THIS MANUAL INCLUDES GATEWAY 3 OF THE INLAND WATERWAYS ASSOCIATION REQUIREMENTS FOR A CERTIFICATE OF BOAT MANAGEMENT FOR SMALL PASSENGER BOATS OPERATING ON CATEGORY 'A' WATERWAYS

This document is based on the DWT 'Operational Best Practice and Safety Procedures' book produced here in sections to provide easy access of information relevant to the task in hand.
This document can be downloaded from www.droitwichcanals.co.uk/pammay

CONTENTS

1.0: Introduction: aims and cruising routes. (*Page 3)*

2.0: Procedures for passenger care; embarking and disembarking *(Page 6)*

3.0: Passenger Safety Address *(Page 8)*

4.0: Procedures for normal boat operation. *(Page 9)*
- **4.1: Starting out: Starting Out Check List *(Page 9)***
- **4.2: Manoeuvring; past boats, obstacles, through bridges and fishermen. *(Page 11)***
- **4.3: Operating Swing bridges. *(Page 12)***
- **4.4: Turning round. *(Page 12)***
- **4.5: Traversing Locks. *(Page 13)***
- **4.6 Through Tunnels. *(Page 15)***
- **4.7: Mooring up (Page 16)**
- **4.7.3 Closing Down Check List *(Page 17)***
- **4.8: Procedures to Avoid Hazards. *(Page 18)***
- **4.9: Trip Log (Page 19 / 20), Defect Log *(Page 21) and* Communication *Log (Page 22).***
- **4.10: Signalling. *(Page 22)***

5.0: Emergency procedures with boat and passengers: including at locks & tunnels.*(Page 23)*
- **5.1: Illness or minor accident aboard. *(Page 23)***
- **5.2: Gas leak. *(Page 23)***
- **5.3: Engine or propulsion failure. *(Page 23)***
- **5.4: Battery or electric failure. *(Page 23)***
- **5.5: Serious collision. *(Page 24)***
- **5.6: Fire. *(Page 24)***
- **5.7: Sinking. *(Page 25)***
- **5.8: Man overboard. *(Page 25)***

6.0: List and location of safety equipment. *(Page 27)*

7.0: Local Area Evaluation and Emergency Services Plan: (guide for emergency stops and contact information). *(Page 28)*

8.0: Bank crew duties and responsibilities. *(Page 34)*

9.0: Deck crew duties and responsibilities. *(Page 35)*

10.0: Skipper's duties and responsibilities. *(Page 36)*

11.0: References, further reading and issue details. *(Page 38)*

12.0: Risk Assessment and Method Statement *(Page 39)*

DROITWICH WATERWAYS (PAMELA MAY)TRUST LIMITED

Registered Charity Number: 1149844 Company Number: 7662700 www.droitwichcanals.co.uk

PAMELA MAY OPERATION PROCEDURES MANUAL
PART 1.0: INTRODUCTION: AIMS AND CRUISING ROUTES

1.1 AIMS

1.1.1 To operate the Droitwich Waterways (Pamela May) Trust trip boat, **Pamela May**, safely, effectively and without financial loss.

1.1.2 To use the trip boat to inform, educate and entertain the public. In particular, to provide a recreational experience for the disabled and disadvantaged

1.1.3 To increase public awareness of the Droitwich Waterways (Pamela May) Trust's activities.

1.1.4 To increase membership of the Droitwich Waterways (Pamela May) Trust.

1.1.5 To recruit active volunteers to further the aims of the Trust.

1.2 OBJECTIVES: - To employ best practice in the following disciplines:

1.2.1 Crew Safety and Training,

1.2.2 Passenger Safety.

1.2.3 Boat Preparation.

1.2.4 Boat Safety Checks.

1.2.5 Emergency Procedures.

1.2.6 Steering, Navigation and Mooring.

PAMELA MAY OPERATION AT DROITWICH

The Droitwich Waterways (Pamela May) Trust (DWT) owned boat, the **Pamela May** is operated by volunteer crews on the Droitwich Barge, the Droitwich Junction and the Worcester Birmingham Canals.
Pleasure trips advertise the Trust's activities and intend to attract new members and raise funds to aid the further restoration and maintenance of the canals comprising the Mid- Worcestershire Ring.
The Pamela May trip boat operation will also assist in promoting the use of the Mid-Worcestershire Canal Ring as a beautiful week-end circular route for cruising, walking, running and cycling.

1.3.1 Public boat trips run between 10am and 5pm on most public holidays, festivals and special event days during the summer from Easter until September. These trips are normally of approximately 30 minutes duration and run westward from Vines Park, near Droitwich town centre, opposite the Waitrose car park to Netherwich Basin or between bridges 15 and 16 (the railway tunnel) and returns to Vines Park. Trips run on demand unless weather or water conditions dictate otherwise and are suspended if unsafe conditions are encountered.

1.3.2 Charter trips may be booked by organisations caring for disabled, disadvantaged or aged people. An electrically powered lift platform is provided to enable access down into the cabin area of the boat for anyone who has difficulty with stairs or steps, and a boarding ramp is used between the boat and the bank to enable wheelchairs to be embarked on to the boat. The lift is capable of lifting and lowering a wheelchair together with its occupant and carer.

1.3.3 Other interested groups or clubs may also charter the boat for cruises.

1.4 THE MAIN CHARTER TRIP ROUTES

1.4.1 Two Hours duration from Vines Park - Trip B1 to Salwarpe Village on the Barge canal and Trip J1 to lock 6 on the Junction canal, passing though three locks.

1.4.2 Three hours duration from Vines Park - Trip B2 westwards to Ladywood top lock and return. A short stay of approximately 30 minutes will be taken for refreshments and leg stretching at Ladywood top lock. Or Trip J2 Eastward on the Junction canal through five locks to Droitwich marina for a snack.

1.4.3 Five hours duration Trip J3 - from Vines Park eastwards to the junction with the Worcester Birmingham canal at Hanbury Wharf. This trip includes passage through nine locks, which includes a staircase lock and three 'side pond' locks. The Eagle and Sun Inn is situated at Hanbury Junction and a stop for lunch is included in the timings for this trip.

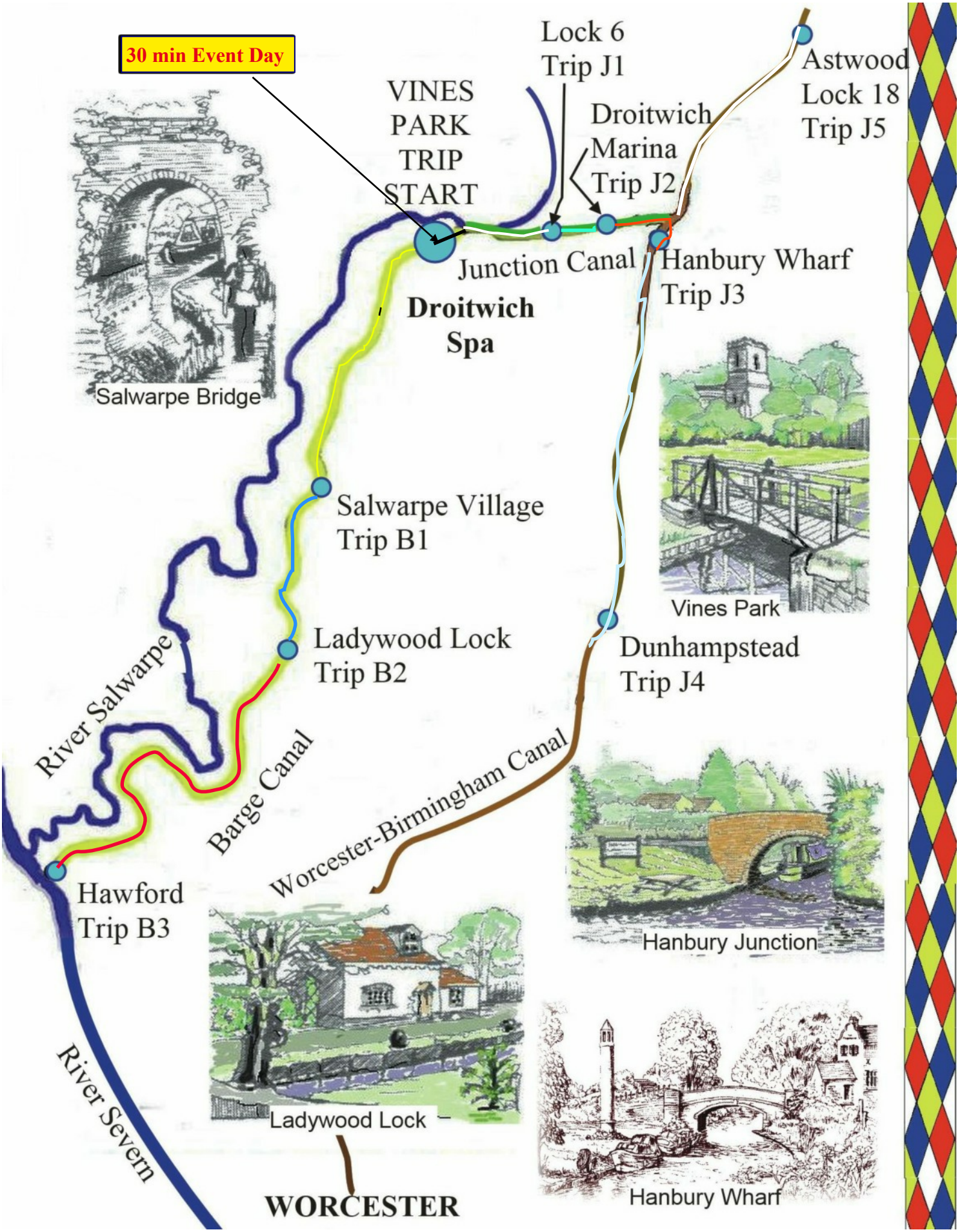
1.4.4 Eight hours duration from Vines Park: Trip J4 to Dunhampstead wharf on the Worcester Birmingham canal and return. This day long cruise incorporates and extends the route J3 to Hanbury Junction, turning south on the Worcester Birmingham canal for approximately three additional miles. The Fir Tree Inn is situated at the turnaround point for this cruise and timings allow for a stop for lunch or a picnic.
Or Trip J5 to Astwood Locks; continuing trip J4 north to turn at lock 18 for a picnic or lunch.
Or Trip B3 from Vines Park to Hawford to turn at lock 2 one hundred yards from the River Severn, Picnic lunches should be taken on this route since there are no pubs or restaurants en route. This route is largely rural and there are few landing places.

More details are on http://www.droitwichcanals.co.uk/page25.html The booking procedure is explained in a separate Manual. See map on the next page for the Pamela may routes.

1.5 CREW ORGANISATION

1.5.1 During the cruise, the person in charge is the Skipper, chosen by the current Crew Control Manager from the list of qualified people. The skipper can choose a member of the crew to
'steer' the boat. So in this manual the person in charge is the Skipper, not necessary the 'Helmsman.'
Responsible to the Skipper is the deck crew and on some cruises a bank crew; also chosen from a qualified person's list
Details of relevant training and qualified people can be obtained from the Operation Manager; see 7.1.

1.6: PAMELA MAY TRIPS



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PAMELA MAY OPERATION PROCEDURES MANUAL

PART 2.0: PROCEDURES FOR PASSENGER CARE
Embarking and Disembarking

2.1 FUNDAMENTALS

2.1.1 The maximum number of passenger allowed on the Pamela May is twelve, (although ten is more comfortable)~~, plus a maximum of four or five crew members.~~ Children under 12 months are not counted and one person in a wheel chair counts as two passengers. The wheel chairs are to be none-motorised and standard size. (24" lightweight). No dogs or pets are allowed unless agreed by everyone taking part in the trip. The maximum number of people on allowed on board is 15 (eg could be 10 passengers and chairs plus 5 crew). A maximum of two wheel chairs are allowed on all routes. Where possible, passengers should be persuaded to return chairs to their transport after boarding.

For all trips at least three crew members are required- otherwise the trip must be cancelled. If a crew member is incapacitated during the trip (like falling in the canal or become ill) the trip is not to be continued until the crew member is replaced. (Contact the Crew Control Manager or Operation Manager see 7.1 for details).

2.1.2 The crew will appear smart and professional both in dress and bearing.

2.1.3 Keep ropes, equipment and other items stowed tidily to prevent tripping up. Keep the boat tidy and clean.

2.1.4 All trip boat crew members will wear a tabard with a DWT logo on the outside of their Clothing, or special 'Pamela May' approved clothing under there life jacket if required.

2.1.5 All trip boat crew members will wear their Personal Floatation Device (PFD), or life jacket, properly assembled, when passing through a lock.

2.1.6 *Whenever possible, turn gas off at the bottle in the bows. Cooking on gas in the Galley is not allowed when the boat is moving. Heating water for a hot drink is subject to the Skipper's permission and supervision.*

2.1.7 The crew will be friendly with the passengers. Find out who has previously been on a narrow boat.

2.1.8 Ensure that passengers do not place any parts of their body outside the boundary of the boat and explain why.

2.1.9 Inform passengers when approaching obstacles such as a lock, narrow bridge, approaching boat or moorings etc. where a sudden change in boat motion may occur.

2.1.10 Passengers are not allowed on the front deck, except under supervision in an emergency.

2.1.11 Passengers are not allowed on the rear deck when moving unless allowed by the Skipper. No more than three people including the Helmsman, to be on the rear deck at any one time.

2.1.12 Passengers should be encouraged to stay seated and children to be supervised at all times.

2.1.13 Start the trip with a passenger safety address - see Part 3.0

2.1.14 Give an informative trip commentary during the trip; see Commentaries Manual

2.1.15 No Smoking on board.

2.1.16 Make sure passengers know where the embarkation and disembarkation locations are. Charter trips may start and finish at other than the normally used locations by arrangement between the hirer and the Skipper. The Skipper should contact the lead customer, at least 7 days before the booking in order to confirm final arrangements. Contact details will be present on the bookings calendar 'DROPBOX'

2.1.17. Any person**,** either crew or passenger, who refuses to obey the reasonable instructions of the Skipper during the boats' progress, is to be politely admonished and the Crew Control Manager or the Operations Manager informed by telephone.

2.1.18 Turn on all lights inside a tunnel.

2.1.19 Only cruise during daylight.

2.1.20 A lcohol is not to be taken on board without permission of the Bookings Manager and Skipper. Illegal drugs are not allowed on board under any circumstance.

2.2 EMBARKATION AND DISEMBARKATION

2.2.1 At least two crew members to be on hand to help each passenger.

2.2.2 The boat is to be securely moored close to to the bank and fixed at the bows and stern for safe and stable embarkation or disembarking of passengers.

2.2.3 A folding metal bridging ramp is available to assist wheel chairs on and off the boat.

2.2.4 Timber gates are to be used if wheel chairs are present other-wise the safety ropes may be used. *Due to unequal gate openings, the safety ropes are slightly different lengths, being colour coded red (port side) and green (starboard side).*

2.2.5 The lift is to be loaded with a maximum of two people or one person in a wheel chair. The lift is not to be used without the engine providing electricity. (Details of lift operation are given in Part 4.1.9)

2.2.6 To avoid listing the boat, three passengers at a time will be allowed into the cabin and be seated before allowing the next three on board. Similarly, during disembarking, passengers must stay seated until asked to leave singly by one of the crew.

Passengers are to be distributed evenly to ensure even alignment of the boat

2.2.7 Check boat for passenger lost property immediately after disembarkation.

PAMELA MAY OPERATION PROCEDURES MANUAL
PART 3.0: PASSENGER SAFETY ADDRESS

3.1 INTRODUCTION

3.1.1 Having welcomed your passengers and helped them onboard it is essential that all present are aware of certain rules and safety procedures.
The address must be delivered in a warm and reassuring manner and must sound and appear fresh, vital and important.
Inappropriate humour regarding 'shipwrecks', etc., must be avoided. Remember, there may be a nervous person onboard whose enjoyment could be spoilt by such an "off the cuff" remark.
Individual circumstances, characteristics and personalities will mean that the address can be adjusted to suit the passenger group or type. Please avoid the 'robot' delivery typified by some airline cabin staff.

3.2 SAFETY ADDRESS - An Example:

3.2.1 Below is an example of a Safety address, to be given at the start of a journey and in your own words.

3.2.2 "Welcome onboard the Pamela May trip boat for this cruise on the Droitwich Barge Canal (or the newly opened Droitwich Junction Canal). Your crew today comprises the Skipper (Helmsman) (name), who is in charge of the boat, crew and passengers and deck crew/narrator (name). During the trip we will be giving a brief history of the Droitwich canals and telling you something about their restoration. Don't hesitate to ask questions.
Who has been on a canal trip before? All of you will understand the need for some rules whilst onboard so that everyone remains safe and secure.
Today's trip will last approximately 30 minutes or 2/3/5/8 hours, (as appropriate), and we will have a stop for lunch at the Eagle and Sun Inn/ Fir Trees Inn (as appropriate). We think you will find it enjoyable and interesting.
As this boat allows a maximum of twelve passengers plus crew, we are required to register as a passenger boat. For your safety the boat complies with all advisory requirements of the Canal and Rivers Trust (formerly British Waterways) health and safety regulations. Also the crew are trained and certified to Inland Waterway's Standard for Inland Waterways.
We will be passing through locks, narrow bridges and overhanging vegetation, so please keep all parts of your body within the boat – to avoid your body being squashed. In the very unlikely event of an emergency, please remain calm and await instructions from the crew. The Helmsman will bring the boat to the bank side at a suitable place and we will then help you off the boat.
We all carry fully charged mobile phones and can therefore summon assistance in case of accident or illness.
Smoking is not permitted on the boat.
For environmental reasons, please use the litter bin onboard if you wish to dispose of any rubbish. Please do not throw anything into the canal or on to the towpath.
The boat is fully fitted with safety equipment and the Helmsman and crew are qualified on the helm and as crew.
Please note that the steering position is at the back of the boat. No one is allowed to go on to the stern deck without the Skipper's approval. There is a front exit but this is for emergency use only and not to be used for disembarking. Children on deck and anyone helping with locks must wear a life jacket. Parents or guardians are responsible for the safety of their children.
When we arrive at a mooring, please remain seated until the boat has been fully secured and the Skipper has given permission to leave. Having left the boat you are no longer our responsibility, so go carefully.
We have a W.C. onboard for disabled people, located at the centre of the boat, and a small galley area for the preparation of tea/coffee and soft drinks.
A commentary will be given as we go along. So, please sit back and enjoy the trip.

3.2.3 Make sure that the leading passenger or carer is shown the WC.

PART 4.0: PROCEDURES FOR NORMAL BOAT OPERATION

4.1 STARTING OUT

4.1.1 PAMELA MAY OPENING UP CHECK LIST

	ACTION	TICK
1	Board the boat, unlock cabin and slide back roof hatch. Smell for gas.	
2	Check that your mobile phone is charged and in credit. Read defect log to check boat condition after last use. Contact Service Manager Manager for advice. Start Trip Log entries.	
3	Turn on gas **(turn the YELLOW gas isolator 'in line' with gas piping**). Smell for gas. Test light one cooker burner and confirm flame burns mostly BLUE.	
4	Check ignition key, CRT water and bridge key, windlasses (2), mooring spikes (2) lump - hammer, dipstick and gully clearing rod are all present.	
5	Check safety equipment, fire extinguishers (4), obtain lifejackets (3L+2S) from portacabin. If child sizes are required, collect them as well. Check that foil blankets (6), fire blankets (1) first aid kit and throw rope are present.	
6	Place life-ring(s), boat pole and boat hook in a useable position.	
7	Attach safety barrier ropes (or wooden gates if wheelchairs are to be carried).	
8	Place ignition key in your pocket until completion of engine checks	
9	Check diesel fuel level and record in Trip Log.	
10	Carry out engine pre-start checks. Check oil and coolant levels. Check belt tension (half inch maximum movement). Check for evidence of engine leaks. Check for surplus bilge water. Check stern gland greaser. Switch on battery (red key in port side rear of engine bay).	
11	If heating is required, turn control knob to "flame" position.	
12	Fit tiller bar and pin (in cutlery drawer).	
13	Start engine: Check single lever control is in neutral position and gears are disengaged (push lug- switch outboard). Push throttle lever to first stop, plus one inch. (Approximately 45 degrees from vertical). Insert ignition key and turn anti-clockwise to 'preheat' position for 10 to 15 seconds. Check that the voltmeter shows 12 volts. Turn key clockwise, against spring to engage starter motor and turn engine over. Successful starting may require more than one attempt, particularly in winter. When engine starts, check red ignition light is out. Rev engine to extinguish. Reduce revs to fast tick over during warm up time and record start time and hours run meter in Trip Log.	
14	Turn on water pump switch, to the right of the sink in the galley. Check all lights including tunnel headlight. Check horn. Check bilge pump (on ignition panel)	
15	Check supply of toilet paper, towels, kitchen roll, waste bin bags, tea, coffee, fresh water etc.	
16	If wheelchair passengers are to be carried, check full operation of chair lift and wheelchair ramp. **If lift is used engine must be running at revs to maintain voltage.**	
17	If travelling through locks all crew must be issued with and wear lifejackets/buoyancy aids. (Stored in the Portacabin). Confirm whether child size jackets are required.	
18	Place throttle lever in neutral position. Pull gear lug to 'engaged' position (move inboard). Test ahead and astern power.	
19	Under directions from skipper, remove and stow mooring lines	

4.1.2 The crew should arrive at least one hour before picking up passengers. Each crew member must ensure that a substitute is found if he or she cannot make it. Phone the skipper if you are likely to be late. If the number of crew is less than three the trip must be cancelled.

4.1.3 All crew members should have a fully charged mobile phone

4.1.4 The Skipper must fill out the check sheets (5.2.1 and 5.7.1), Trip log book (5.9.1) and defect log (5.9.2), before and after the trip.

4.1.5 Keys

The ignition key to the boat is kept on a hook inside the rear cabin, next to the handrail. The C&RT (BW) swing bridge and water key is kept on the same hook on a separate float.

The keys to the gates of the Hampton Road yard and to the boat are available from the list given to skippers, the key to the portacabin is stored on the boat. There is a key box by the gate; the combination code is available in DROPBOX.

4.1.6 ELECTRIC SWITCHES INSIDE THE BOAT

The red, battery isolating switch is to be found in the engine bay on the port side. Lift the engine bay deck board for access.
There are two, white water pump switches (they look like light switches), on the right hand side of the sink.

4.1.7 Safety Gates

Two timber safety gates are stowed inside the shore side portacabin at the Hampton road home mooring. They are to be rigged on all occasions when wheelchairs are to be embarked. At other times they may be removed and replaced by the safety manropes kept on hooks inside the boat's rear cabin, starboard side.

4.1.8 RAMPS

A folding metal bridging ramp is provided to allow for wheelchairs to be brought from the bank side onto the stern deck of the **Pamela May**. It must be securely positioned at the bank side to allow for slight movement of the boat as wheelchairs are being transferred onto the boat. When not in use, the ramp is normally kept folded, in the galley area of the boat.

4.1.9 LIFT

An electric wheelchair lift between the stern deck and the cabin has been fitted in **Pamela May**. The nominated deck crew will be responsible for its safe operation. The lift will normally be stowed in the 'down' position and the short step ladder from the stern deck into the cabin ~~will be~~ placed on top and hooked on to the engine space bulkhead. When the electric lift is to be brought into use, the ladder is to be unshipped and placed in the galley area in a position from where it will not impede the movement of wheelchairs towards the for'ard cabin space.
The wheelchair lift is operated electrically by the boat's 12 volt battery. It consumes a large amount of power when in use. Usage should be limited to three sequential operations *where possible*, before the battery is allowed to recharge from the running engine and should be used with the engine running at a fast tick-over and with the red alternator light on the control panel extinguished. It is within its capacity to raise and lower two standing passengers or one wheelchair with occupant in one load. ***The lift should not be used unless the engine is running.***

Please ensure that no obstruction to the lift operation is posed by other equipment within the boat cabin. Steps, lump hammers, windlasses and mooring spikes will cause damage to the lift machinery if they are allowed to impede the downward movement of the platform.

It is also important that the lift operator stops the upward movement of the platform before reaching the underneath of the cabin's rear folding doors. It must not be allowed to rise above rear deck level in any event. Failure to observe this restriction will result in the doors being torn from their hinges by the lift platform and costly repairs being needed before the boat can be secured.

4.1.10 Leaving the berth can be done by either pushing at the front or without the crew being exposed, use a spring achieved by leading the stern rope to a fixed point on the bank and then back inboard from where it is tended. By driving the boat gently astern against the spring the un-tethered front end of the boat will angle away from the berth.

4.1.11 Access to the foredeck using the front door and hatch by a crew member will allow berthing and un-berthing by using the bow rope and provide a push away from the bank when leaving a berth or step ashore with the bow rope when coming alongside. This is not an easy action as there is not much room and should only done by an agile person to avoid falling in, so use the method described in 4.7.1.

4.1.12 Strong Winds: The Pamela May turns easier when heading into the wind

4.1.13 The canal **speed limit** of four miles per hour must be observed at all times. Excessive speed creates a bow wash which erodes the canal bank and creates discomfort for other canal users and wildlife. So slow down when passing another boat, wild life, fishermen, and also if the bow wash is likely to erode the bank. Also slow down at bridges, locks, tunnels and when passing an oncoming boat.

4.1.14 When manoeuvring the boat, control is maintained by a combination of **forward and reverse gears** and engine speed. **Rapid movement of the single lever control between forward and reverse gears must be avoided**. A pause of two marching paces (3 seconds) must be allowed before engaging an opposite gear. Excessive acceleration of the engine causes the propeller to become ineffective. This is known as cavitation and is caused because air is being dragged under the boat and around the propeller. This is particularly likely if the engine is put astern and the engine speed is increased too rapidly.

4.2 MANOEUVRING; PAST BOATS, OBSTACLES, FISHERMEN AND THROUGH BRIDGES

4.2.1 GENERAL:

Keep to the centre, the deeper part, of the canal if the way is clear and no-one is likely to want to overtake. Otherwise keep to the right.

4.2.2 PASSING ON-COMING BOATS

Slow down and keep to the right. Be prepared for the current to move the boat into the centre of the canal as the other boat passes.

4.2.3 OVERTAKING A MOVING BOAT

Obtain an acknowledgement that the boat is willing to be overtaken. When it slows, pass keeping as far away from the boat as possible. Do not overtake unless it is necessary, the way ahead is clear and there is sufficient room.

4.2.4 BEING OVERTAKEN

Acknowledge that you are willing to be overtaken and slow down. Prepare for a lateral current pull.

4.2.5 OBSTACLES

Keep a lookout for anything unusual in the canal. Slow up and make sure there are no hidden underwater hazards. Slow down for for all unusual floating items including canoes, dinghies, ducks, swans and young swimming wildlife.

4.2.6 PASSING FISHERMEN

Anglers fish the canal from both banks. They may be reluctant to reel in their lines when boats pass. Speed must be reduced to tick over and caution exercised to avoid fouling their lines and tackle. If appropriate, a very short blip on the horn may be used to warn fishermen of our approach.

4.2.7 THROUGH BRIDGES

Keep to the centre of the canal. Make sure that no-one is attempting to come towards you through the bridge. If at a blind spot give a long blast on the horn.

4.2.8 DROITWICH MARINA

Care must be exercised when passing the entrance to the new Droitwich Marina. The main line of the canal is very shallow at this point and boats will undoubtedly be attempting to manoeuvre in to or out of the marina entrance. Boats with a deeper draught will have navigation space limited to the centre of the canal and must be given priority of passage.

4.3 OPERATING SWING BRIDGES

4.3.1 The bridge operator obtains the bridge padlock key from the Skipper.

4.3.2 Remove the bridge padlock.

4.3.3. Allow members of the public to cross before moving the bridge.

4.3.4. Swing open the bridge making sure that its speed is reduced as it nears the buffer.

4.3.6. When the boat has passed through check that no other boats are waiting.

4.3.7. Close the swing bridge and replace the padlock to secure the mechanism.

4.3.8 *Retrieve the lock windlass that you put on the ground before opening the bridge !!*

4.4 TURNING ROUND (Winding)

4.4.1 The main winding holes are clearly marked on Navigation maps and also on pages 30 to 33.

As the Pamela May is only 42 ft long the following locations can also be used:

Winding on The Barge Canal:-

The starting point for most trips opposite Waitrose.in Vines Park.
Between bridges 15 and 16 at the railway Inn.
The bend 200yds before Salwarpe Village.
The south west side of bridge 7 at Salwarpe Village
Just below Bridge 6.
Above Lock 2.
Above Lock 1.

Winding on The Junction Canal:-

Below Lock 7.
Above Lock 7 before bridge 6.
At the Droitwich Marina.
At the pounds below Locks 1 & 2.

Winding on The Worcester/ Birmingham canal:-

At the meeting of the Junction Canal north of W/B Bridge 35
At Hanbury Wharf - if no boats in the way!

Do not attempt to turn the **Pamela May** within the boundaries of Brook Line Boats at Dunhampstead Wharf. There is a winding hole 200 yards south of the road bridge at Dunhampstead and this is always to be used when turning for the return journey on route J4.

4.4.2 TURNING TECHNIQUES

There are three methods of turning the boat round depending on the space available:

* Turn to port, helm 80% to the right at maximum speed. This is not good for the passengers!
* Three to five point turn to Starboard.
* Pivot with bows in the (soft) bank.

Get trained!!

4.5 TRAVERSING LOCKS

4.5.1 When steering in to a lock, slow down. The boat must be lined up and parallel to the centre line of the lock chamber before approaching the entrance jaws. Failure to do this will inevitably lead to the boat jamming at an angle as it tries to enter the chamber. This, in turn leads to great strain being placed on the engine, gearbox, gas piping, water piping and timber joints in the same way as would occur in event of a head on collision. This must be avoided at all costs. Line up, in close parallel, **with one side of the boat aligned with one side of the lock**. **Pamela May** has had new engine bearers (April 2012) and a number of gear boxes as a direct result of such 'errors'. It is also not good for passenger experience!

4.5.2 BASIC PROCEDURE

Note the use of hand signal; see **4.10.2**

4.5.2.1 The **bank crew** should be landed well before the boat enters the lock.
Make sure that the fenders are positioned out of the way - to avoid the boat jamming in the lock.

4.5.2.2 The bank crew will ensure that the water level inside the lock is at the same level as the boat by emptying or filling the lock using the gate paddles.

4.5.2.3 Entrance gates are then opened and the boat brought carefully into the lock by the Helmsman.

4.5.2.4 The Helmsman will centre the boat within the length of the lock and remain at the tiller at all times – adjusting his position to remain centrally placed in the lock using the engine.
Keep well away from the cill and lock gates.
Going up stream through a lock the tiller should be aligned at right angles to avoid the rudder getting stuck in the lock gates. Going Down stream avoid the cill.

4.5.2.5 The entrance gates are then closed and paddles wound down to the fully closed position.

4.5.2.6. Bank crew then move to the exit gates, or side pond and stand by their respective paddle gear, facing the boat and Helmsman.

4.5.2.7 The Helmsman will then instruct the paddles to be raised. When going up stream the ground paddles are to be opened slowly. Pause at 50% paddle open and wait for the helmsman instuctions.

4.5.2.8 Bank crew raise the paddles at the rate the Helmsman requires and remain facing the boat and Helmsman, and be adjacent to the paddle gear at all times whilst the lock is re - levelling.

Going up stream, the bottom lock paddles are gate mounted capable of creating more turbulence than the ground mounted paddles upstream. So care is required when opening the paddles if the Pamela May
is close to the gate waiting to go into the lock.

5.5.2.9 When water has levelled at the exit gates or side pond and ceased to flow within the lock chamber, the paddles are closed. With a staircase lock repeat operations 6, to 9 at the exit gate(s).

4.5.2.10 The exit gates may then be opened and paddles lowered to their fully closed position.

4.5.2.11 When the boat is clear of the lock, the bank crew close the gate(s) and visually confirm that the
lock is being left ready for its next user. That means that all gates are closed and all paddles are down.

4.5.2.12 The boat is then positioned for the bank crew to re-board; unless they
are walking to the next lock.

4.5.2.13 The Droitwich Barge Canal locks should be shared with another boat if possible, to save water.

4.5.2.14 Give way to a boat in sight that has the lock water level in its favour

4.5.3 SAFETY ISSUES IN LOCKS

4.5.3.1 When transiting narrow locks, all fenders must be brought inboard to avoid risk of jamming in the lock and damage to the fenders..

4.5.3.2 Make sure the boat's level and free. It should be away from the cill and not caught on a gate or projection.

4.5.3.3 Make sure that each member of the crew sticks to their allotted task – accidents happen when crew wander off.

4.5.3.4 Watch out for 'helpful' bystanders – Request politely that they stand well back in interests of health and safety.

4.5.3.5 Always ensure that the boat is kept in the middle of the lock, and the Skipper - if he is not steering - is in charge on deck to signal to the crew and Helmsman.

4.5.3.6 Windlasses are NEVER to be left on paddle gear spindles.

4.5.3.7 Ratchet claws are to be engaged on all raised winding gear.

4.5.3.8 Members of the public should be politely discouraged from assisting with lock operations. It is appreciated that other boats' crews will wish to assist in order to speed passage through the lock they are queuing for. This cannot be avoided and may even, at times, be welcome.

4.5.3.9 Narrators should brief passengers to remain as still as possible during locking.

4.5.3.10 No-one may embark or disembark the boat in a lock except in an emergency or as directed by the Skipper.

4.5.4 LOCKS FOUR AND FIVE ON THE JUNCTION CANAL ARE STAIRCASE LOCKS. This is a lock where one lock chamber empties directly into the next lock chamber. When using a staircase

paddle gear on these staircase locks. The centre set of paddles, which are between the two lock chambers, are prone to sticking in the OPEN position. Care must be taken to ensure that when these paddles are wound DOWN, they have fully reached the bottom of their travel. Failure to do this will result in water leaking from the top lock into the lower lock. When boats then attempt to come down the staircase, the bottom lock will already be partially or wholly filled by the leakage and when an attempt is then made to empty the full top chamber into the bottom chamber, the bottom lock will flood onto the towpath. Members of the public use the towpath frequently and are likely to be affected by water flooding from the lock.

Take care to follow the instructions listed at the staircase locks and keep the boat clear of the gates. Stop and await crew confirmation before proceeding into the locks.

4.5.5 LOCKS 1, 2 AND 3 ON THE JUNCTION CANAL ARE EQUIPPED WITH SIDE PONDS.

When using these locks, the boat should be taken into the lock and all gates and paddles closed. The paddle gear on the side ponds is then to be opened to half fill, or half empty the lock. When water has ceased to flow between the side pond and the lock, its paddles may be closed. From this time on, the lock is operated in the normal way by using the paddle gear at the top or bottom ends of the lock. A volunteer lock keeper may be on hand to help.

4.5.6 BARGE LOCK TO JUNCTION CANAL LOCK SEVEN

Currents on the canals used by the **Pamela May** are normally negligible. However, on the eastern routes there is a section of canal between the barge lock at Vines Park and lock number seven, where the River Salwarpe joins and then leaves the canal over weirs. This can present a significant hazard after heavy rain when water levels and the speed of the current may increase dramatically. Before entering the Barge Lock, tie up at the mooring point and wait for a clear entrance into the lock with the swing bridge out of the way (do this every time). Check that the lower gates and paddles are not leaking or you may not be able to return. If leaking badly, inform the CRT and consider changing the route to Ladywood. Also check the river level markers at the barge lock. Otherwise, move under power straight round into the lock, keeping clear of the wear.

Coming down stream check the river level markers at lock 6 and lock 7. Coming in to the Barge lock, repeat the above but use both the rear and front mooring rope to secure the boat at the waiting

4.6 TUNNELS

4.6.1 Always sound a long blast on your horn before entering a tunnel. Make sure daylight can be seen at the end of the tunnel or no boat lights, indicating an empty tunnel, before entering.

4.6.2 Switch on all cabin lights and the bow tunnel light before entering. Slow down and stay in the centre of the canal.

4.6.3 Dunhampstead tunnel will present a problem if two boats enter in opposite directions. Although two boats can just pass one another, it is best to assume that. the approaching boat could have a novice crew, so wait for a safe passage!

4.6.4 M5 Tunnel: The depth of water beneath the tunnel/bridge over the M5 motorway is extremely variable. When the water level is high the boat may jam on the tunnel roof. However there is a suspended overhead board at each end of the tunnel to prevent this.

Low water level could cause the boat to strand mid-way through. Head room indicator plates are at each entrance. If you know the draft of your vessel and total height of the tunnel (which we don't know!) you can calculate whether you will get stuck! For the Pamela May, if the height reading on the gauge at the entrance to the tunnel is more than 2.0 Metres (1.8M is normal) do not enter. If the water depth is too low, in an emergency, lock 6 can be empted to raise the water level.

4.7 MOORING UP; .

4.7.1 When coming alongside a berth or jetty the boat should be stopped at a point two thirds of the way up the mooring space, with the bow no further than twelve inches from the bank and the boat at an angle of about 30 degrees to the bank. This will allow the bank side crew to take the bow rope and the bow to be controlled. The tiller (not the rudder), should then be angled towards the bank and slow forward revs put on the engine. The stern will then close on to the bank.
Where no bank side crew is present, the same procedure can be used, allowing the un-tethered bow to swing out slightly. When the stern comes alongside, the deck crew should step ashore with the centre line and gently haul the boat in to the berth
The use of the head or stern rope as a spring can be employed when arriving at or leaving a tight or congested berth. When coming alongside where the space for mooring is little more than the length of your boat, the *approach* method above is to be used. The bank crew, having taken the bow rope, take a turn around a bollard as near to the centre of the mooring space as possible, and allow the boat to power slowly forward to the limit of the berths length, surging the rope around the bollard. By then holding on to the bow rope and preventing any further forward movement of the boat, the stern can be swung in to the berth by putting the tiller towards the bank as described above.

4.7.2 Secure the fore and aft mooring ropes to available rings, bollards, stakes or a chain/bracket attached to a heavy corrugated canal edge . If stakes are used, make sure that they are fixed firmly to the ground at an angle of about 140 degrees away from the boat. Test the stakes by pulling the mooring rope as hard as possible in the direction of the boat.
Tie the ropes with a round turn and two half hitches knot. Or a clove hitch when using a bollard.

Get trained!

4.7.3 MOORING UP AT THE END OF A TRIP

Complete the Closing Down Check List record: see next page
Complete the Trip log (see section 4.9.1) and also the Defect log (see section 4.9.2)

4.7.3 CLOSING DOWN CHECK LIST

	ACTION	TICK
1	Secure PM bow and stern, Ensure that all fenders are in position to protect the hull.	
2	Switch off heater control and allow heater to purge to off condition (3 minutes)	
3	Close and secure all windows, bolt front doors, turn off all lights (don't forget toilet)	
4	Operate bilge pump to clear excess water from engine bilge. Check flow by looking to the rear, port side of boat. When it stops, switch off pump.	
5	With throttle in neutral and gear toggle pushed outboard, switch off engine using black rubber decompression button on panel. Turn key to off position.	
6	Remove tiller bar (place pin in cutlery draw).	
7	Lift up and safely secure the engine space deck board and inform other personnel.	
8	Screw down stern gland greaser until water no longer drips from shaft gland. Use foot to check for free movement of propeller shaft. Check there is no surplus water in bilge area.	
9	Isolate battery in engine compartment by turning switch in line with cable.	
10	Replace engine room deck board.	
11	Turn off domestic water pump switch on right hand side of sink.	
12	Check heater has switched off. If it has turn off gas supply in the forward gas locker, (turn yellow gas isolator 90 degrees to the gas supply pipe)	
13	.Check windlasses (2), mooring spikes (2), lump hammer, dipstick and gully clearing-rod ladder, poles, life ring and ropes are stowed in rear cabin.	
14	Return life jackets (3L+2S), tabards and wooden gates to the portacabin.	
15	Check safety equipment: fire extinguishers (4), fire blankets (2), first aid kit are all stored away. Hang CRT and boat keys on hook to left of entrance.	
16	Clean boat in readiness for next assignment. (Cordless vacuum cleaner available Portacabin). Check toilet for cleanliness and contents level. Empty waste bins and take away rubbish, (don't forget the toilet waste bin). Replace waste bin bags.	
17	Check cabin for personal gear or lost property remaining. Contact trip organiser if needed.	
18	Complete Trip Log, Defect log and Message Log (if necessary)	
19	Close up cabin and windows ensuring all bolts securely in place, front and back. Carry out final visual check from bank- side.	

4.8 PROCEDURES TO AVOID HAZARDS

4.8.1 WEED HATCH

If the weed hatch is used make doubly sure that the hatch cover is sealed before starting the engine, or the boat will fill and sink! Check for leaks by running the engine gently in gear.
Also when opening a weed hatch make sure that the man servicing the hatch has stopped the engine and has the key in his possession. Turning the engine on with someone touching the propeller is xx..!
If fouling is suspected during a cruise the procedure to remove any entanglement is to select neutral the reverse (after a pause of three to five seconds, return to forward thrust. Repeat this cycle if necessary. Only is this fails should the weed hatch cover be opened to remove any fowling. There are knives and pliers in the cutlery drawer.

If passengers are on board when the weed hatch needs to taken off to free the propeller, explain what is happening and request that they do not rock the boat.
If no-one is occupying the cabin then make sure less than six people are on the rear deck, otherwise the weed hatch will flood the boat fast!

4.8.2 REFUELLING

Do not refuel with passengers on board or if naked flames are anywhere on the boat.
Make sure that all spilt fuel is *mopped* up before starting the engine.

4.8.3 VANDALISM

Don't provoke potential vandals.
Take photographs.

4.8.4 WEIL'S DISEASE

Although the risk of contracting Weils disease is extremely small the following precautions should be taken.

Anyone participating in a work party should wear waterproof gloves and protective clothing whilst working near a canal or river.

Avoid full immersion in rivers or canals.

Cover all cuts and abrasions with waterproof dressings before contact with water.

Avoid rubbing the eyes, nose and mouth during, and whilst working.

Wash all exposed skin after contact with soap and water or rigorous use of an antiseptic jell. Repeat on hands before eating.

Do not put wet ropes, fishing lines or other objects in your mouth.

Should illness occur within two weeks of contact with canal or river water, inform your doctor that you have been in contact with untreated water.

4.8.5 ROPES

Mooring ropes are attached to the stern dollies, the centre ring and the 'T' stud on the bow of the boat. Use a round turn and two half hitches knot. All cordage, whether in use or not should be left neatly coiled, beginning at the standing end and working towards the other end, leaving them ready for immediate use or passing to assistants on the bank. Whenever possible, hand mooring ropes from deck to shore; throwing can cause accidents.
Mooring ropes are a potential trip hazard. On the stern deck of the **Pamela May,** the mooring rope, when not in use, should have its coil either hung inboard from the stern rail or inboard on the deck floor.
close to the stern rail, with its lead passing outboard over the rail and on to the appropriate dolly.
The aim is to prevent at all times the line from slipping into water fouling the propeller. Do not end up with a stalled engine, a jammed propeller shaft to clear and a shorter aft mooring rope with untidy knots. Do not hang ropes on the tiller bar!

4.8.6: GENERAL

- Watch out for collisions – and if you *are* going to bump, warn your crew and passengers.
- Keep the boat tidy.
- Don't jump off the boat when mooring. Step off when the boat has stopped.
- Wear non–slip deck shoes. **Beware:** All mooring pontoons, and landing stages are slippery when wet. And a grass bank is always slippery!
- Take extra care on towpaths at night. Always use a torch.
- Don't cruise in strong stream conditions – tie up securely, watch for changes in water level and adjust your mooring ropes as necessary.
- Make sure your boat has enough power to cope with the strength of the stream or tide.
- Steer clear of weirs.

If any Skipper or Helmsman has doubts about their ability to negotiate any hazard, they are not to make the attempt, but are to call the Crew Control Manager, Operations Manager or Service Manager (see 7.1) forthwith for advice.

4.8.6.1 CHECK FOR WARNINGS

- Weather: Check weather conditions for the trip at least 7 days before the trip.

Check for water levels using https://www.riverlevels.uk/river-salwarpe-stoke-stoke-prior#.WmcjfUx2tjq and https://www.riverlevels.uk/flood-warning-river-severn-at-hawford-wood#.WmiwRLxl_cs.

Also take note of the the River Sawarpe's water level from the warning sign at the Barge Lock or at Lock J7.

Also check the Body Brook level at lock J6. Water level conditions for the Droitwich canals are also given in detail at lock J1

Consider cancelling if there are going to be very high winds, ice or floods.

Check for stoppages at four weeks and then 3 days before the trip using the CRT website = https://canalrivertrust.org.uk/notices

4.9 TRIP LOG, DEFECT LOG AND MESSAGE LOG

4.9.1 TRIP LOG

See next page. To be completed at the end of each trip and left in the folder over the sink to be collected and analysed.

Part 4.9.1

PAMELA MAY TRIP LOG

TRIP TYPE, tick box:-	Charter		Event Day		Training		Maintenance	

Day:	**Date:**		**ROUTE:**	
Client:			**Money Due £:**	
Pick up Point:			**Agreed Start Time:**	
Nº Adults:	**12 Months to 16 years:**		**Under 12 Months:**	**Wheelchairs:**

Any Special Requests or Concerns

Any incident, accident or boat defect: (Inform Tom if urgent.)

Crew			Times	Crew Times	Trip Times
Skipper			Start		
Crew 1			End		
Crew 2			Total Hours		
Crew 3+					

Engine Hours	Meter Reading
End	
Start	
Total Engine Hours	

Fuel	Cm
Start Dip	
End Dip Optional	

If less than 20 cm consider refuelling

Replenishments	
Diesel Litres:	Cost:
Pump out	Y / N
Water	Y / N

Money Taken - Cheques/Cash £_____ All monies go to Lynda Gillespie, Bookings Administrator, to be banked.

When completed leave this document in the file above the sink.

Confirmation that startup and close down procedures were completed.
Check supplies (tea, coffee biscuits etc.) and inform next skipper of any deficiencies.

LEAVE BOAT CLEAN AND TIDY FOR NEXT CREW

Print Name:

Signature:

4.9.2 DEFECT LOG

The Defect Log is held in the boat alongside the Trip Log above the sink and the Crew Control Manager or Maintenance engineer is to be informed immediately

DATE	DEFECT	REPORTED BY	ACTION TAKEN	ACTION BY	DATE

4.9.3 COMMUNICATION LOG

Notes for the next user of the boat will be written in a booklet stored in the same rack as the other logs.

4.10: SIGNALS

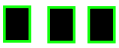
4.10.1: Horn Blasts:

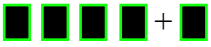

One long blast: Warning at blind bends, tunnels and junctions.

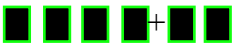

Very short blip: Warning to fishermen.

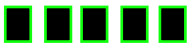

One short blast: I am turning right (starboard).


Two short blasts: I am turning left (port).


Three short blasts: I am going astern.


Four short blasts, then a pause and one short blast: I am turning around to my right (starboard).


Four short blasts, then a pause and two short blast: I am turning around to my left (port).


Five or more short blasts: Your intentions are unclear, or are you taking sufficient avoiding action?

Note: The above international signals are unlikely to be understood by the majority of boaters using the Pamela May waterways, so only the first, second and last need to be used!

4.10.2: HAND SIGNALS

No official RYA hand signals exist, but it is important we as a Trust have hand signals that we agree to so that no miss-communication occurs.

1. **Stop**

Hand raised over your head forming a cross with your arms.

Example: When crew have gone to the lock and a boat is blocking the way. The crew use this signal to inform the Helmsman to stop in current position. If suitable, Helmsman may move the boat to side and tie up.

2. **All OK**

Thumbs up

Example: Crew at lock and awaiting this signal from the Helm that they are ready for the lock paddles to be opened.

3. **Gap that the helmsman cannot see.**

Hands apart and slowly moving together as a gap that the helmsman cannot see is closing. Ensure the helmsman can see your hands.

Example: When turning the boat around in a tight spot.

4. **Can you see me**

Arm up in the air and hand in a fist. You reply with the same, an arm in the air and hand in a fist.

Example: Coming to a lock, before you are then told which way to go.

Lock keepers at Hanbury also use it to communicate that a boat is coming through.

5. **Waving another boat through a narrow gap between you.**

With your hand towards them and then move it over your head, a couple of times.

6. **Some others**

a. Tapping lower leg, lock is empty

b. Tapping waist, lock is partly full

c. Tapping head, lock is full

d. Arm moved across body going up and down with hand as doing so, a boat is coming.

e. Helmsman taps chest and points, means that is the way they are going to move their boat.

f. Arm down and hand moving around pointing to the ground. Means tie up the boat.

DROITWICH WATERWAYS (PAMELA MAY)TRUST LIMITED

PAMELA MAY OPERATION PROCEDURES MANUAL PART 5.0: EMERGENCY PROCEDURES WITH BOAT AND PASSENGERS - INCLUDING AT LOCKS AND TUNNELS

5.1 ILLNESS OR MINOR ACCIDENT ABOARD

If the situation cannot be stabilised with use of the First Aid Kit then depending on the seriousness turn back or call emergency services as indicate in Part 7. Report breathing and bleeding.

5.2 GAS LEAK

5.2.1 If a gas cooker has been left on (or engine exhaust fumes exist) and it is thought that someone has been **poisoned by carbon monoxide** then apply resuscitation - CPR - if not breathing or the heart stopped. Other-wise if unconscious but breathing well, put in recovery position. In all cases send for emergency services. Turn off the gas or engine.
If early signs which include headaches, dizziness, tiredness, sickness, and other flu–like symptoms, see a doctor as soon as possible.

5.2.2 The bottled gas used for cookers, fridges and heaters is heavier than air, **if there's a leak**, it'll build up in the bottom of the boat. A small spark will ignite this gas.
If you can smell gas. Close the gas shut off valves and open windows, hatches or doors to ventilate the area as much as possible. Turn the engine off and put out naked flames, cookers and pilot lights.
Evacuate the boat if possible. **Don't** switch anything electrical on or off, including lights and the bilge pump, until you're sure the gas has dispersed. Find the problem and get it put right before you turn the gas on again

5.3 ENGINE OR PROPULSION FAILURE

5.3.1 If the engine stops without warning or propeller not working, put the control lever in neutral, press the 'STOP' button, remove the engine key and check the following:-
- anything wrapped around the propeller, Remove obstruction using the cloth, rope and wire cutters stored under the sink.

Check that: -
- the propeller rotates when the engine is in neutral.
- the battery is working.
- the control lever is operating the engine.
- the fuel level is OK
- the engine is not overheating
- the cooling water level is OK. Open the cooling water cover with care to avoid scalding!
- there is no excessive oil leak.

If the fault cannot be fixed contact the Service Engineer, details in Part 7.
If possible move the boat to the tow path and moor up to do the checks. Tow the boat to the nearest escape mooring (see Part 7) whilst waiting for help.

5.4 BATTERY OR ELECTRIC FAILURE

Check for low engine start up power. If engine starts make sure battery is being powered - use high revs and check the battery voltage metre. Other-wise get a new battery.
If there is a sudden loss of power check for disconnected leads. If possible reconnect after isolating the battery.
If the fault cannot be fixed use the procedure in the second paragraph of 5.3.1 above.

5.5 SERIOUS COLLISION

In the event of a serious collision which inflicts damage sufficient to create the risk of flooding and sinking, a risk of personal injury to passengers and crew will also be present. It is therefore important to get all passengers ashore BEFORE any treatment to injuries is attempted, with the exception of treatment to **arterial** injuries where bleeding is free and uncontrolled. Temporary padding may be applied to the wound and the casualty removed from the boat as soon as possible.
If someone falls overboard follow the procedure in 5.8 immediately.
Evacuation and emergency help procedures are in Part 7.

5.6 FIRE

5.6.1 Engine Fire: If the fire's in the engine space **don't** open the main access door or hatch – the air will only feed the fire. On the Pamela May discharge a CO2 gas or dry powder fire extinguisher through a small opening in the top right engine access door and also into the centre hole of the engine compartment cover. Press the 'STOP' button on the engine control panel to to electrically stop the engine, also pull the fuel isolator knob situated on the inside of the starboard rear bulkhead and turn off the main gas bottle in the bow locker.

5.6.2 FIRE IN THE GALLEY AREA: Use a fire blanket on pan fires and fire extinguishers on other fires.
Turn off the gas at the main bottle in the bows. Also turn off the electric and water pump at the two switches by the draining board. Open the Toilet door to act as a fire barrier to the Passenger cabin
If necessary, evacuate the boat and get help using the procedure in Part 5.9

5.6.3 FIRE IN THE MAIN PASSENGER CABIN: Turn off the gas at the main bottle in the bows. Attack the fire with the fire extinguisher. Turn off the electricity.
If necessary, evacuate the boat and get help using the procedure in Part 5.9

5.6.4 FIRE IN THE TOILET: Evacuate the toilet and attack fire with extinguisher. Turn off gas and electricity.
If necessary, evacuate the boat and get help using the procedure in Part 5.9

5.6.5 GENERAL: Act quickly – fire spreads rapidly! Put your fire action plan into practice! Alert everyone onboard to move to a safe location and evacuate if possible. Call the fire service.
If someone's clothes are alight, quickly lie them face down so the flames rise away from their face. Smother the flames with a blanket or wet jacket laid away from their face.
Use the Toilet Door as a fire barrier when appropriate.
Turn off gas and electricity if possible.
The cabin will become smoke logged during a fire. All personnel MUST keep their heads as low down and as near to the cabin deck as possible in the boat during the time they are awaiting their turn to disembark. This is because it is probable that a smoke free base, a few inches or so above the level of the deck will exist. Keeping mouths and noses in this clear air will enable persons to breathe without inhaling smoke.
If necessary, evacuate the boat and get help using the procedure in Part 5.9
STARVE the fire by removing one of the following: the fuel, oxygen or heat

F.I.R.E.: 1. Find. 2. Inform. 3. Restrict. 4. Extinguish

***** Gas isolators are at the forward gas locker and at the top of the cupboard under the gas hob in the galley**.**
*****Diesel fuel cut off is the pull stop on the inside of the starboard rear bulkhead.
* Electricity isolators at the ignition switch and at the red isolator key beneath the stern deck. Trip switches are located on the inside of the rear bulkhead of the back cabin, starboard side at eye level.
* After evacuating the boat, close all doors and windows if possible and leave the boat yourself.
* Cool the outside of the boat with water in the vicinity of the fire.
* Prevent other people or vessels approaching the fire until the emergency services give the all clear.

5.7: SINKING

Try and get to a safe mooring on the tow path. If not: -

5.7.1 IN THE CANAL: The depth of water is likely to be less than 4.5 ft, hence get passengers onto the roof for rescue from a passing boat. Or, if isolated, stretch a line from the boat to the bank and assist passengers to wade ashore.

5.7.2 IN A TUNNEL: If it becomes necessary to evacuate the boat inside a tunnel, the passengers and crew will need to wade or swim towards the nearest portal. The exit direction will be marked on the tunnel wall by arrows which indicate the **nearest entrance/exit point**. Cold water shock and hypothermia may become a problem during this type of evacuation due to the length of time people will be in the water and personnel are to be encouraged to stay together and in physical contact with each other during their move. Crews are to inflate their personal floatation devices and are to alternate with passengers in the evacuation line. A life buoy should be given to support children in the water and the Skipper should be the last person to leave the boat.

5.7.3 IN A LOCK: Every effort should be made to avoid flooding; see procedure 4.5.
If the boat is caught on the lock structure, close the paddles and stop the boat tipping and flooding.
If caught on the lock seal or hung from the topside gate going down the lock, then open the top gate paddles and lift the boat.
If the bows or stern are caught on the gate going up the lock then open the adjacent down gate paddles and lower the water.
If this does not work and the boat is definitely sinking, lower the water in the lock as quick as possible. Get the passengers on the roof and escape up the lock side ladder

5.7.4 OVER OR ON A WEIR

Wet evacuations are extremely unlikely, but would occur if the boat was washed into a weir and became stuck in mid-stream. If it is possible to land someone, they should, if practicable, take a rope ashore with them, or have one passed to them when they have reached the bank, using the heaving line method. The front and stern ropes, joined together, should provide a line of sufficient length to form a jack-stay and reach between the boat and the bank. Passengers and crew might then be able to leave the boat, wearing a personal floatation device, and using the jack stay line as a safety rope.
However, in such circumstances, it will normally be preferable to await the arrival of the emergency services before an attempt to leave the boat is made under their direction and control.
The above evacuation method should only be attempted when there is a danger of the boat capsizing.

5.8: MAN OVERBOARD

5**.8.1 IN SHALLOW SLOW MOVING WATER:** Before you do anything else, take a deep breathe and think. Don't panic, don't jump in – and don't let others jump in. The water is very cold even in summer.
Keep sight of the person in the water at all times.
On narrow canals and slow, shallow rivers
Put the engine into neutral. Don't reverse the boat – the person in the water could be dragged in to the propeller.
Throw a line or life-buoy and tell them to try to stand up – if it's a canal, they might be able to walk out.
Steer the boat slowly to the bank and get one of the crew or passenger to help the person ashore.
Make use of the rescue ladder, see 5.8.5

5.8.2: IN DEEP or WIDE or FAST WATER: Throw a life-buoy or line and steer your boat carefully and slowly to approach the person in the water. Keep a constant watch ensure your propeller is well away from them. Stop the propeller immediately by selecting neutral gear if there is a risk of them getting too close to it.
Pull them into the side of the boat and help them inboard with aid of the ladder.

5.8.3: IN A LOCK - (MAN OVERBOARD: MOB)

- Stop engine
- Close all paddles
- Throw a line/life-buoy to the MOB
- Do not jump in
- Place other life-buoys if available, and fat fenders at strategic points to prevent crushing the MOB - make use of the ladder 5.8.5
- Get MOB to lock wall ladder
- If the *MOB* cannot get out and can float, raise the level of water to bring the MOB to the top of the lock where he or she can be pulled out
- Get help from the volunteer lock keeper - if available.
- Treat for exposure and potential Weil's disease.

5.8.4: GENERAL: (In order of importance)

Deploy life-buoy
Call emergency services. See part 7
Nominate a person to watch the victim or if unconscious, to enter water and enable victim to breath.
Steer boat to bank side and secure.
Deploy ladder.
Extract victim from water
Render first aid
Dry off victim and warm using foil blanket
Treat for potential Weil's disease.

5.8.5: SAFETY LADDER

Location: In the cabin on the port side by the lock handles etc.
If required: The ladder should be deployed on the side required to recover a person from the water. It should be deployed from the aft cockpit by the gap used for access to the cockpit and prior to a person climbing the ladder the following should occur.

A. Engine is off
b. If possible, the boat is secured to the side of the canal, not moving.
c. The ladder must be secured to the taff uprights via the spring-loaded clip.
d. The ladder is in the water and should be touching the bottom
e. Hold the ladder as the person starts to climb, and help as required.

The ladder has sufficient rope for securing should it be more practical to deploy from the bow or the shore.
Once the person is safely on board, ensure they are kept warm and if required call the emergency services.
Recover the ladder, it has drain hoes in, so remove it from the water slowly to allow the water to drain out.
Replace back in the cabin on the port side.
The ladder also can be used as a gangplank using the aluminium sheet that needs to be clamped to the ladder using the in-built clamps prior to deployment. It should be tied to the taff upright if deployed.

5.9 EMERGENCY PASSENGER EVACUATION PROCEDURE

If it is deemed necessary to evacuate all personnel from the boat during an emergency, the boat must, if possible, be steered to the towpath bank and secured or held alongside to enable passengers and crew to disembark safely.
The order of disembarking should, where possible, allow all able bodied persons to disembark first, giving priority to mothers with children.
Any disabled persons may then be taken from the boat by the crew and with any other assistance available to them.
The rear exit should be used where ever possible as more care is required to exit from the front.
If the rear exit is blocked, say by a galley or engine fire, the the following procedure is advised:

* Open the toilet door to provide a fire barrier.

* Open the front exit doors and roof hatch. An able bodied passenger or crew member should get out first to help mothers and children etc to reach the bank or get to safely into the water.

* Open the side windows to let smoke escape and also give an extra escape access.

* Three of the most active members should be organised to help immobile passengers through the exit head first by pulling the arms and pushing the legs.

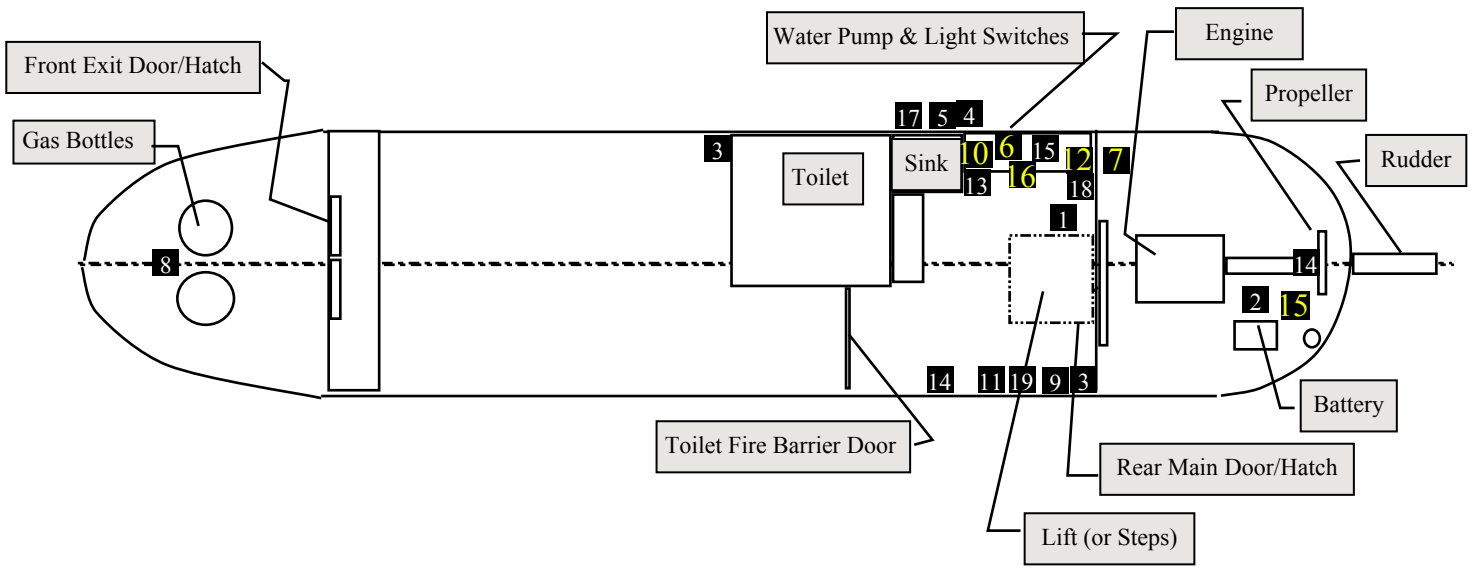
* Let the emergency services take over as soon as they arrive.

DROITWICH WATERWAYS (PAMELA MAY)TRUST LIMITED

PAMELA MAY OPERATION PROCEDURES MANUAL

Part 6.0: Safety Equipment and Location

	SAFETY ITEM	LOCATION
1	Boarding Ramp	On Starboard side of Lift
2	Electric Isolation Key	Under Stern Deck Hatch -big red switch
3	Fire Extinguishers (4)	Rear Starboard Side of Passenger cabin and rear port side of Galley.
4	Fire Blanket	Hanging by First Aid Kit
5	First Aid Kit	Hanging on Bulkhead at eye level over Sink
6	Foil Blankets	Hanging by First Aid Kit
7	Engine Stop Button	On Starboard side of Main Door- outside.
8	Gas Isolation Valve	Under hatch on Bows
9	Hook Pole and Punt Pole	Along brackets on Port Side Galley Wall..
10	Log books + Information leaflets	On Shelf over Sink
11	Life Buoys with throw rope	On Floor on Port Side Galley Wall..
12	Life Jackets	Portacabin
13	Propeller Fowling Cutting Equipment	In Cupboard Below Sink
14	Weed Hatch	At Rear Under Rear Deck Hatch
15	Fuel Valve	Engine room, starboard side
16	Torch	In Drawer By Sink
17	Orange Flag	Above Sink
18	Fuel isolation button	On the inside of the starboard rear bulkhead
19	Ladder	Port side ,rear.



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PAMELA MAY OPERATION PROCEDURES MANUAL

PART 7.0: LOCAL AREA EVALUATION AND EMERGENCY SERVICES PLAN: (Guide for Emergency Stops and Contact Information)

7.1: EMERGENCY CONTACT LIST

EMERGENCY SERVICES **112 or 999**

WEST MERCIA POLICE **03003 333 000 or 101 non emergency**

AMBULANCE **01905 763333 or 111 - non emergency**

FIRE & RESCUE SERVICE **01905 725019 - non emergency**

CANAL AND RIVER TRUST (CRT) **0800 4799947** HELP LINE - Inform as soon as possible!

TOM PEDLOW Service Manager: **07583 710812 or 01905 778676**

SANDY LAIRD **01905 773620**, Operations Manager/Director **0770 817 3521**

LYNDA GILLESPIE **01905 771326,** Bookings Administrator: **07900 406 987**

MARGARET ROWLLEY Chairman of the Trust: **01905 345307**

PETER DANIELS: Crew Control Manager: **01905 794878, 07836 609386**

There is a list of emergency, next of kin, contacts for crew members in the Trip Log Folder

7.2: Use the Orange Flag to attract he attention of the Emergency Services arriving at an access location.

7.3: BRIDGE ACCESS POINTS FOR THE DROITWICH BARGE CANAL

Bridge No.	Access: By Vehicle or Foot	Name	Latitude	Longitude	Ordnance Map Reference E	N	Post Code	Comments
20	Foot	Barge Lock Swing Bridge	52° 16.17'N	2° 8.68'W	E 390216	N 263495	WR9 8LR	Lock mooring good for access to road
19	Foot	Grazbrook Swing Bridge	52° 16.12'N	2° 8.84'W	E 390039	N 263402	WR9 8EL	Opposite Waitrose
18	Closed to foot traffic	Annies Swing Bridge						Permanently open to boats; access to road only via adjacent bridges.
17	Foot	Fox Alley Swing Bridge						Opposite Waitrose west Car Park
16	Vehicle	Railway Inn Union Road	52° 16.23'N	2° 9.22'W	E 389607	N 263620	WR9 9AY	Easy access west of bridge to Union Road

7.2: Continued - Bridge Access Points for the Droitwich Barge Canal

Bridge No.	Access: Vehicle /Foot	Name	Latitude	Longitude	Ordnance Map Reference E	N	Post Code	Comments
15	Railway							No Road Access
14	Railway							No Road Access
13	Vehicle	Salwarpe Road, by British Legion	52° 16.23'N	2° 9.43'W	E 389360	N 263632	WR9 9BH	Difficult to moor
12	Foot	Westacre						Difficult to moor
11	Vehicle	Briar Mill	52° 15.9'N	2° 9.90'W	E 388828	N 263019	WR9 0JA	Difficult to moor
10	Foot	Valley Way						Difficult to moor
9	Vehicle	Ombersley Way	52° 15.65'N	2° 10.32'W	E 388353	N 262534	WR9 0RW	Difficult to moor
8	Vehicle	Roman Way - By Pass	52° 15.55'N	2° 10.55'W	E 388084	N 262361		Difficult to moor
7	Vehicle	Salwarpe Village	52° 15.37'N	2° 11.07'W	E 387497	N 262007	WR9 0AH	Long way to road
6	Vehicle	Ladywood	52° 14.85'N	2° 11.68'W	E 386801	N 261069	WR9 0AJ	Easy access to road
5	Vehicle	Porters Mill Lock	52° 14.52'N	2° 12.22'W	E 386198	N 260439	WR9 0AN	Road Access
4	Vehicle	Mildenham Lock - Egg Lane	52° 14.63'N	2° 12.97'W	E 385335	N 260675	WR9 0AW	Road Access
3	Foot	Linacre						Isolated original Brindley Bridge -No access.
2	Vehicle	A449 Hawford Dual Carriageway	52° 14.23'N	2° 13.52'W	E 384704	N 259939	WR3 7SE	Difficult to moor and some distance from road.
1	Foot	Hawford, Lock 2						Long difficult access to road
0	Foot	Hawford Lock 1						Up steps to road on south side of lock

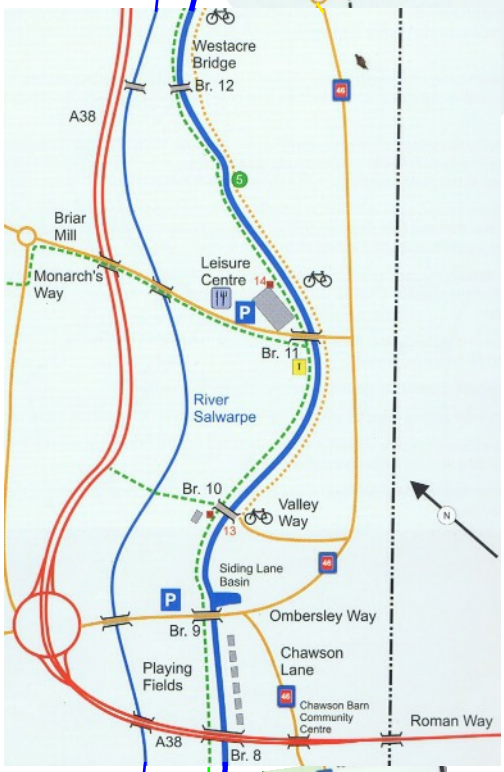
NOTE: we need to identify locations other than bridges where mooring and road access exists.

PAMELA MAY TRIP - FROM VINES PARK TO LADYWOOD

-Trip B2

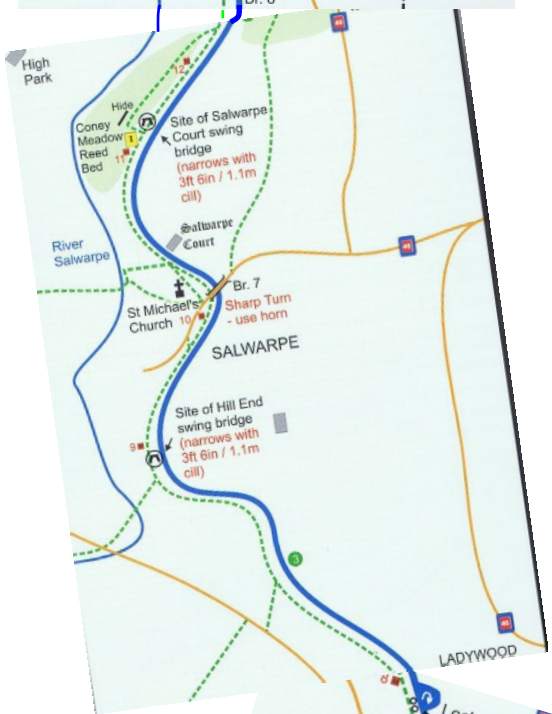


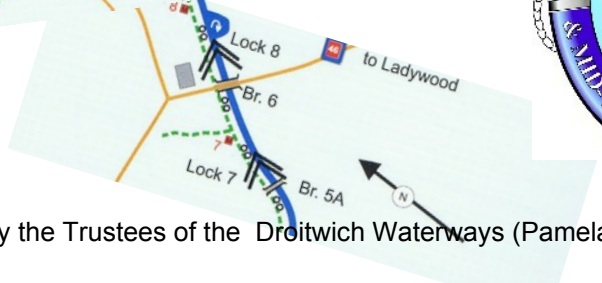
THE DROITWICH BARGE CANAL



KEY TO MAPS

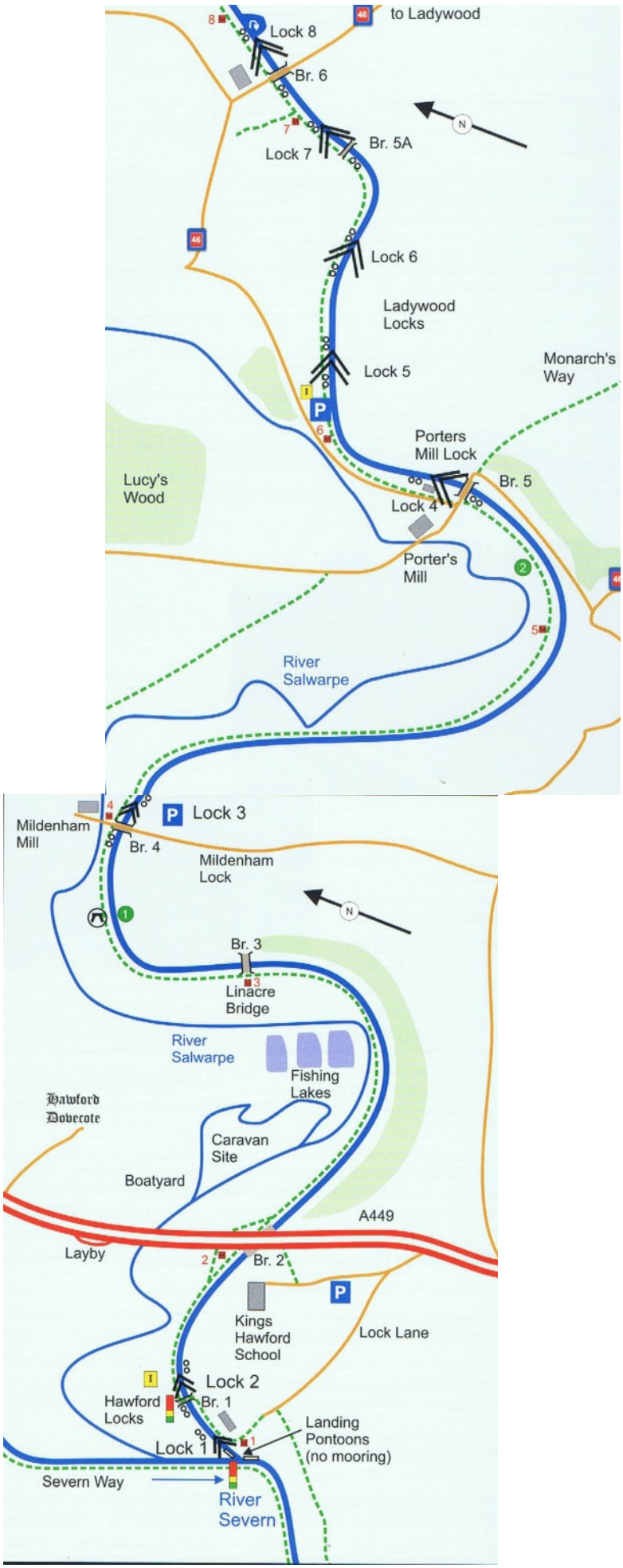
- lock
- bollards
- water level warning board
- mileage from Hawford
- cycle track
- parking
- national cycle route
- picnic site
- 17 audio trail mosaic post
- interpretation board





Extract from 'THE DROITWICH CANALS NAVIGATION & VISITOR GUIDE' pub. by Droitwich Canals Trust

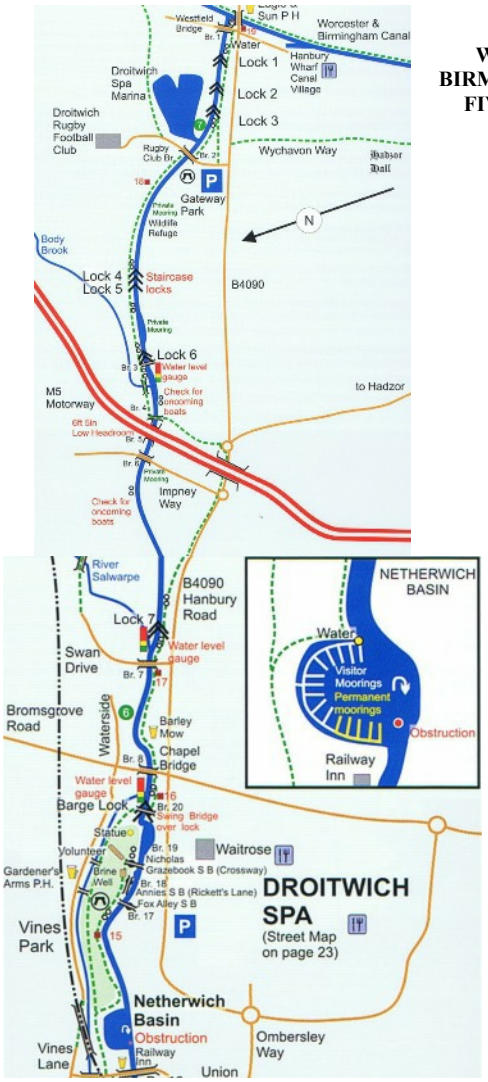
MAP FROM LADYWOOD TO THE RIVER SEVERN AT HAWFORD TRIP B3



7.3: BRIDGE ACCESS TO THE DROITWICH JUNCTION CANAL

Bridge No.	Access: Vehicle /Foot	Name	Latitude	Longitude	Ordnance Map Reference E	Ordnance Map Reference N	Post Code	Comments
1	Vehicle	Westfield	52° 15.88'N	2° 6.92'W	E 392225	N 262966	WR9 7FB	Exit to road on tow path on west side of bridge.
2	Vehicle	Droitwich Rugby Club	52° 15.95'N	2° 7.45'W	E 391620	N 263094	WR9 7DU	Difficult to moor; accept inside the Droitwich Marina
3	Private Vehicle	Lock 4/5						Gate to road may be locked
4	Foot	East entrance to M5 Tunnel						Moor at Lock 6. Short route to B4090
5	Vehicle	M5 Motorway Tunnel					WR9 7EJ	Emergency mooring exit on west side of tunnel
6	Vehicle	Impney Way	52° 16.03'N	2° 8.08'W	E 360894	N 263226	WR9 7EJ	Emergency mooring exit on east side: as bridge 5
7	Vehicle	Swan Drive	52° 16.10'N	2° 8.33'W	E 390616	N 263354	WR9 8WA	Moor up at Lock 7 Shortest to road: go east
8	Vehicle	Chapel Bridge Bromsgrove Road	52° 16.17'N	2° 8.63'W	E 390269	N 263488	WR9 8LP	Mooring and road on west side of bridge

FROM VINES PARK TO HANBURY WARF



WORCESTER & BIRMINGHAM CANAL - FIVE MILE POUND

TRIP J3

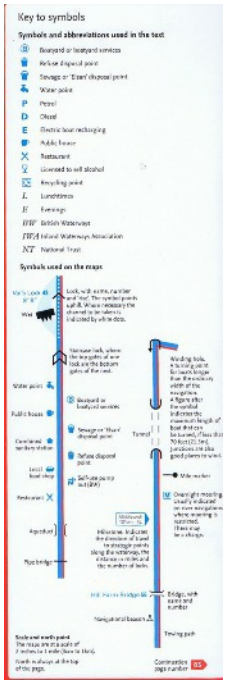
Extract from 'THE 'DROITWICH CANALS NAVIGATION & VISITOR GUIDE' pub. by Droitwich Canals

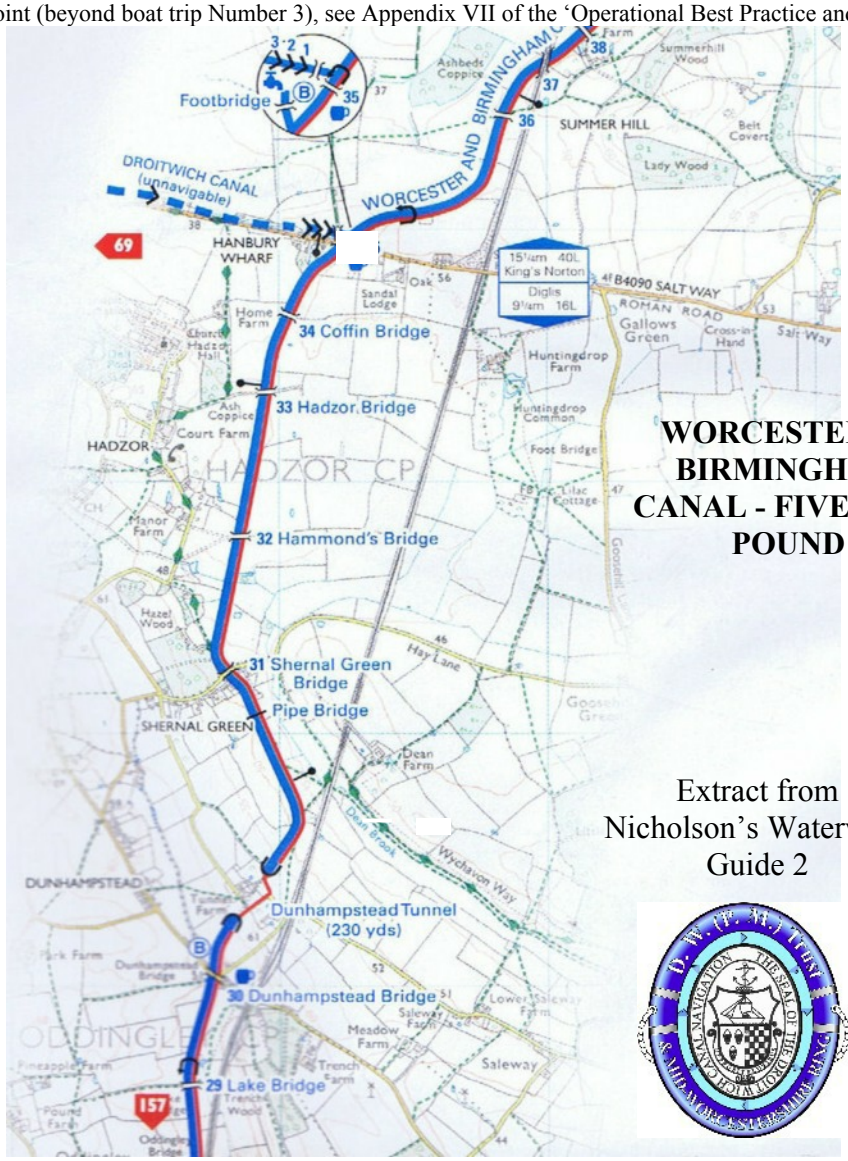
7.3: BRIDGE ACCESS POINTS FOR THE WORCESTER/BIRMINGHAM CANAL

Bridge No.	Access: Vehicle /Foot	Name	Latitude	Longitude	Ordnance Map Reference E	N	Post Code	Comments
35	Vehicle	B4090 Eagle & Sun						Moor along-side the Eagle & Sun Pub
34	Foot	Coffin	52° 15.88'N	2° 06.91'W	E 392225	N 262966	WR9 7FB	Long way to road by foot. Not easy to moor
33	Foot	Hazdor						Difficult to moor. Very long way to road
32	Foot	Hammond's	52° 15.57'N	2° 7.17'W	E 391942	N 262364	WR9 7EX	Difficult to moor. Long way to road.
31	Vehicle	Shernal Green, Hay Lane	52° 14.97'N	2° 07.29'W	E 391798	N 261257	WR9 7JS	Road access
	Foot	Dunhamstead Tunnel			E 391933	N 260447	WR9 7NB	Difficult to moor both north & south of tunnel plus a long way to road only to the west.
30	Vehicle	Dunhamstead Trench Lane	52° 14.31'N	2° 07.33'W	E 391751	N 260048	WR9 7NB	Good Emergency exit. Fir Tree Inn & Brook Line

For more information south of this point (beyond boat trip Number 3), see Appendix VII of the 'Operational Best Practice and Safety Procedures'

PAMELA MAY TRIP - FROM HANBURY WHARF TO DUNHAMSTEAD





WORCESTER & BIRMINGHAM CANAL - FIVE MILE POUND

Extract from Nicholson's Waterways Guide 2

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PAMELA MAY OPERATION PROCEDURES MANUAL

PART 8.0: BANK CREW DUTIES AND RESPONSIBILITIES

8.0: THE BANK CREW are responsible to the Skipper of the Pamela May.

8.1: ROLE ONE: EVENT TRIPS

8.1.1: Help carry equipment in the Pamela May for the DWT sales gazebo and assist with assembly and packing up.
8.1.2: Wear a DWT tabard or approved PM clothing at all times.
8.1.3: Help moor up and dispatch the Pamela May. Ref. Part - 5.7.2, 5.8.4 & 5.8.5: :
8.1.4: Help open and enclose swing bridges, as directed. Ref. Part: 5.3
8.1.5: Assist with the activities of the Sales Gazebo as requested, e.g. selling trip tickets etc.
8.1.6: Entertain the public queuing for the boat and encourage membership.
8.1.7: Assist passengers to embark or disembark. Ref: Part - 2.2
8.1.8: Record the number of passengers on each trip. Ensure a maximum number of twelve passengers per trip (excluding children under twelve months old).
8.1.9: Keep the landing area safe and clear of obstructions.
8.1.10: Return float, cash, stock and documentation to person in charge of the gazebo.

8.2: ROLE TWO: ON BOARD THE PAMELA MAY AS PART OF THE DECK CREW

9.2.1: Have a good knowledge of Part 2 and Parts 5.1.2, 5.1.3, 5.1.7, 5.1.8, 5.1.9, 5.3, 5.5.2, 5.5.3, 5.7.2, 5.8.4, 5.8.5 and all of Part 6.
8.2.2: Handle mooring, gates and paddles at locks.
8.2.3: Wear a floatation or life jacket, on top of all clothing if working on locks.

DROITWICH WATERWAYS (PAMELA MAY)TRUST LIMITED

Registered Charity Number: 1149844 Company Number: 7662700 www.droitwichcanals.co.uk

PAMELA MAY OPERATION PROCEDURES MANUAL

PART 9.0: DECK CREW DUTIES AND RESPONSIBILITIES

9: DECK CREW

The Deck Crew are responsible to the Skipper during operations of the Pamela May and should be trained and capable of carrying out the following duties:

9.1: Looking after passengers as defined in Part 2.0

9.2: Help the Helmsman (if not the skipper) to handle boat satisfactory throughout its operation as defined in Part 4.0.

9.3: Have been trained to be competent with the Emergency Procedures defined in Part 5.0

9.4: Be able to give a Passenger Safety Address as outlined in Part 3.0

9.5: Be able to give a trip commentary as outlined in the Pamela May Boat Trip Commentaries Manual.

9.6: Be capable of being Helmsman if requested by the Skipper.

9.7: Be capable of preparing light refreshments (tea/coffee).

9.8: Help clean and tidy the boat after a trip.

9.9: Be in possession of a fully charged mobile phone.

9.10: Wear a DWT tabard. Also a life jacket, over tabard, if working on locks.

DROITWICH WATERWAYS (PAMELA MAY)TRUST LIMITED

Registered Charity Number: 1149844 Company Number: 7662700 www.droitwichcanals.co.uk

PAMELA MAY OPERATION PROCEDURES MANUAL

PART 10.0: SKIPPER'S DUTIES AND RESPONSIBILITIES

10: SKIPPER

10.1: The Skipper is responsible to the Crew Control Manager and the Trust for overall care of the Pamela May, Passengers and crew.

10.2: The Skipper must meet the requirements of the Inland Waterways Association Certificate of Boat Management for Small Passenger Boats- powered vessels carrying 12 passengers or less on Category A waters. This includes the RYA Helmsman Certificate. To the satisfaction of the Crew Control Manager.

10.3: Responsible to ensure that the crew understand their duties and the passengers are made welcome and fully informed.
Ensure that the Helmsman is competent.

10.4: Wear a DWT tabard or approved clothing and a fully charged mobile phone.

A life jacket should also be worn over the tabard or approved clothing, when working on locks. Make sure there are enough jackets for crew and children.

10.5: Understand and be competent in carrying out the functions described in all parts of this manual.

10.6: Complete the start and finish check sheets. Also complete the Trip Log, Defects Log and Message Log.

10.7: Collect any monies and pass to the Bookings Administrator, see 7.1.

10.8: Leave the Trip Log in the folder over the sink for someone to collect and analyse.

10.9 Skippers' Responsibilities:

Check trip details from the Drop Box file, updated every Monday. Any problem please call Peter or Lynda. Skipper must have a charged mobile phone. See 'Bookings Manual for details.

Contact the trip organizer one week before the trip to confirm the following details:-

1 Number of passengers/carers.
2 Mobility of passengers.
3 Number/size of wheelchairs (two maximum: 24" lightweight).
4 Boarding point, ie Vines Park.
5 Route of journey.
6 Start/finish times for client and crews.
7 Parking; Waitrose park is free on Sundays.
8 Outstanding payment (please take any monies to Bookings Administrator, for banking).
9 Children to be in the care of their parents/guardian. If getting off the boat by locks they must wear life jackets.
10 Stress that we are responsible for passengers when on board the boat but if they leave to walk they have to take responsibility for their own safety.

Part 10.9 - SKIPPER'S DUTIES AND RESPONSIBILITIES Cont.

Contact crews one week in advance to make sure they are still available and have all trip details with contact telephones and meeting times. Some skippers use a 'Crew Briefing Sheet', a good practice. If going through locks life-jackets must be worn by crew.

Get a key to the yard from a key holder (see DROPBOX) or use the key safe at the gate with the code obtained from a key holder or DROPBOX.

Check weather & river conditions for the day. Weather/rain may cause cancellation or change of route to avoid the River Salwarpe. Skipper to decide whether to continue, or go towards Ladywood, or postpone the trip. If in doubt walk to Barge Lock and check water levels.

On the day of the trip check the supply of all consumables (water, milk, tea, coffee, sugar, biscuits, toilet paper, soap, towels, kitchen roll etc.) Expenses can be claimed from Sandy Laird/ David Aspinall, please provide receipts.

When the trip is under way introduce crew and conduct a safety talk to the passengers. Complete and sign all trip logs.

Remember the Skipper is legally responsible for safety and well-being of passengers and crews.

In a serious emergency call 112 or 999 and call Peter and Sandy. Be aware of the boat location, if need be refer to the map in the galley. See Part 7 for details.

If approaching the Barge Lock from Hanbury direction into Vines Park the skipper must tie up using stern rope at the mooring until a crew member signals that the bridge and the lock gate are both open and the lock is clear to enter without stopping. See 4.2.10 on page 12.

On completion of trip contact next skipper to advise the state of consumable supplies and any operational difficulties. Any boat problems please call Tom.

DROITWICH WATERWAYS (PAMELA MAY)TRUST LIMITED

Registered Charity Number: 1149844 Company Number: 7662700 www.droitwichcanals.co.uk

PAMELA MAY OPERATION PROCEDURES MANUAL

PART 11.0: REFERENCES AND FURTHER READING

11: REFERENCES

11.1: R.Y.A. Inland Waterways Hand Book, Andrew Newman, ISBN 978-1906-435-349

11.2: *T*he Boaters Handbook published jointly by British Waterways and the Environment Agency

11.3: *Inland Waters Small Passenger Boat Code published by the Maritime and Coastguard Agency?*

11.4: The Inland Waterways Association Certificate of Boat management for Small Passenger Boats.

11.5: R.Y.A.: The Green Guide To Inland Boating

11.6: Fire Safety On Boats; published by Communities and Local Government, ISBN 978-14098-0043-9

11.7: FIRST AID COMPANION; Sandra Roberts, Wiley Nautical, ISBN 978-0-470-68206-7

11.8: BCU LIFEGUARDS- AQUATIC FIRST AID MANUAL, Nigel Barraclough, SR Para CertEd

11.9: Operational Best Practice and Safety Procedures; The Droitwich Waterways (Pamela May) Trust Ltd

Further Reading:

- **Maintenance Schedule**
- **Bookings Manual**
- **Trip Commentaries**

} Can be down-loaded on http://www.droitwichcanals.co.uk/pammay.html

- About Locks: web site:http://www.droitwichcanals.co.uk/page24.html
- History of the Droitwich canals: http://www.droitwichcanals.co.uk/history.html

Issue Details:

Issue	Date	Sections Effected
1.0	Oct 2013	Initial issue
1.1	Oct 2013	2.2.4 / 3.5.2 / 3.5.4 / 12.2
1.2	Nov 2013	2.1.6/ 3.1.4/ 3.3/ 5.1.1 (11)/ 5.1.1 (12)/ 5.1.1 (13)/ 5.5.3.5/ 5.5.5/ 5.7.3 (9)/ 5.8.2/ 6.8.3/
1.3	July 2014	Pages 80-85, Part 15; Risk Assessments added.
1.8	April 2018	A major review and update; - Maintenance, Trip Bookings and Commentaries removed and issued as separate manuals.

DROITWICH WATERWAYS (PAMELA MAY) TRUST LIMITED

Registered Charity Number: 1149844 Company Number: 7662700 www.droitwichcanals.co.uk

PAMELA MAY OPERATION PROCEDURES MANUAL
PART 12.0: RISK ASSESSMENT AND METHOD STATEMENT

12.1 INTRODUCTION

12.1.1 The risk assessment is based on a comparison between the use of procedural controls defined in this manual - the method statement, and no controls

12.1.2 The methodology is based on that defined in the requirement document 'The Inland Waterways Association Certificate of Boat Management for Small Passenger Boats' .

12.1.3 The method statements have already been defined in Sections of this manual.

Hazards anticipated for operating the Pamela May are listed below:

12.1.3.1: FALLING - on ground - on the boat - off the boat - into a lock. (See 12.2)

12.1.3.2 SQUASHED OR IMPACTED - by a boat or lock equipment (see 12.3)

12.1.3.3 ILLNESS (see 12.4)

12.1.3.4 FIRE - galley - engine - (see 12.5)

12.1.3.5 GAS EXPLOSION (see 12.6) and variants (see 12.7)

12.1.3.6 FLOODING - Boat sinking - High water flow. Or in a lock (see 12.8)

12.1.3.7 *The Case for Not Wearing Life Jackets Where There Are No Locks (see 12.9)*

12.1.3.8 Assessment for minimum number of crew (see 12.10)

12.1.4 Risk Value = RV = L x S - is the product of the likelihood or probability of the hazard occurring - L and the severity of the resulting event - S.

Likelihood values are: 1: Least likely or a very low probability of occurrence
5: Most Likely or a very high probability of occurrence

Severity values are: 1: Little damage to personnel and or low financial loss (<£10k)
5: Death and or high financial loss (>£100k)

LIKELIHOOD					
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5
			SEVERITY		

HIGH	**Not Safe to proceed**
MEDIUM	**Safe providing the crew are adequately and continually trained**
LOW	**Safe to proceed**

12.2 FALLING

The Risk Value will give a Risk Level - RL - in Three levels as shown in the table below: -

HAZARD	WHO IS EXPOSED	NO PROCEDURES OR CONTROLS	RISK ASSESSMENT				CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL		L	S	RV	RL
Slipping or Falling with light injury	Passengers and crew		4	3	12		See Part 2	2	3	6	
Falling with incapacitating injury	Passengers and crew		3	4	12		See Parts 2, 4 & 7	2	4	8	
Falling in the canal - unconscious victim : -	Passengers, crew and bank-side helpers		2	5	10		See Parts 2, 4, 5 & 7	1	5	5	
CONCLUSION:	Safe using existing procedures ; continual training required.										

12.3 SQUASHED OR IMPACTED - by a boat or lock equipment

HAZARD	WHO IS EXPOSED	NO PROCEDURES OR CONTROLS	RISK ASSESSMENT				CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL		L	S	RV	RL
Crushing between boat and and another hard object	Crew and Passengers		3	3	6		See Part 3 and 5	1	3	3	
Whirling windlass	Crew, passenger or helper		4	3	12		See Part 4.5	1	3	3	
Moving Bridges	Bank crew or helper		3	3	9		See Part 4.3	1	3	3	
CONCLUSION:	Controls are satisfactory if crew continually trained										

12.4 ILLNESS

HAZARD	WHO IS EXPOSED	NO PROCEDURES OR CONTROLS	RISK ASSESSMENT				CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL		L	S	RV	RL
Sudden illness - unconscious, non breathing condition	Crew and passengers		2	5	10		See Part 5.1 and 7	1	5	5	
CONCLUSION:	Controls are satisfactory if crew continually trained										

12.5 FIRE

HAZARD	WHO IS EXPOSED	NO PROCEDURES OR CONTROLS	RISK ASSESSMENT				CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL		L	S	RV	RL
Engine fire	Crew and passengers		2	5	10		See Parts 5.6.1, 5.6.5, 5.9, and 7	1	5	5	
Galley Fire	Crew and passengers		3	5	15		See Parts 5.6.2, 5.6.5, 5.9, and 7	1	5	5	
Main passenger cabin fire	Crew and passengers		2	5	10		See Parts 5.6.3, 5.6.5, 5.9, and 7	1	5	5	
Toilet Fire	Crew and passengers		2	5	10		See Parts 5.6.4, 5.6.5, 5.9, and 7	1	5	5	
CONCLUSION:	Controls are satisfactory if crew continually trained										

12.6 GAS EXPLOSION

HAZARD	WHO IS EXPOSED	NO PROCEDURES OR CONTROLS	RISK ASSESSMENT				CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL		L	S	RV	RL
Propane gas leak	Crew and passengers		3	5	15		See Parts 5.2, 7 and others	1	5	5	
CONCLUSION:	Controls are satisfactory if crew continually trained										

12.7
Assessing the effect of various controls on mitigating the hazard of a gas leak when the boat is moving with passengers.

HAZARD	WHO IS EXPOSED	PROCEDURE	RISK ASSESSMENT			
			L	S	RV	RL
Gas leak explosion and fire in the Galley, cabin or toilet.	Crew and passengers	No cooking, gas shut off at bottle	0	3	0	
Gas leak explosion and fire in the Galley, cabin or toilet.	Crew and passengers	No controls over cooking or switching off gas supply	3	5	15	
Gas leak explosion and fire in the Galley	Crew and passengers	Galley used for heating water only -(no food no fire). Gas can leak.	1.8	5	9	
Gas leak explosion and fire in the cabin or toilet	Crew and passengers	Gas turned off in the galley area only. Leak in pipe work though the cabin and toilet. Leak checks done every four years. But no gas detector.	1	5	5	
Gas leak explosion and fire in the cabin or toilet	Crew and passengers	As above but with an effective propane leak detector.	0.6	5	2.5	
CONCLUSION:	Current Controls are satisfactory if crew continually trained					

12.8 FLOODING

HAZARD	WHO IS EXPOSED	NO PROCEDURES OR CONTROLS	RISK ASSESSMENT				CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL		L	S	RV	RL
Boat flooding and sinking	Crew and passengers		2	5	10		See Part 5.7, 5.9 and 7	1	5	5	
CONCLUSION:	Controls are satisfactory if crew continually trained										

12.9 THE CASE FOR NOT WEARING BUOYANCY AIDS OR LIFE JACKETS WHERE THERE ARE NO LOCKS

HAZARD	WHO IS EXPOSED	CONTROLS OUTLINED BY THIS MANUAL	RISK ASSESSMENT			
			L	S	RV	RL
Crew with no life jackets	Crew and passengers	Crew throws a life buoy - does not jump in - Ref: Part 5.8; canal not deep, can stand up.	1	5	5	
Crew with buoyancy aids	Crew and passengers	Rescue crew hindered by the bulk of a buoyancy aid.	1	5	5	
Crew with self-inflating life jackets	Crew and passengers	The life jacket could self inflate restricting the rescue.	1	5	5	
CONCLUSION	Crew life jackets are not essential if crew continually trained					

12.10 ASSESSMENT OF MINIMUM NUMBER OF CREW

HAZARD	WHO IS EXPOSED	CRITERIA	RISK ASSESSMENT			
			L	S	RV	RL
One of the crew falls over-board	Crew and Passengers	One crew member: MOB on his own, no-one to help!	2	5	10	
		Two crew members. No control over Boat and passengers during rescue!	3	4	12	
		Three crew members. Full boat control achieved during rescue.	4	2	8	
Conclusion: The minimum number for a crew is three,						