

**Northbridge Sailing Club**  
**Rescuing Centreboard Dinghies**

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**FOREWORD**

The following draws heavily on an article written by Don McKenzie of the Northbridge Sailing Club 20 years ago. It has been augmented and updated with the assistance of experienced rescue crew from BYRA.

**Jim Beeston May 2007**

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**RESCUING CENTREBOARD DINGHIES**

Centreboard dinghies in Australia are usually of light construction and although they are strong and durable for sailing purposes, close contact with power boats during a rescue can easily damage them and/or injure the crew. So the rescue has to be handled with some additional care. Capsizing is a normal part of sailing, and does not necessarily indicate the need for assistance. Also, if assistance is given to a racing dinghy which was in no real difficulty and had intended to continue racing it may be disqualified from the race for receiving outside assistance.

Do not move in too quickly. Unless it is obvious that help is urgently needed, wait to see if a dinghy crew can right the craft after a capsize. Most dinghies can be brought up again and sailed away sooner than you can get into position and pass a line. But if the crew are unable to do this after a couple of attempts, it is time to ask them if help is needed.

Again, unless the crew need immediate attention, try to avoid putting a power boat directly alongside a sailing dinghy in distress. Apart from the possibility that one of the lines which seem to grow in profusion on such craft may foul your propeller, contact between the craft in a seaway is likely to cause damage, and even in calm water damage is often caused by the wake of other boats passing by. Rubber duckies or soft fenders are a help, but even then some dinghies seem to have a habit of getting under them.

If the crew are inexperienced, injured or exhausted one of the best ways of providing assistance is for an experienced, young and fit crewman from the rescue boat to dive in, swim to the dinghy and assist in righting it and readying it for tow. If difficult conditions are likely such crew should be carried on the rescue boat if available.

**APPROACH TO AN UPRIGHT DINGHY,**

It is usually best to approach the dinghy heading slowly into the wind and aiming to pass on whichever side will take you past within reach of the bow. The dinghy crew should have freed off all of the sheet ropes controlling the sails. As you pass, you can take the towline from the dinghy or get a boathook on to the foot of the forestay. The first thing to do then is to pull the dinghy gently head to wind and hold it that way. The dinghy crew can then prepare for the tow.



While a dinghy has all of its sails up, try not to pull it across the wind, and never pull it downwind. If you have to move it downwind to a safer place before preparation for towing can be made ask the dinghy crew to turn the dinghy on its side and to stay in the water holding it that way while you pull it clear. Sailing dinghies don't mind getting wet. They are quite used to it although the crew, if inexperienced, may need gentle encouragement and some persuasion. They can do it quite safely, as long as they are wearing buoyancy vests which are properly secured.

### **THE CREW**

If the crew have suffered injury or are showing signs of hypothermia, look after them first. If you need to take them ashore for treatment, anchor the dinghy with a light line and a grapnel anchor, or, if the water is sufficiently deep, turn it upside down and leave it. An inverted dinghy with its sails in the water will maintain its position for a long time and can be picked up later.

### **TOW LINE**

All sailing dinghies should carry a towline capable of extending, when properly rigged, twice the length of the dinghy beyond the bow. This is long enough for use in sheltered waters but may need to be lengthened in difficult conditions. They are also required by Australian Yachting Federation Safety Regulations, to have a towing ring at the bow having not less than 25 mm internal diameter, but this is only a leading ring and is not suitable to tow from. The towline must be led through this ring and taken to some strongpoint further aft. If the dinghy has no towing ring or the towline will not go through it, a small piece of line will need to be tied in a loop and fastened at the bow to provide a lead. After passing through the tow ring or rope lead, the towline can be passed around the foot of the mast or around a thwart and the end either made fast or held by the dinghy crew.

### **SAILS DOWN**

The sails, or at least the mainsail, should be dropped before towing proceeds. The dinghy crew should let go the main halyard, pull the mainsail down and stow it in the boat.

Some dinghies are fitted with a so-called quick release fitting where a swage on the wire halyard engages in a V slot near the top of the mast to hold the sail up. In theory, pulling the halyard (and therefore the swage) down about 2 cm will release the swage from the V slot and allow the sail to be dropped. In practice, however, since the luff or leading edge of the sail is tensioned along the mast from top to bottom it is not possible to get the necessary 2 cm of slack unless the foot of the sail is slackened off near the boom. It is therefore necessary to slacken off the boom vang or kicking strap that prevents the boom from moving upwards and then to move the boom up along the mast a

few centimetres or in some other way to slacken off the foot of the sail at the point where the boom joins the mast (i.e. at the gooseneck). When this is done the swage can be released and the mainsail dropped.

In some Moth class dinghies the sail is held up by a swage in a slot at the top of the mast with no halyard coming down to the deck from that point. In such a case, the dinghy has to be turned over on its side to release the sail after the foot of the sail has been slackened off.

### **POCKET LUFF SAILS**

Some dinghies, like the Laser and Spiral have pocket luff sails in which the mast is threaded through a long pocket at the leading edge of the sail. In these cases, the sail cannot be dropped down the mast while afloat. The whole rig, including mast, sail and boom can, in some cases, be removed by letting go the downhaul rope on the deck near the foot of the mast and lifting the mast out of its socket in the hull of the boat, but this is an awkward procedure and unless a line is attached to the mast before lifting it out, the whole rig will sink if it is dropped in the water.

If the dinghy is on its side and all the fastenings securing the sail to the boom and the foot of the mast are let go, the sail can be pulled off at the top of the mast, but this is also an awkward procedure. A better solution is to let go the line holding the outer end of the sail to the end of the boom and either let the sail flap freely or wind it around the mast. Do not wind it too tightly because the battens in the top of the sail will not bend around the mast.

### **JIB OR FORESAIL**

The foresail may be fitted with a roller furling gear which will wind it up around the forestay. If not, the jib sheet ropes can be freed from their blocks and the sail wound by hand around the forestay. In many cases, depending on the direction relative to the wind in which the tow has to be made, the foresail may be left to flap in the wind so long as the jib sheet ropes are freed right off as far as they will go. This may be sufficient in the case of a tow to windward or directly across the wind.

### **RAISE THE CENTREBOARD**

Most dinghies have removable dagger type centreboards. These centreboards must always be raised and stowed in the dinghy before towing commences, but this must not be done until the towline is securely attached. Once the centreboard is out of its case, the dinghy has no means of righting itself in the case of a capsize. If the centreboard is left down during a tow, it will often act like a paravane and swing the dinghy right out to one side and then right out to the other side of the towing vessel. For boats like Herons with pivoting centreboards the board can be lowered a little to assist the tow.



## **RUDDER**

One of the dinghy crew should steer the dinghy in the direction of the towline throughout the tow, and the dinghy crew should sit further aft than is usual to lift the bow and cause the dinghy to follow the tow more easily. If all members of the dinghy crew have to be taken aboard the towing vessel for attention, they should first swing the rudder blade aft, or remove the rudder.

If neither is possible, the tiller should be lashed amidships. Most centreboard dinghies have long, thin and highly balanced rudders and if the bow of the dinghy rises to a wave while towing a large part of the rudder can be ahead of the pivot point. In that case, an untended or unlashed rudder will suddenly swing hard over and veer the dinghy out to one side.

## **DON'T BEGIN TOW UNTIL READY**

Although the preparation for towing described above may sound complicated, a good dinghy crew can prepare a well rigged boat for towing in a couple of minutes. On the other hand, a tired, cold or inexperienced crew may take a lot longer and these are the ones most likely to need rescue. That is why the towing vessel must hold the dinghy steady and head to wind while preparations are made.

## **TOWING**

Sailing dinghies are likely to suffer damage if towed at more than their hull speed, which is likely to be in the vicinity of 7 or 8 knots. It is true that they often sail very much faster than that, but if they meet a significant wave while sailing fast, their speed drops away rapidly as the bow rises. A dinghy that is being towed will be pulled through the wave without any reduction in speed and dropped in the trough beyond it.

Don't tow too close. In calm water, let out the towline until the dinghy is behind your stern wave. If it is riding your stern wave it may charge down the front of the wave and attack you. If a sea is running, note the pattern of the waves and let out the towline until the dinghy is a couple of waves behind you and is moving up a wave at the same time as the bow of the towing boat is rising to a wave.

As in all towing, the towline must be able to be slipped if necessary. If the towline has to be made fast in the dinghy after it has been led through the towing ring, make sure that you can slip the tow from your end. If the towing boat has to use a bridle to tow and cannot slip the tow at that end, the dinghy end must be passed around the mast or other strongpoint and the end held by the crew.

Bridles are usually not necessary. At the speeds required to tow sailing dinghies, and with the light weight and easy movement through the water of

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most dinghies, there are very few power boats that cannot easily tow a single dinghy from a bollard or staghorn on either quarter. The bridle would be needed when towing a line of dinghies.

If a number of sailing dinghies have to be towed together, they must not be joined by their own tows from boat to boat. That puts the whole strain of the rest of the tow on the leading boat. A single towline should be used, long enough to take them all, and each dinghy can attach its own towline to it with a rolling hitch, the dinghy towline then passing through the towing ring around the foot of the mast, and the end being held by the crew.

In places where it is a common practice to tow numbers of sailing dinghies together, a better idea is to have a long floating towrope fitted with a stainless steel ring every one and a half boatlengths along its length. There also needs to be a swivel in the towrope at each ring, and a float to support the metal fittings. Each sailing dinghy can then have its own towline fastened by a bowline around the mast, led through the towing ring at the bow, then led through a ring in the main towline and back into the dinghy where a turn can be taken around the bottom of a shroud and the end held in the hand by the crew. Alternate dinghies can link up to the main towrope on opposite sides of it and can quite easily steer just clear of it. If the tow has to be slipped, each boat can get clear of the towrope by simply letting go its own towline, which will then run through the stainless steel ring but will remain attached to the dinghy.

### **THE CAPSIZED OR INVERTED DINGHY**

Sailing dinghies which are on their side or inverted are best brought upright by their crew while a power boat stands clear. If you have to go alongside, do so on the leeward side because once alongside, you will probably have to stop your motor to avoid damage or injury to the crew who may be down in the water or to avoid stray lines around the propeller. Then if you need to get clear, the powerboat will usually have greater windage than the capsized dinghy and will be able to drift clear and start the motor. If the power boat is on the windward side and has greater windage, it may be quite difficult to get clear.

If the dinghy is on its side and it is possible to grasp hold of the mast at the masthead, hold the mast at deck level so that the sail will not catch the wind, and use the mast to hold the dinghy away from the power boat. Do not hold it at water level or the mast may puncture the power boat. See if it is possible to drop the mainsail with help from dinghy crew in the water while holding the mast at deck level.

If this is not possible, then provided that the sheet ropes controlling the sails are free to run out, and also provided that both the power boat and the sailing

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dinghy are pointing generally upwind, you can walk the mast upright hand over hand, holding the masthead at first and then holding the wire shroud that runs down to the side of the dinghy. You will finish up holding the shroud with both hands with the dinghy upright while you use the shroud to hold the dinghy just clear of the power boat. If this is done, you must keep the dinghy head to wind until the sails are dropped.

If the dinghy is inverted, it can be extremely difficult to right it from a power boat. A boathook thrust down into the water to catch the shroud some distance from the deck or a lightly weighted line passed around the shroud and allowed to sink to where the shroud meets the mast, may help to get the mast up to the sideways position, but in many cases the mast will come up underneath the power boat.

The safest course will be to approach the bow of the dinghy while moving upwind, take the dinghy towline as you pass or send over a light line to be secured to the bow of the inverted dinghy by its crew, and head very slowly into the wind, anchor the power boat and stop the motor. In a short time, both boats will lie head to wind safely and clear of each other, while you figure out the best way to get the dinghy upright. Both boats will then be under control while the job is being done.

Unless it is absolutely necessary to move it clear from some danger, never tow a sailing dinghy while it is upside down. The drag on the mast and sails will inevitably cause some damage unless towing is done at dead slow speed. An emergency tow to clear a danger is best performed with the dinghy on its side with the crew holding it that way in the water, one at the masthead and one at the centreboard.

**HEAVY WEATHER**

In really heavy weather, the safest position for a sailing dinghy in trouble is upside down, assuming that the water is deep enough for the mast to clear the bottom. If it can also be anchored, it will be safe for hours, and almost certainly until the weather abates. In such circumstances, the wisest course is to pick up the crew, anchor the dinghy and ask the nearest sailing club to help by getting some sailors out to it when conditions permit. This is far better than risking injury to people or damage to one or both craft while trying to handle the dinghy in bad weather.

If the water is not deep enough for the mast to clear the bottom, the dinghy can still be laid on its side and anchored, but the anchor line should be made fast to the top of the mast and not to the bow. Dinghies break their masts in shallow water when the mast enters the water downwind of the hull, spears into the sand or mud and then resists the efforts of the wind to swing the hull to one



side or the other. Anchoring from the masthead will keep the mast upwind, though under water.

### **THE BURIED MAST**

In more reasonable weather you may be asked to help a dinghy that is on its side with the masthead buried in the sand or mud on the bottom. A gentle tow will be sufficient to pull the mast out but the towline will have to be fastened directly to one of the wire shrouds supporting the mast at the side of the dinghy and not led to or through the tow ring at the bow. In such a case it is very important to make sure that the towline is passed under the hull of the dinghy and made fast to the foot of the shroud that is under water. If the towline is led over the hull of the dinghy and made fast to the uppermost shroud, any force applied to the towline will tend to heave the dinghy upright before the masthead comes clear of the bottom, and the mast will probably break.

### **RESCUE MANAGEMENT IN EXTREME WEATHER CONDITIONS**

When the wind regularly exceeds 15 knots the possibility exists of large number of boats being in some difficulty at the same time. If it regularly exceeds 25 knots it is highly likely that this will be the situation. When there are significantly more boats in the water than there are rescue boats to look after them special management arrangements are needed to ensure that all are attended to as soon as possible and in priority order. These arrangements are described below.

#### **Overall Management**

No individual patrol boat (PB) can expect to keep up to date with all that is going on under these conditions. They must therefore operate under the direction of the Centreboard Race Officer (CRO), who is usually on the Committee Boat. They should work in the area allocated to them by the CRO and keep the CRO informed on the situation where they are. This will include advising him or her of the identity and situation of each boat attended to. That way the CRO can ensure that the whole fleet is dealt with as soon as possible and in an appropriate priority order. There are some basic principles which apply while this situation persists and these are described in the following sections.

#### **Look after the Crew First**

People have priority over boats and if the crew is injured, showing signs of hypothermia or frightened they should be taken on board the PB first and their condition assessed. If they need urgent attention the PB crew should explain the situation to the CRO and seek direction as to how the crew is to be taken for the necessary attention. The CRO may allocate a different PB to this task.



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The boat should be left in the water for attention later. If necessary and if a suitable anchor and tackle is available the boat should be anchored, marked to indicate the crew has been taken off. The CRO should be advised of the identity of the boat and the action taken.

**Only Give Assistance if it is Urgently Needed**

In extreme weather conditions the safest place for a dinghy is upside down in deep water with the crew either sitting on it or hanging on alongside. If the boat is not damaged experienced crews will usually prefer to stay in that position until the wind strength reduces, then right their boat and sail home. Even if that is not their preferred course of action, in a situation where there are many boats to be attended to the PB crew should ask them if they can wait and leave them where they are if possible. The CRO should be advised of the identity of the boat and the action taken in each case so it can be followed up later.

**Leave the Boat on the Nearest Beach**

If it is necessary to take the boat in tow don't attempt to tow it back to the club. If the crew is OK leave both them and boat on the nearest beach, inform the CRO of the action taken and return to duty on the course.

**Towing Boats Back to the Club**

Where the situation is back under control, the CRO will decide the order in which boats should be towed back to the club and which PBs can be released from rescue duty for towing. PBs must operate under the CRO's direction, as he/she will be in the best position to set priorities.

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