CHAPTER 3

THE FISHING VESSEL

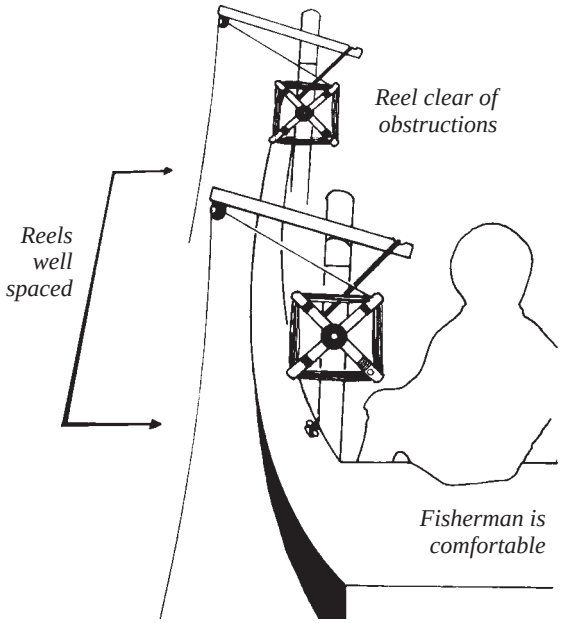
SECTION 3A: GENERAL VESSEL CONSIDERATIONS

Deep-bottom fishing is an active occupation, and can present the risk of injuries, especially in rough weather. When hauled aboard, one or more fish connected to a terminal rig carrying several hooks can be difficult and hazardous to handle. On a badly organised vessel, fish may be lost because equipment is inaccessible or in the wrong place. Some careful thought about the arrangement of the boat can pay dividends in more efficient, more comfortable fishing, and higher catches.

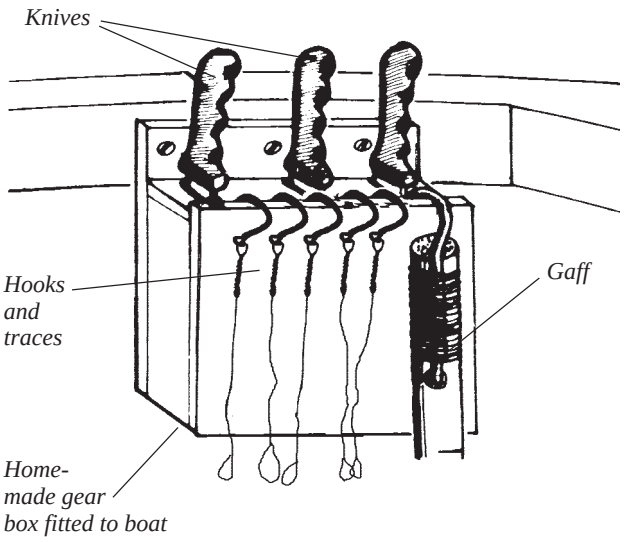
Fishing Positions

If handreels (see section 2K) are to be mounted on the boat, ensure that they are far enough apart not to interfere with each other, and that the crew using them are not obstructed by deck equipment. Badly positioned or mounted reels can cause severe muscular pain, as well as tangled lines and lost fish.

Each fisherman should know his spot on the boat, and this is the point from where he should handle his lines, bring aboard fish, etc. Normally there should be one crewman for each fishing line—it is not usually feasible for a fisherman to operate more than one line unless they are hydraulically-powered (see appendix). For 6–10 m boats, no more than three or four lines can be fished without tangling.



Hazardous gear stored to be accessible but safe



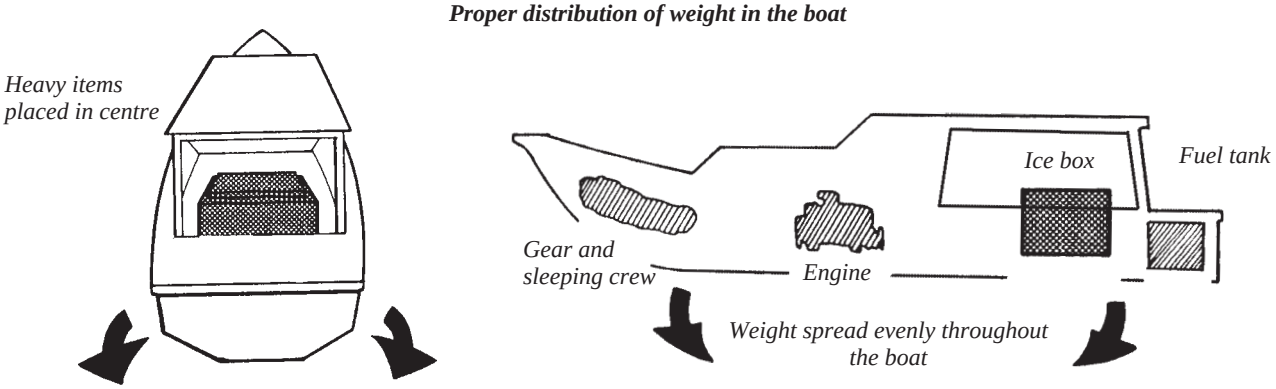
Gear storage

Keep potentially dangerous pieces of often-used deck equipment, such as gaffs, knives, and spare terminal rigs, in an accessible but safe place. Store them in a box or choose a particular spot where they should be hung. Never leave them lying around on deck, where they are sure to cause injury.

Balance and trim

Locate heavy items low down and centrally so that the boat is not unbalanced in any direction. The icebox may be the heaviest item on board when full. If possible, locate it so that it does not block off access from one part of the boat to another. Second will probably be the engine(s), and third will be the combined weight of the crew. Try to plan for an even distribution of weight, especially when the boat is underway.

Proper distribution of weight in the boat

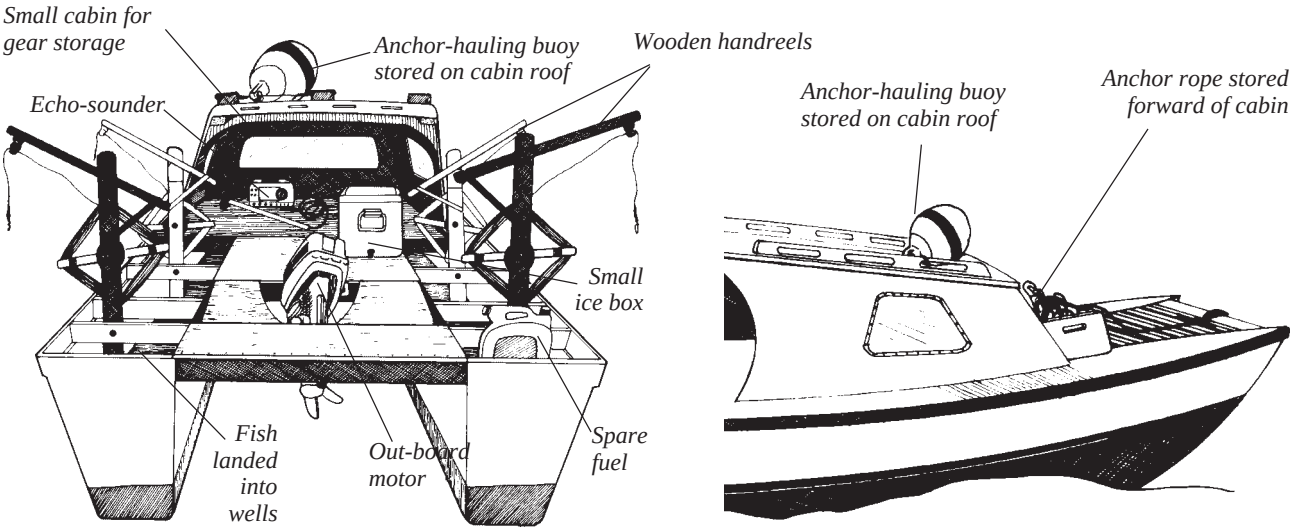


Commercial fishing arrangements

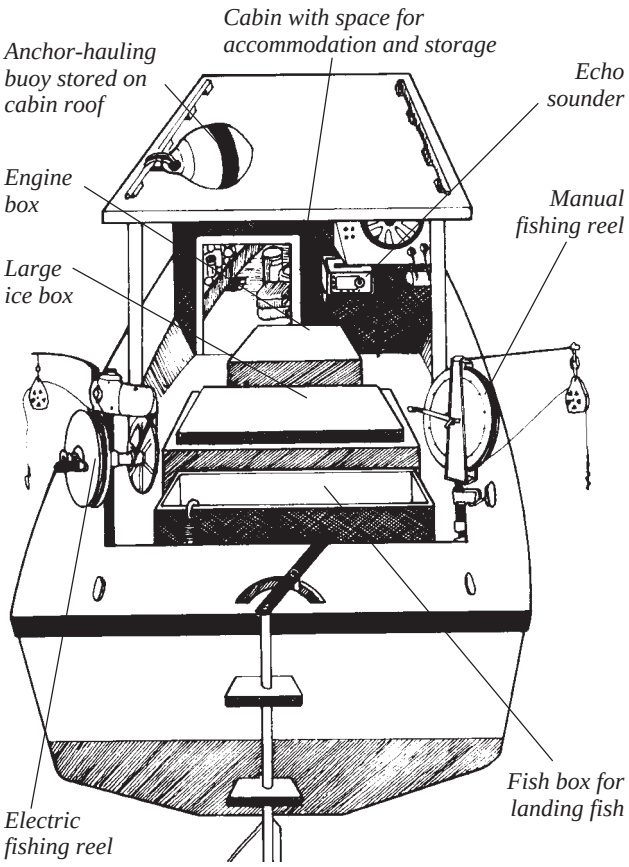
Two of the more popular types of fishing vessel used in the Pacific Islands region are the outboard-powered 'alia' catamaran, which is now made in a range of sizes from 7.5 m to 11 m, and a variety of inboard diesel-powered V-bottom monohulls ranging from 8–12 m in length. The diagrams below show ways in which these vessels might be set up for commercial deep-bottom fishing.

The 'alia' has no crew accommodation, limited carrying capacity, and a short operating range because it is outboard powered, so is essentially a day-trip vessel. It is shown here fitted with wooden handreels and a small portable ice box. Because of use of handreels, a crew of at least two, preferably four, is required on a boat rigged up like this.

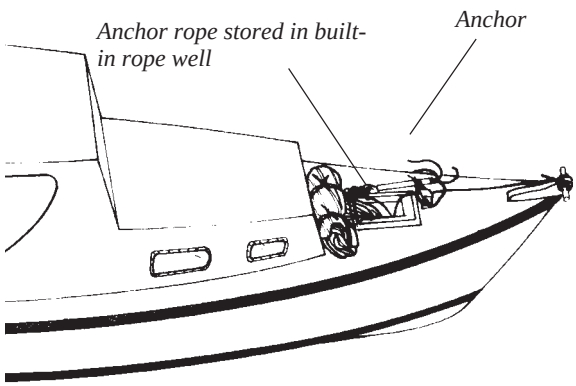
'Alia' catamaran rigged for deep-bottom fishing



Diesel-powered V-bottom monohull rigged for deep-bottom fishing



The monohull vessels typically have sleeping quarters for two or three crew, a carrying capacity of a tonne or two, and are diesel-powered, giving them extended operating ranges, so these vessels can undertake fishing trips of a week or more. The vessel is shown fitted with a fish box, a large deck ice box, and commercial fishing reels, one of which is electrically powered, and run off the vessel's battery. Since there are only two fishing reels, the vessel could be operated by two crew, but a third crewman means that the crew could work in shifts, so that the reels are kept fishing day and night.

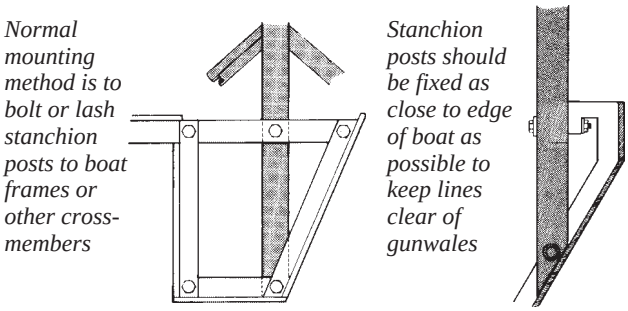


The rest of this chapter provides more detail on the various items of equipment and on aspects of vessel layout relevant to deep-bottom fishing.

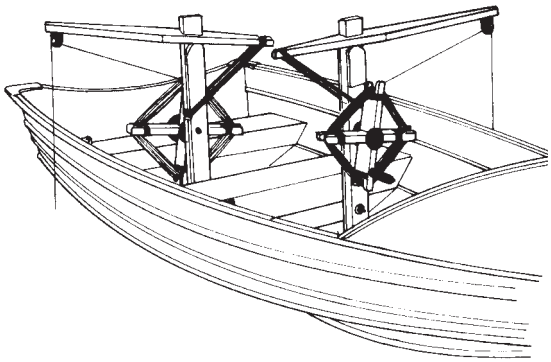
SECTION 3B: HANDREEL MOUNTING

Wooden handreels can be mounted on most fishing vessels in the 8 m length class by drilling through the stanchion posts and bolting them to the frames of the vessel, or to other suitable points. The posts should be bolted in at least two places, to ensure they are secure and will not move under load. Alternatively the posts can be lashed down, although this is less suitable. In all cases they should be mounted as close to the edge of the boat as possible to keep the line well clear of the boat during fishing.

Handreel mounting



Standard reel mounted on an aluminium dinghy



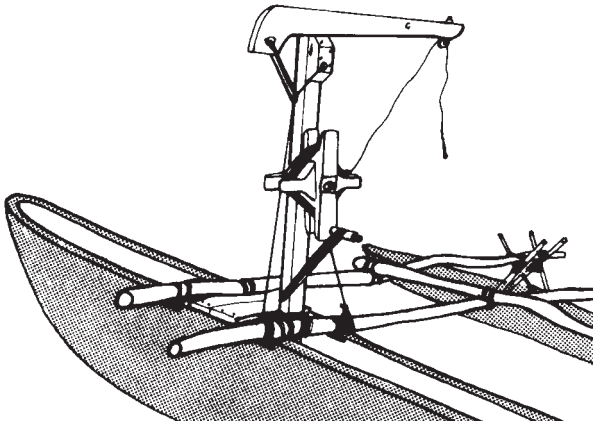
Mounting reels on small boats

Wooden handreels can also be mounted on much smaller vessels. In many locations aluminium dinghies have been fitted with reels by bolting or lashing the reels to the seats or any cross-members. In those models without seats, a plank can be lashed across the gunwales to provide an attachment point for the reel posts.

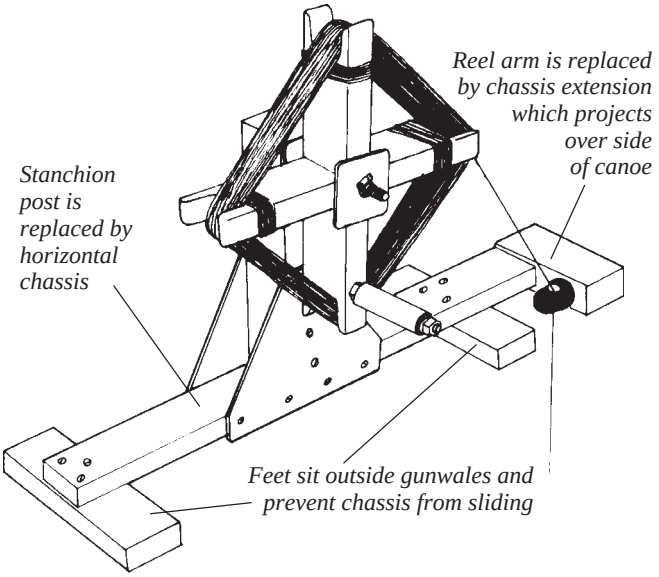
Mounting reels on canoes

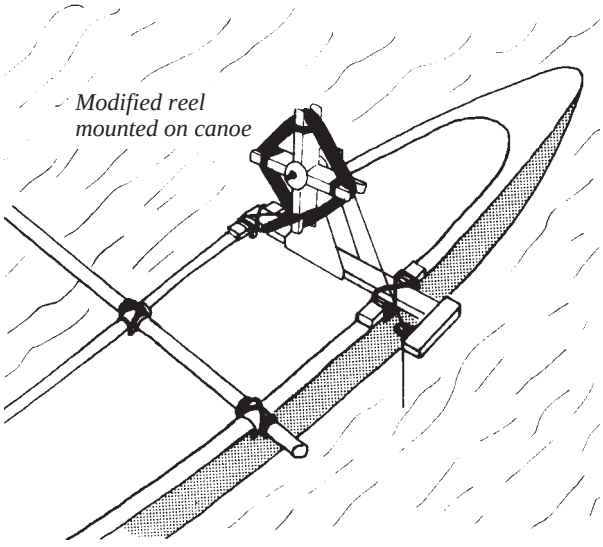
Handreels can also be modified to fit onto canoes. Standard handreels can be adapted to fit into the well of an outrigger canoe, with the stanchion post being lashed to the cross-members that connect the hull and the outrigger. Alternatively, the support arrangement for the reel can be altered to better fit the boat. The diagram below shows a modified version of the reel designed by FAO to be mounted across the sides of a canoe.

Standard reel adapted to an outrigger canoe



Wooden handreel modified to fit across the gunwales of a canoe



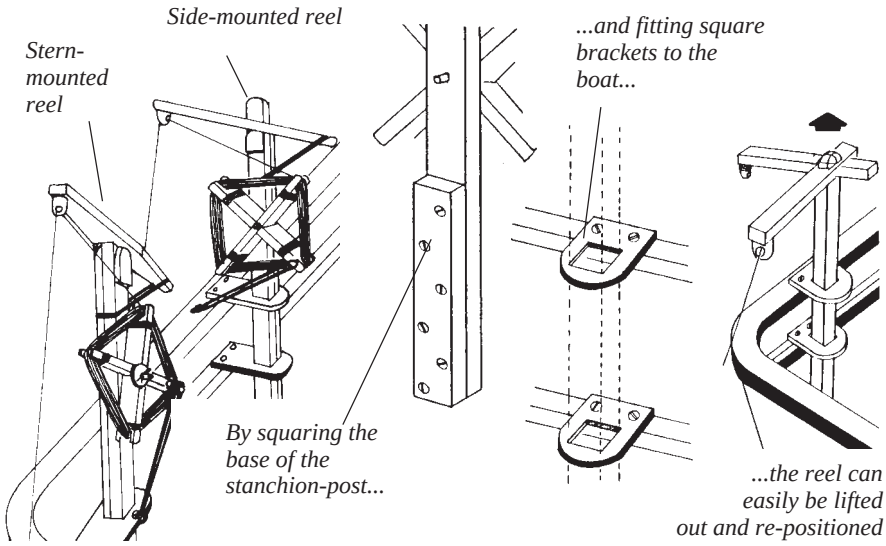


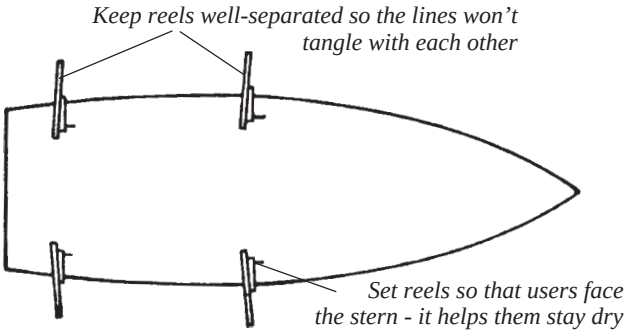
Mounting direction

Depending on the boat and the deck arrangement, wooden handreels can be ‘side-mounted’, that is with the reel-arm sticking out over the side of the boat, or ‘stern-mounted’, in which case the reel-arm points toward the stern or transom.

For fishermen who need to regularly change the mounting position of a reel, or dismount it completely from the boat, reels can be mounted using square wooden or steel brackets screwed to appropriate points on the frames or other parts of the boat. To do this, it is also necessary to increase the thickness of the stanchion post at the point where it fits in the bracket, by screwing on pieces of timber to make the post square in cross-section. The post can then easily be inserted into the brackets, where it will stay firm in either the side- or stern-mounted position.

Mounting direction



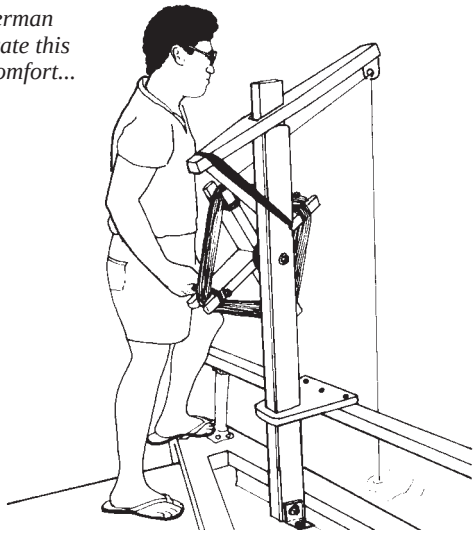


In all cases the reels should be well separated to reduce the chances of the lines tangling with each other. They should be mounted in places where they are accessible and free from obstruction, and where they themselves will not obstruct other aspects of the fishing operation. If possible position the reels so that the users face the stern of the boat. This will avoid them being drenched with drops of water from the line every time they reel it in. Bottom fishing is usually carried out at anchor so the wind will always blow the spray away from a reel-user facing the stern.

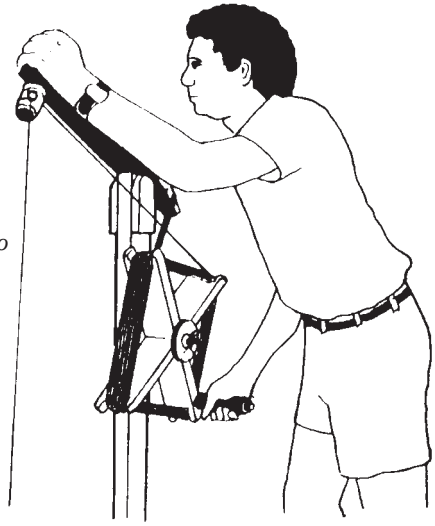
Comfort

When mounting the reels, it is important to remember the fisherman's comfort. Badly placed reels can cause severe muscular strain to the user. Mount the reel so that the shaft is about level with the user's stomach, and the post follows the midline of the body when the user is standing comfortably in front of the reel.

The fisherman can operate this reel in comfort...



...but this reel is mounted too low, and will give the fisherman a backache



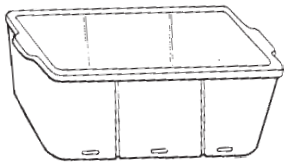
SECTION 3C: CONTAINERS FOR FISH AND ICE

Fish containers

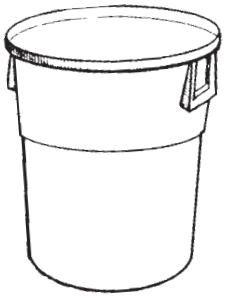
In a small vessel, fish are often landed directly into the bottom of the boat, but this presents a number of possible dangers and problems. The tail and teeth of a thrashing fish can cause injury, and so can any hooks or wire terminal rigs to which the fish is still attached. Slime and blood will make the deck slippery and dangerous. The fish may beat against frames or items of deck equipment, cutting or bruising itself and lowering the quality of the flesh.

Most of these problems can be avoided by landing the fish into a box or bin. For small boats, the simplest way is to carry a plastic or wooden container big enough to accommodate the size of fish being caught without bending them.

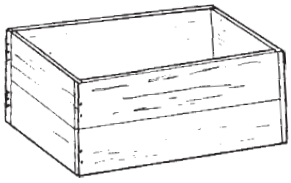
Fish containers for small boats



Plastic fish box – the best option



Plastic garbage bin – OK for small fish



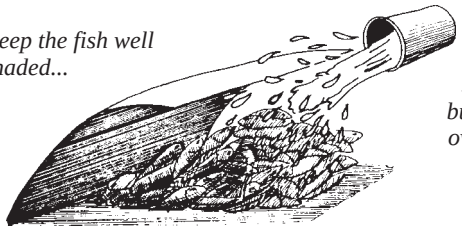
Wooden box – suitable but less hygienic

Keeping fish cool

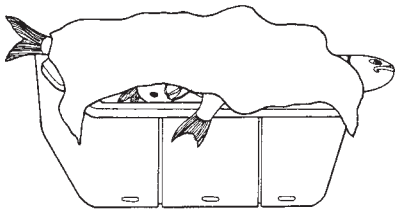
Wherever possible, ice should be used to keep the catch in good condition. In places where ice is not available, or where the boat cannot carry sufficient quantities, fish should be washed and then kept shaded and as cool as possible to prevent spoilage. One way to do this is to cover the fish with wet sacking or other cloth. This keeps the fish moist and prevents them drying out, and has a cooling effect as water evaporates from the surface of the sacking. Throwing a bucket of water over them now and again also helps them stay cool.

Keeping the catch cool without ice

Keep the fish well shaded...



...and throw a bucket of water over them from time to time



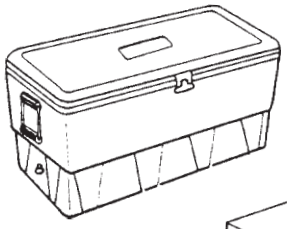
Cover the fish with wet sacking. Evaporation from the sacking will have a cooling effect

A much better way to keep fish cool is to use ice, which keeps fish in good condition for longer. This means that fishermen can stay out at sea fishing for longer periods, and can often get a better price for their catch because it has stayed fresher.

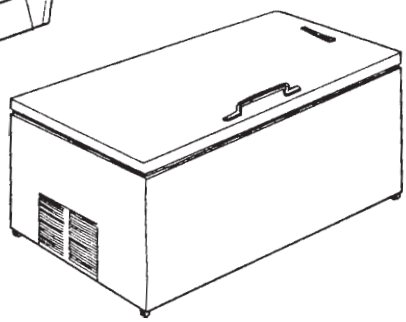
Ice containers

To get the best value out of ice, an insulated container is needed to stop it melting away too quickly. For small vessels, domestic chill bins or 'eskies' may be suitable, although usually quite expensive. On larger boats, old domestic chest freezers may be used. These are usually cheap or free, but tend to be poorly insulated and rust rapidly, leaving dangerous ragged corners. Insulated `ice bags' are becoming available in some countries. These are quite expensive, lightly insulated and hard to handle when filled with small fish and ice. However they are useful for the odd very big fish which will not fit into the ice box, and for canoes or other narrow types of boat, due to their shape. (They also make good sleeping mattresses when empty).

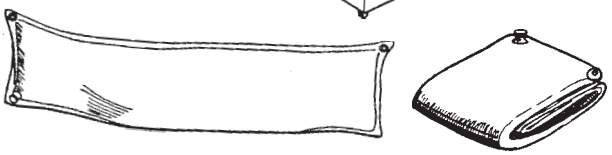
Ice containers for small boats



Domestic ice boxes or 'eskies' are convenient, but costly and quick to break



An old chest freezer is OK for a larger boat, but may rust quickly



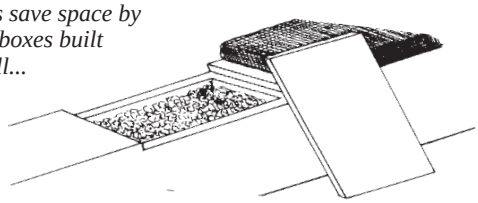
Insulated ice bags are good for large fish, and can be folded up (or slept on) when not in use

Built-in vs on-deck ice boxes

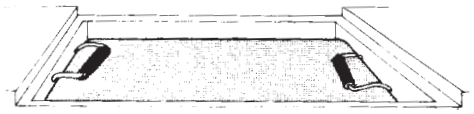
Built-in vs on-deck ice boxes

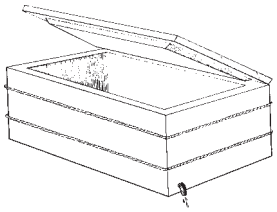
In some boats, limited deck space or the shape of the hull or working area encourages the builder to construct the ice box as an integral part of the boat's hull. In some boats this works well and results in real savings in space, or in extra convenience for the crew. Built-in ice boxes can double as comfortable seats or bunks, and can convert unused corners or sections of the hull into valuable ice or fish storage space.

Some boats save space by having ice boxes built into the hull...



...but these often cause trouble through leaks. A better solution is a separate box that can be lifted in and out...





...or a stand-alone ice box on deck

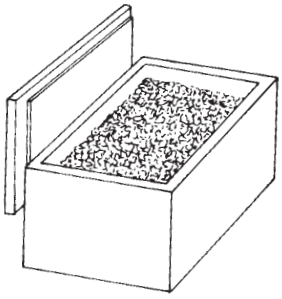
In other cases, however, built-in ice boxes lead to real problems, especially in plywood or wooden boats. The boxes cannot be moved if they turn out to have been badly positioned. Damage to the ice box or water penetration into the insulation may be impossible to repair. If the insulation becomes wet it may cause waterlogging and rot in the hull timbers, or delamination of fibreglass. If the hull is holed close to the ice box, repair is made more difficult. Proper drainage and cleaning of the ice box may be difficult or impossible.

If a boat owner wants to use spare hull space, he should consider fitting 'drop-in' ice boxes which can be removed when necessary, or the use of insulated ice bags (see above) as alternatives. Removing a built-in ice box is usually a lot more difficult and time-consuming than building it in the first place. Where space permits, however, on-deck ice boxes are a better choice, provided they are the proper size and shape, are properly secured and do not interfere with fishing or the boat's operation.

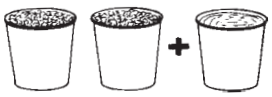
Using slurry

If fishing for export (see section 5B) or for quality-conscious local markets, the fisherman may choose to use slurry, or iced brine, while fishing. Slurry is a mixture of ice and seawater which allows the fish to be chilled faster, and to lower temperatures, than is possible by just using ice. Because it is salty, a properly mixed slurry will have a temperature of about –4 °C, and its semi-liquid nature gives good contact with the fish and leads to very rapid cooling.

Using slurry



To keep fish in prime condition, fill an ice chest with slurry, or iced brine by mixing two parts of ice with one part seawater



Brine small fish (under 3 kg) for 2–4 hours...

...and larger fish for 6–10 hours...

...before transferring to ice storage

A small ice box or fish bag makes a good slurry container, provided that it is properly watertight. To make the slurry, mix two volumes of crushed ice with one volume of seawater. The mixed slurry should have a thick consistency, like wet cement, and when put into it the fish should remain suspended, rather than sinking to the bottom. As the ice melts, drain or bucket off the meltwater and add extra ice to maintain the consistency.

Small fish (under 3 kg) should be left in the slurry for 2–4 hours, larger fish for 6–10 hours, to ensure complete chilling. Fish should not be left in the slurry for too long, however, as the low temperature may cause them to start freezing. The eyes become cloudy once the fish is getting too cold. At this time, they should be transferred to normal ice storage.

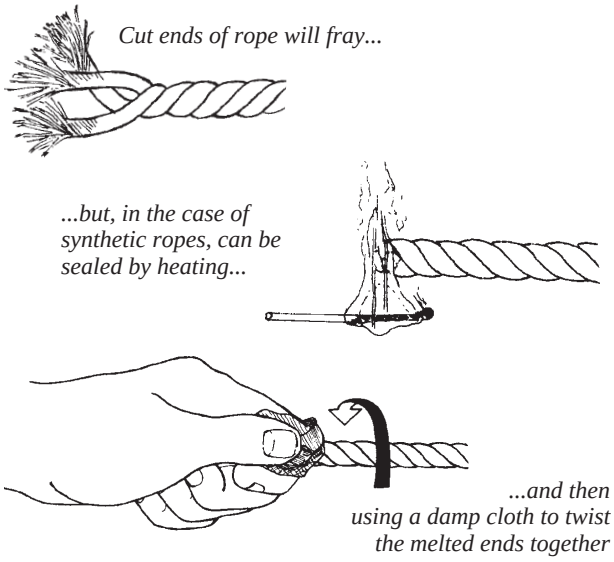
If fishing for demanding export markets, it is important to make sure the fish do not move around in the slurry too much as this will knock the scales off them and reduce their value. If the boat is rolling a lot, excess seawater should be bailed or drained from the slurry to reduce the amount of movement. If this does not solve the problem, it may be necessary to put each fish into a plastic bag for protection before it goes into the slurry.

SECTION 3D: ANCHOR ROPE

Deep-bottom fishing is mostly carried out at anchor, and since the waters are deep, a lot of anchor rope is needed. Most boats carry at least 500 m of anchor rope, which should be made of a floating material, such as polypropylene, so that it will not become snagged on the bottom. The size of the rope should be suited to the weight of the boat—12 mm rope will normally be suitable for an 8.5 m boat, and 9 or 10 mm rope for a smaller vessel.

This section describes some of the knots and splices needed when preparing and using anchor ropes. Suitable anchor gear is described in the next section, while the specialised methods for setting and hauling the anchor during deep-bottom fishing are covered in chapter 4.

Sealing a synthetic rope end by melting



Sealing rope ends

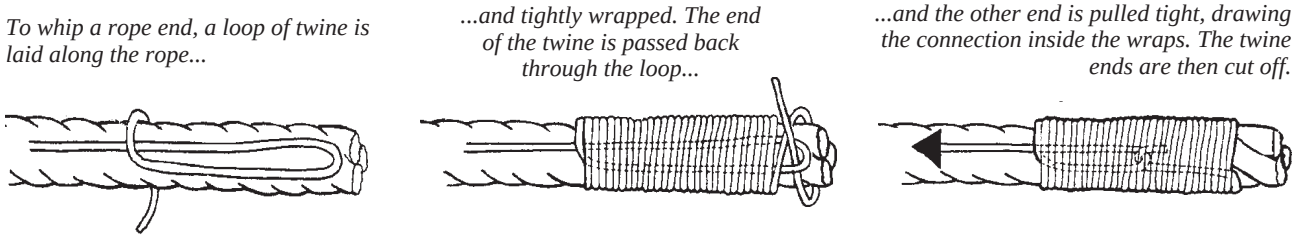
The ends of most types of rope will quickly begin to fray or unravel once they are cut, making handling difficult, so it is necessary to seal them before making knots or splices. There are various ways of doing this, depending on the material the rope is made from.

Melting

The ends of many synthetic ropes can be quickly melted into a solid plug by using a match or cigarette lighter to heat them for a few moments. Some ropes will begin to burn during the process, and give off noxious fumes, so this job should be done outside, or in a well-ventilated place. Once the rope is hot and visibly melting, a damp cloth is used to twist the rope ends together and extinguish any burning parts. The result is a fused rope-end which will not fray.

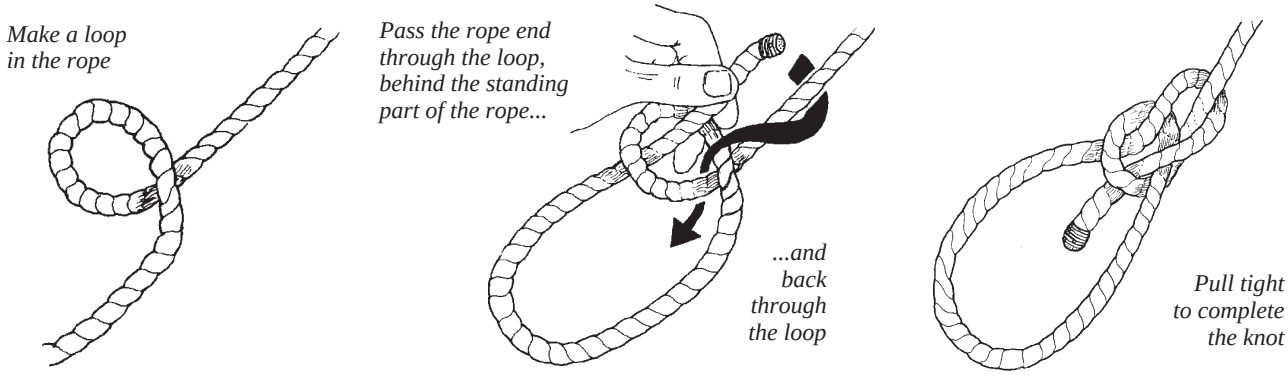
Whipping

Another method, suitable for natural fibre ropes which do not melt, is to whip the rope ends. This is done using light twine or dental floss as shown in the diagram below.



Bowline knot

The bowline is good for making a temporary attachment loop in ropes. It is strong, will not slip, and is fairly easy to undo. However it is not good for slippery lines and will not hold in nylon monofilament.



Eye splice

To make an eye splice, if necessary first tape or seal the end of each strand of the rope. (This is not needed when using tarred kuralon, the type of rope most commonly used in vertical longlining). It may be helpful to number the ends, or to mark them with different colours. Unlay the ends until you have enough length to work with—about 20–25 cm is enough for 10–12 mm diameter rope. With some ropes, it may be necessary to tie or tape the strands together to prevent them unlaying too far.

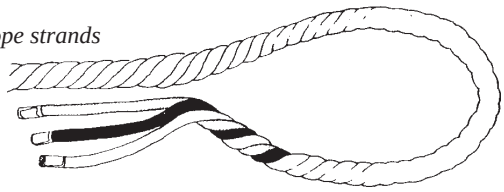
Double the rope back so that the finished eye will be the size that you want. Form the eye and spread the strands fan-wise, placing them against the rope where it is to be entered. Untwist the body of the rope a little and pass the centre end under the centre strand. Then, pass the left end under the next rope strand to the left and the right end under the next strand to the right. If the rope is hard-laid, you may need a spike or fid to separate the strands widely enough.

If this has been done correctly all three ends should be sticking out at the same level, evenly spaced around the main body of the rope. If they are not like this, pull them out and start again.

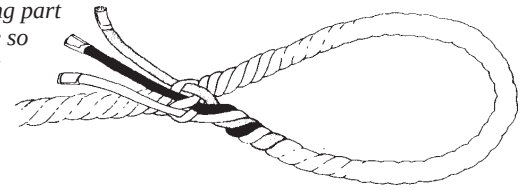
Continuing the splice is easier than starting it. Pull the first tucks tight, then take any end and pass it over the next strand and under the one after. Repeat for the other two ends, so that each shows two tucks in the main body of the rope. The ends should still be even and regular.

Repeat this procedure until each strand has three or four tucks, then cut off the ends close to the body of the rope. To make a tapered splice, make additional tucks with two of the ends so that all three finish at different places, then cut off. With slippery ropes, or those which fray badly, it is worth whipping the splice to ensure that the ends never slip back through the strands.

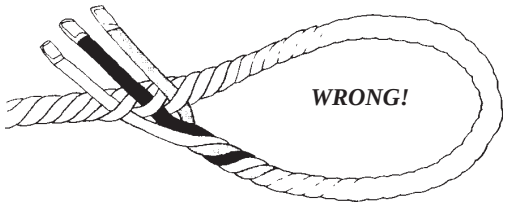
Unlay the rope strands and, if necessary, tape or seal the ends



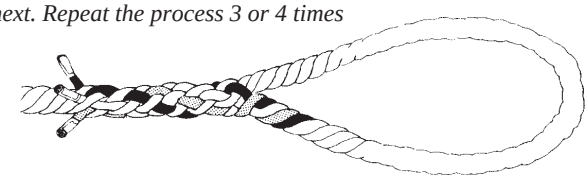
Pass the ends through the standing part of the rope so they are at the same level



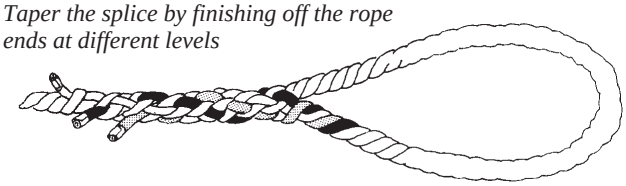
Make sure they are not at different levels, like this



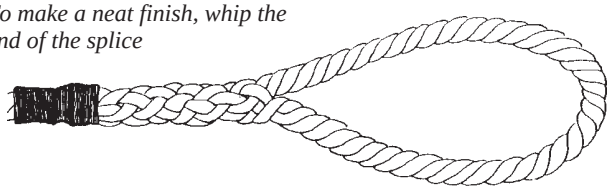
Pass each end over one strand and under the next. Repeat the process 3 or 4 times



Taper the splice by finishing off the rope ends at different levels



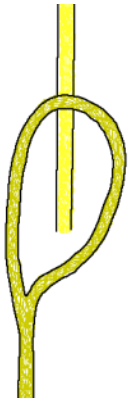
To make a neat finish, whip the end of the splice



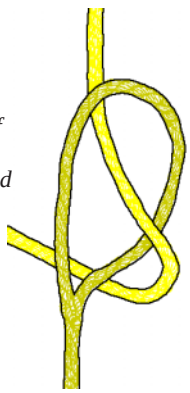
Sheet bend

This is a quick and simple knot, easy to undo, for attaching one rope to a loop (an eye splice or bowline) in another. It is useful for attaching an anchor line to a rope strop or similar attachment point on the boat.

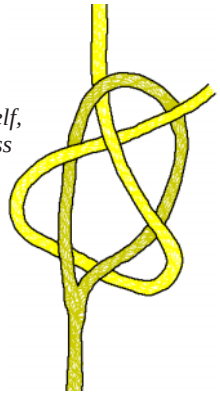
Pass the free end of one line through the loop in the end of the other, from back to front



Bring the line out through the front of the loop, then around behind the standing part



Pass the line under itself, and across the face of the loop



Pull tight to complete the knot

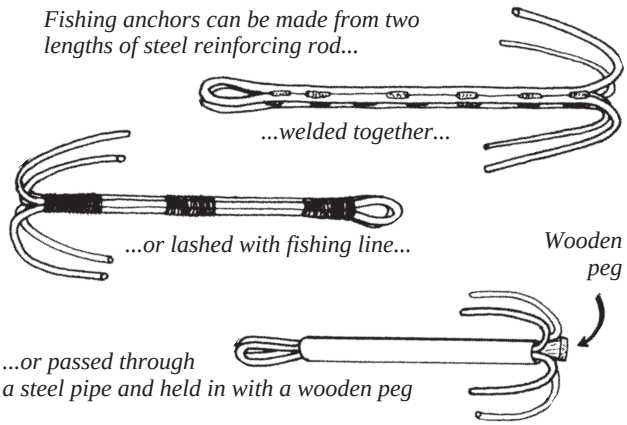
SECTION 3E: ANCHORS

Deep-bottom fishing normally takes place from an anchored boat. However the great water depths involved mean that some specialised anchoring gear and techniques are required.

Bottom fishing anchor

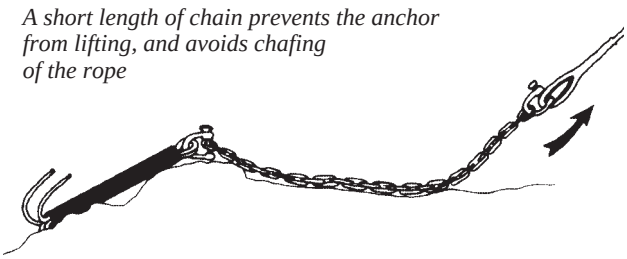
Deep-bottom fishing grounds are often rough and anchors have a tendency to get stuck. Since there is no chance of diving down to free an anchor stuck at 300 m depth, deep-bottom fishermen use a specially made fishing anchor which will hold the boat under normal conditions, but whose prongs will bend when forced, freeing the anchor.

Bottom-fishing anchors are made from 10 mm dia. steel reinforcing rods, and are easy to fabricate. A typical anchor would be made from two 4-metre rods bent double and welded together as shown in the diagram, with the free ends being bent back to form the prongs. If welding gear is not available, the rods can be lashed together using monofilament nylon. Alternatively, they can be inserted through a length of galvanised pipe and a piece of wood knocked into the end to hold them in place. This latter system needs no welding or lashing, and adds weight to the anchor, which helps it hold.

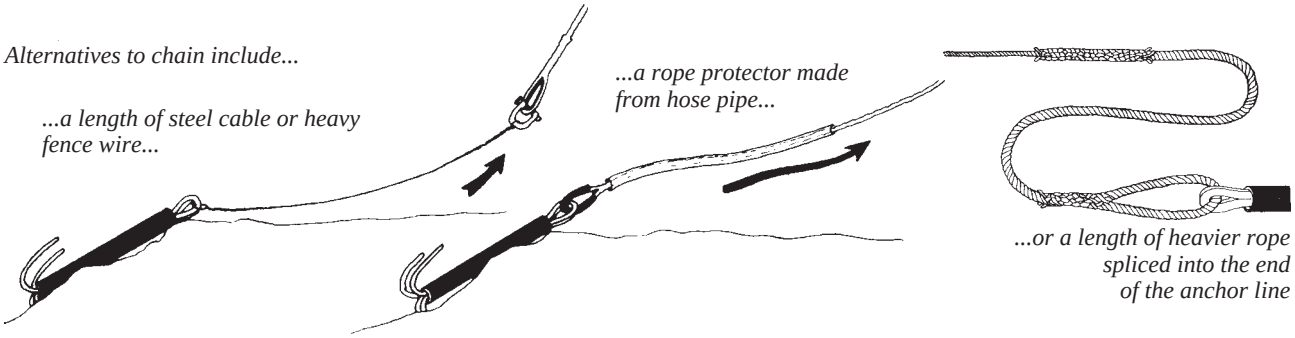


Chain and rope

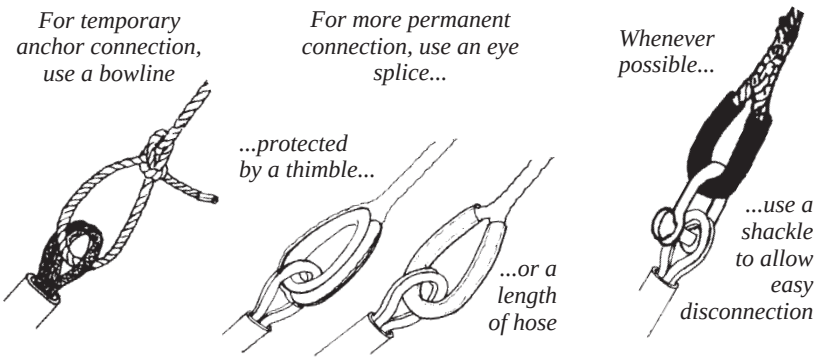
Fishing anchors should be connected to the anchor rope with 3–5 m of chain. The chain adds weight to the end of the anchor, preventing it from lifting when the boat pulls. It also stops the anchor rope from making contact with the sea floor and being cut on rocks or coral.



If chain is not available, a length of heavy cable or fence wire will help protect the rope, but will not add much weight. If neither is available, protect the rope by covering it with a length of rubber hose or plastic pipe. Failing that, splice a short length (2–4 m) of heavier rope onto the end of the anchor rope as an anchor attachment point.



The rope should be connected to the anchor or chain using a bowline knot or, for a permanent connection, an eye splice, as shown in section 4D. If using an eye splice, protect the rope by putting a plastic thimble or a short length of hose into the splice. Where possible, place a shackle between the anchor and the rope or chain to allow easy disconnection when needed.

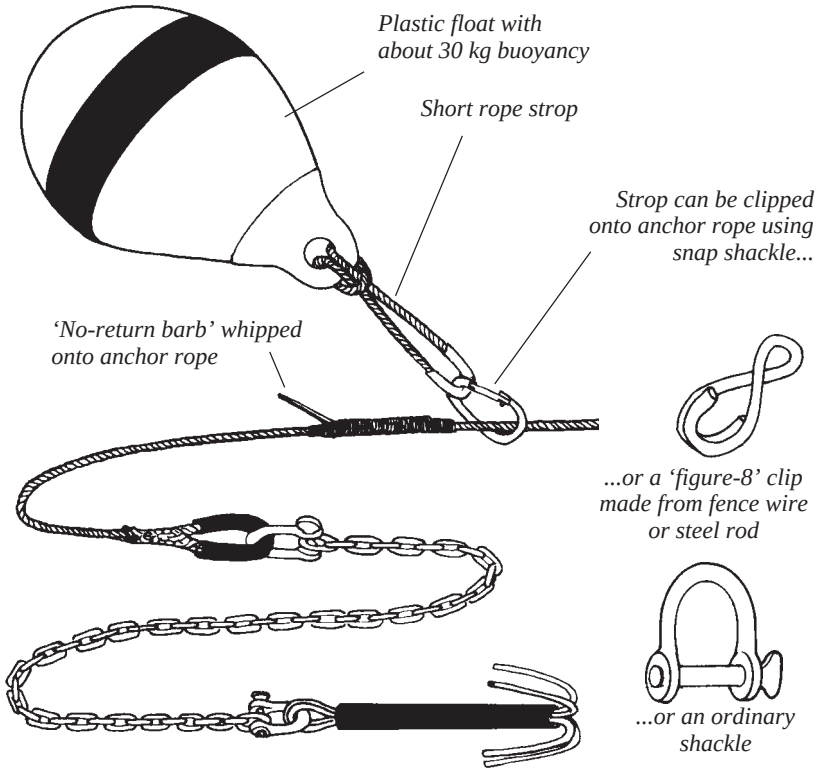


Anchor hauling gear

Manually hauling a fishing anchor from great depths is back-breaking work. Fortunately there is a simple method of hauling using the boat's motor, provided that the anchor rope is correctly rigged in advance.

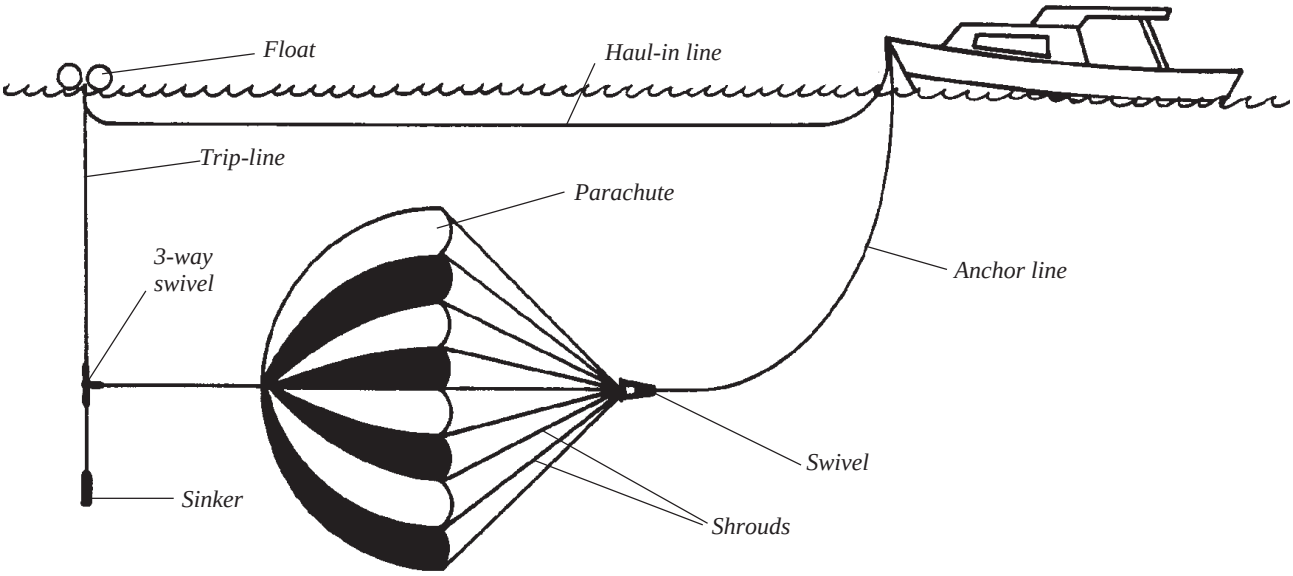
The details of the hauling method are given in section 4I. For it to work, the anchor rope has to have a 'no-return barb' whipped onto it using the method described in section 3D. The barb can be made from a 15–20 cm length of 3 mm dia. fence wire or similar material, and is attached close to the end of the anchor rope, as shown in the diagram.

Also needed are a float of 30 kg or more buoyancy (about 50 cm or more in dia.) on a short rope strop, and a shackle which is used to attach the strop to the anchor rope so that the buoy slides freely. An ordinary shackle can be used, but a snap shackle allows for faster connection and disconnection of the buoy. Alternatively, a simple 'figure-8' clip can be made from heavy fence wire or a light steel rod.



Sea anchor

Sea anchors, or parachute anchors, are occasionally useful for deep-bottom fishing under the right combination of wind and current. They are also a very good safety feature, as they can be used to prevent a broken-down boat from drifting too far while waiting for help.



Sea anchors can be of various kinds. Purpose-built models are available commercially, and these consist of a cone made from strong synthetic cloth, and fitted with shrouds made from webbing similar to that used in car seat belts. In locations where there are military surplus stores, second-hand cargo parachutes can be purchased. Alternatively, an enterprising fisherman can improvise a sea anchor from a sheet of canvas or tarpaulin and some rope. The use of a sea anchor is discussed in more detail in section 4J.

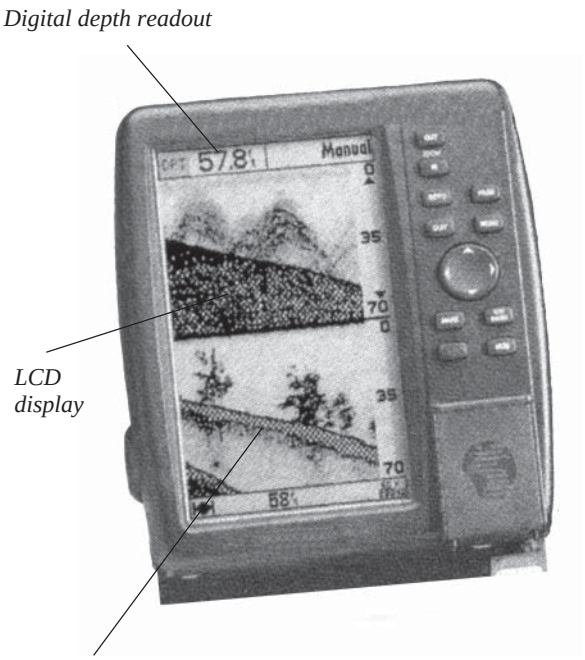
SECTION 3F: ECHO-SOUNDERS

An echo-sounder is an electronic device which uses sound to measure the depth of the water below the boat. Echo sounders comprise two main components: the **display unit** and the **transducer**

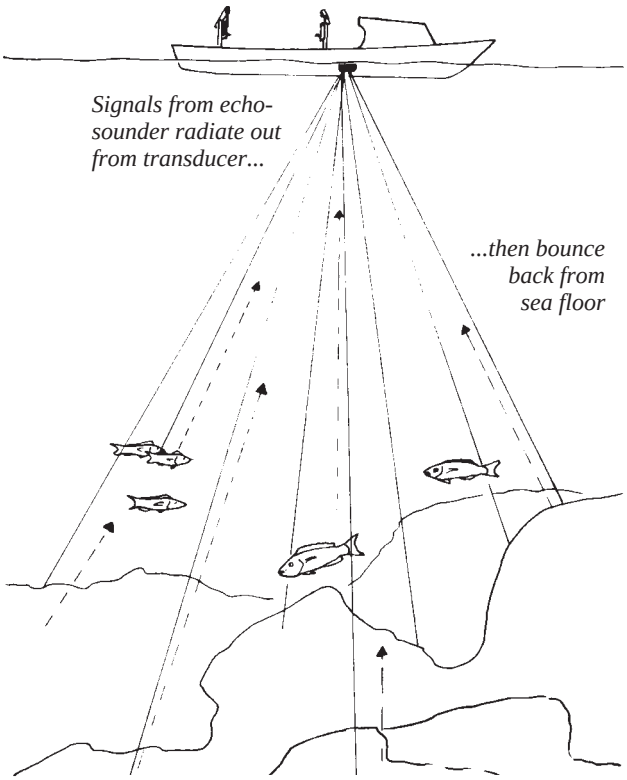
The **display unit** is usually mounted in the vessel's wheelhouse or other convenient location, and shows a continuous depth readout once the sounder is switched on. Older units generally displayed the depth by making a trace on a slowly scrolling roll of paper, which was convenient because the paper rolls could be kept for reference. Newer units often have a liquid-crystal display (LCD) which replaces the paper roll, or a cathode-ray tube (CRT, similar to a TV screen) with a multi-coloured display that indicates not only depth but also bottom type, water temperature and other features. Although these units have a certain amount of internal memory, which allows recent soundings to be reviewed, this is normally limited and they must generally be linked up to a videotape recorder or computer if a permanent record of the soundings is to be made.

The **transducer** emits and receives the echo-sounder's signal. It is fixed to the boat below the water line, and is connected to the display unit by a length of shielded cable which transmits data back and forth between the two components. The cable itself is calibrated to the sounder's data transmission needs and should never be shortened or extended. If this is done the sounder will give false readings (or none at all).

A modern LCD echo-sounder



Echo-sounder operation



Some of the reflected signals return to the transducer, allowing the depth to be measured

Transducers operate by emitting bursts of low-frequency sound, which is usually hardly audible to the human ear but which is conducted strongly over long distances in water. The sound is reflected from any surfaces it encounters, including the sea bottom, fish, plankton, suspended particles in the water, and even temperature discontinuities where the density of different layers of water changes. The reflected signals bounce back to the transducer which detects their strength and transmits this information to the display unit. By computing the time between transmission and bounce-back, the echo-sounder measures the distance to the source of the reflection and posts this information on the display.

A sounder's depth rating depends on both the power of the signal emitted by the transducer, and the frequency of the sound used. The more powerful the signal and the lower the frequency, the greater the depth rating. For deep-bottom fishing, a 50 kHz transducer will allow the greatest depth penetration, while a 200 kHz transducer will be suitable if fishing is mainly in shallower waters.

Most sounders run on 12 or 24-volt direct current which can be delivered from the vessel's electrical power system. On a small boat without an electrical system, power can be provided by carrying one or two well-charged car batteries.

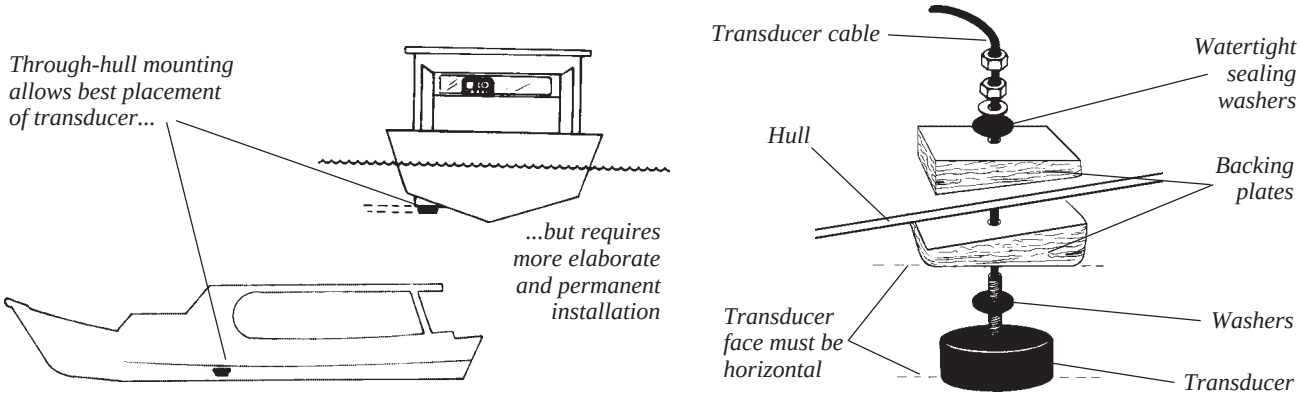
Transducer mounting

The recommended location for the transducer is one-third of the vessel's length back from the bow. When the echo-sounder is mounted it is very important that the surface of the transducer should be horizontal. If the transducer is mounted at an angle the sensitivity to signals bouncing back from the sea floor will be reduced, while sensitivity to scattered signal reflections will be increased, affecting the clarity of the display. The normal rolling of the vessel will also change the transducer angle and contribute to reduced sensitivity so wherever possible the transducer should be positioned to minimise the effects of vessel roll.

Permanent mounting

Through-hull mounting requires the vessel to be pulled out of the water so that a hole can be drilled through the hull and the transducer permanently set in the desired position. This is normally the best way to mount a transducer because it allows positioning away from sources of interference (other shipboard electronics, engine and propellor noise, bubbles, etc.). However once the transducer is mounted in this way, removing it or relocating to another part of the vessel, or to another vessel, becomes a major headache.

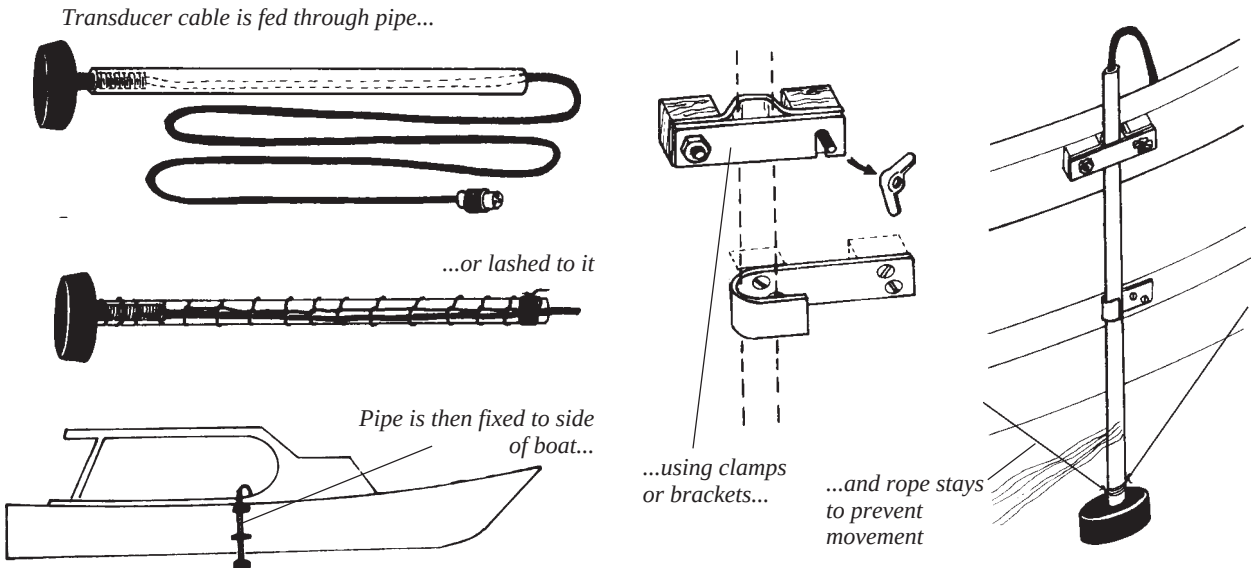
Permanent echo-sounder mounting



Temporary mounting

This is an option which allows the echo-sounder to be moved from boat to boat if necessary, and which avoids complicated installations, vessel haul-outs and the drilling of holes through the hull. A suitable temporary mounting involves fitting the transducer to the end of a length of aluminium or, as a second choice, steel pipe which can then be lashed to the vessel's gunwale or fixed in pipe clamps attached to the vessel's sides. Various options may be possible depending on the vessel's size and shape. The main requirement is to get the transducer well below the water surface where it will not be affected by bubbles, and to ensure it is mounted so that the transducer face is horizontal.

Temporary echo-sounder mounting



SECTION 3G: FISH LANDING TOOLS

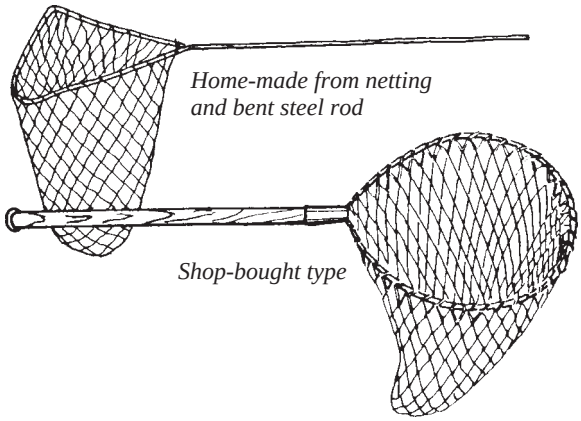
The time when a hooked fish is most likely to break loose or become unhooked is the moment when it is being hauled from the water into the boat. Fish landing tools are used to reduce this risk.

Landing nets

Landing nets are most suited to small fish (5 kg and under). Netting small fish is much more appropriate than gaffing them, and causes less physical damage. This is especially important when the catch is to be exported (see section 5B).

A landing net can be bought, or made by tying a piece of netting onto a stiff frame of wire, metal rod or piping. The netting should be knotless if possible and of small mesh size to avoid tangling the fish. A triangular frame is the easiest to construct and use. The frame should be lashed onto a strong handle. Handle length is normally between 50 and 200 cm, depending on the height of the boat above the water.

Landing nets

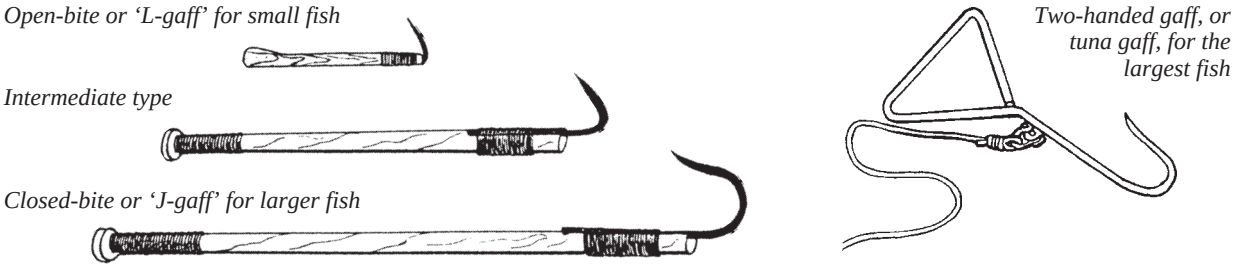


Gaffs

Gaffs are used for bigger fish. They require more skill on the part of the user, and result in damage to the fish, particularly if badly handled. They can also be dangerous.

The two main types are the 'L-gaff and the 'J-gaff', which have different shapes. Their actions are shown in section 4H. A small gaff with a wide-angled bite is good for smaller-sized fish. A larger gaff with a narrower-angled bite is more common and is better for larger, heavy fish.

Types of gaff

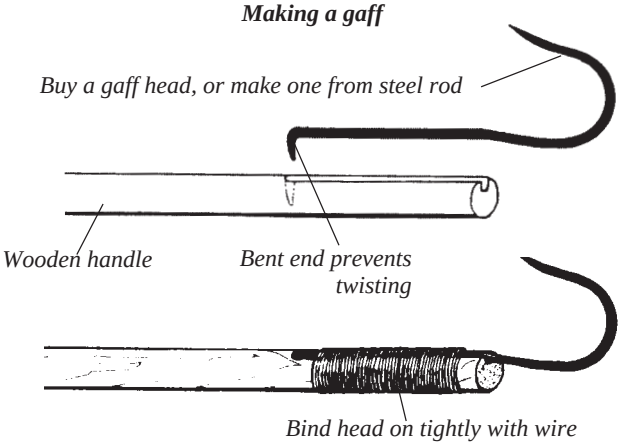


For very heavy fish which have been played to exhaustion, a double-handed gaff enables the fisherman to put all his energy into heaving it aboard. These are specialised gaffs not found on most general fishing boats.

Making a good gaff

The gaff head is usually bought ready made but can be home-made if necessary by bending and filing a stainless steel or other metal bar. On many commercially made heads, the bite is too small, and needs to be bent further open for normal commercial use. Make sure the base of the head shaft is turned over at right angles to prevent twisting. The handle is usually wooden, and should be grooved to accommodate the head shaft. Attachment is by tight binding, preferably using wire, which will not be cut by the sharp teeth of fish. The other end of the handle should be wrapped or wound with cord to ensure a good grip.

Making a gaff



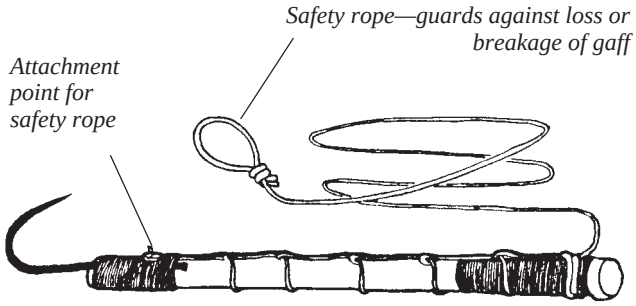
Gaff handles

The length of a gaff handle depends on the normal distance between fish and fisherman at the time of gaffing. A long handle can be very dangerous if the fisherman loses his grip on it when gaffing a thrashing fish. In general, handles should be kept as short as is reasonably possible. Many boats carry both a long-handled and a short-handled gaff.

Safety rope

When gaffing large or violently fighting fish, it is useful to attach a safety rope which will prevent the fish escaping if the fisherman loses his grip on the gaff handles. The rope should be attached to the head end of the gaff, half-hitched along the handle, and tied off at the end. This will enable the fisherman to regain control of the gaff handle if he loses his grip on it while gaffing a thrashing fish, and will prevent the loss of the fish and the gaff head if the handle breaks. The other end of the rope should be tied to the boat.

Safety rope

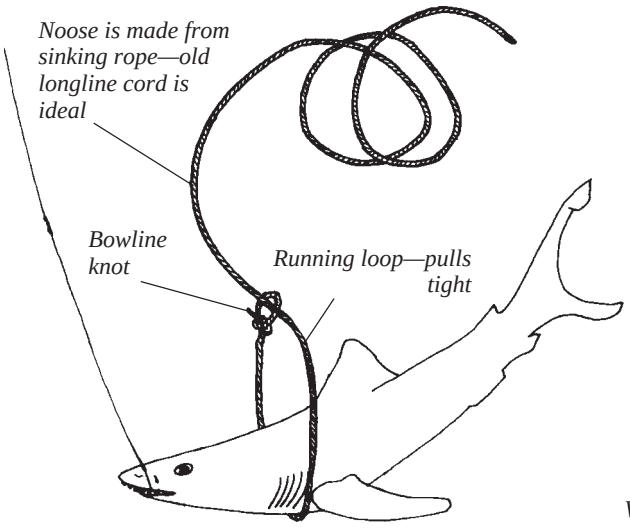


Gaff points

Most gaffs are barbless in order to prevent excessive damage to the fish. The main exceptions are certain two-handed tuna gaffs (see opposite page), which often have a barb to reduce the chance of the fish leaping off the gaff. However barbed gaffs will cause extensive damage to the flesh of the fish, and should be avoided by commercial fishermen wishing to produce a good-quality product. In any case, most of the fish caught when deep-bottom fishing are relatively subdued by the time they have been hauled up from a depth of 300 m or so, and are rarely energetic enough to leap off the gaff.

The point of the gaff should be sharpened regularly, following the instructions for sharpening hooks given in section 5D.

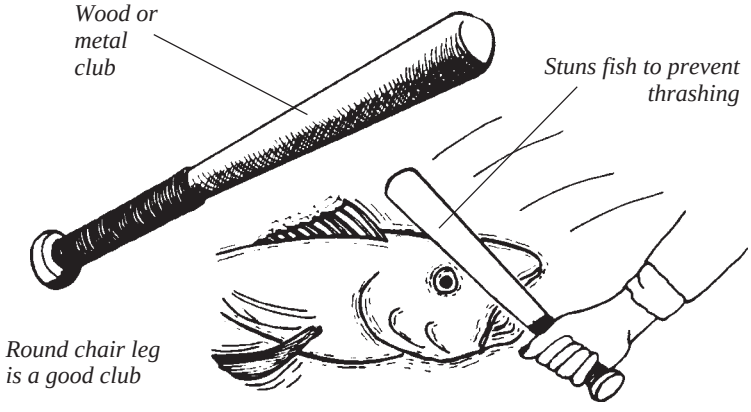
Shark noose



Shark noose

This is a simple length of strong rope which should preferably sink, and be hard-laid. Ordinary 6 mm Kuralon longline cord is ideal. The rope is usually passed around the fishing line on which the shark is hooked, made into a noose by use of a bowline or similar knot (see section 3D), then manoeuvred around the shark's body and pulled tight.

Fish club



Fish club

This is used to subdue violently active sharks or other fish once they are in the boat. A good club is about 40 cm long and 5 cm in diameter at the business end, made of heavy wood and having a handle lashed with cord to ensure a good grip. An old chair leg will often be found suitable.