

# TROLLING MANUAL

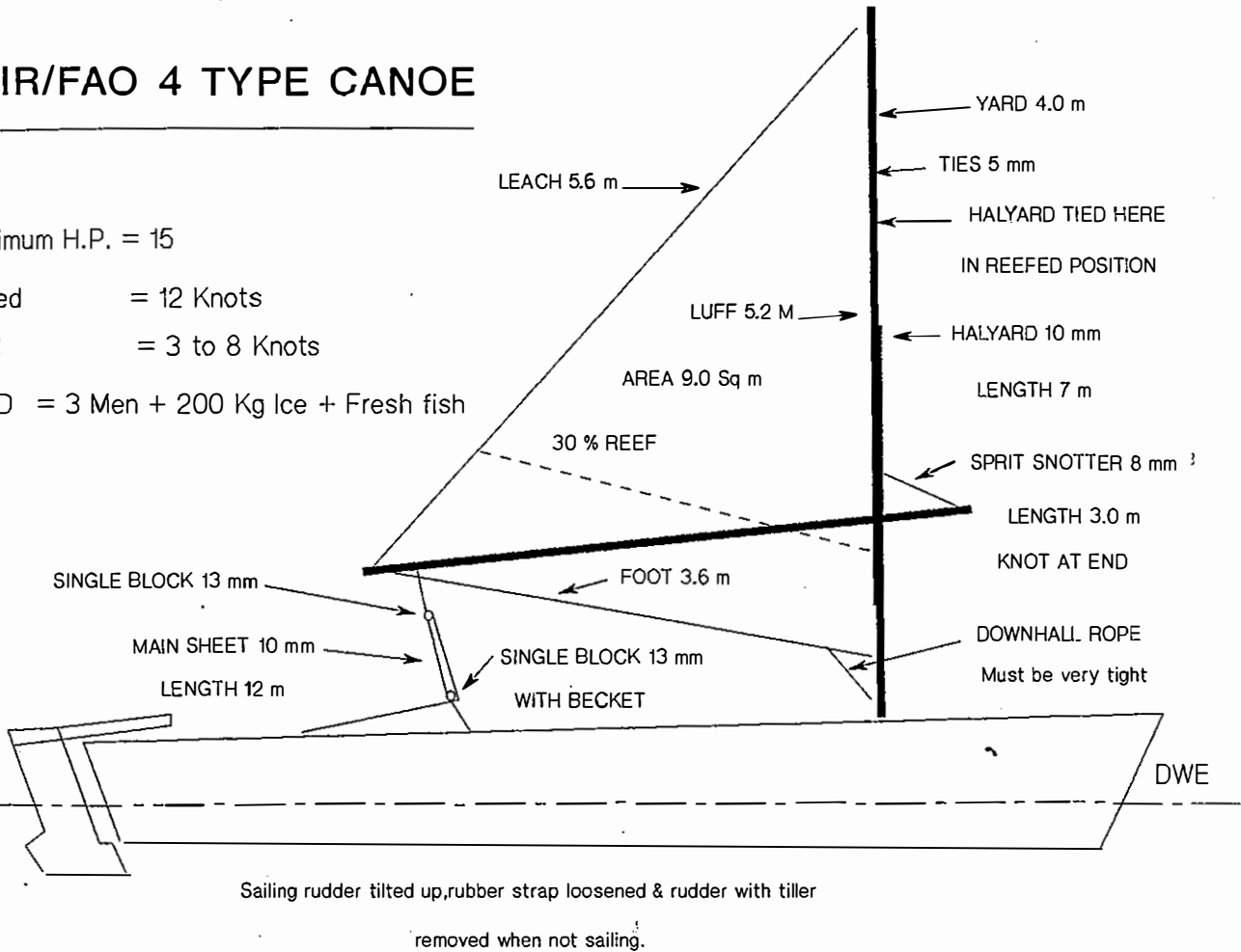
## KIR/FAO 4 TYPE CANOE

Maximum H.P. = 15

Speed = 12 Knots

Troll = 3 to 8 Knots

LOAD = 3 Men + 200 Kg Ice + Fresh fish



FISHERIES DIVISION

January 1988

MINISTRY OF NATURAL RESOURCE DEVELOPMENT

FISHERIES DIVISION

P.O Box 276, Bikenibeu,

Tarawa,

REPUBLIC OF KIRIBATI

FISHERIES DIVISION TROLLING MANUAL , FOR KIR 4

WRITTEN BY C.M.DAY, MASTERFISHERMAN.

I-KIRIBATI TRANSLATION BY R.BENIAMENA, FISHERIES OFFICER

JANUARY 1988

### Fisheries Division Trolling Manual

This manual is designed for use with a Fisheries KIR 4 type outrigger canoe. Constructed of marine grade plywood and powered by a 9.9 or 15 hp Yamaha outboard. Having the auxillary Gunter sail rig, as shown in fig.1. Trolling booms can be fitted to the other model KIR canoes, and skiffs. For the rigging detail for those craft, please obtain the Fisheries manual which covers these craft (to be published in June 1988). It is hoped that this manual will be used as a reference book by those who already own KIR type canoes and will show those who don't why they should. The operations described have all been carried out by the author and Rimeta Beniamina, it is hoped their experience will help fishermen adopting this method of fishing.

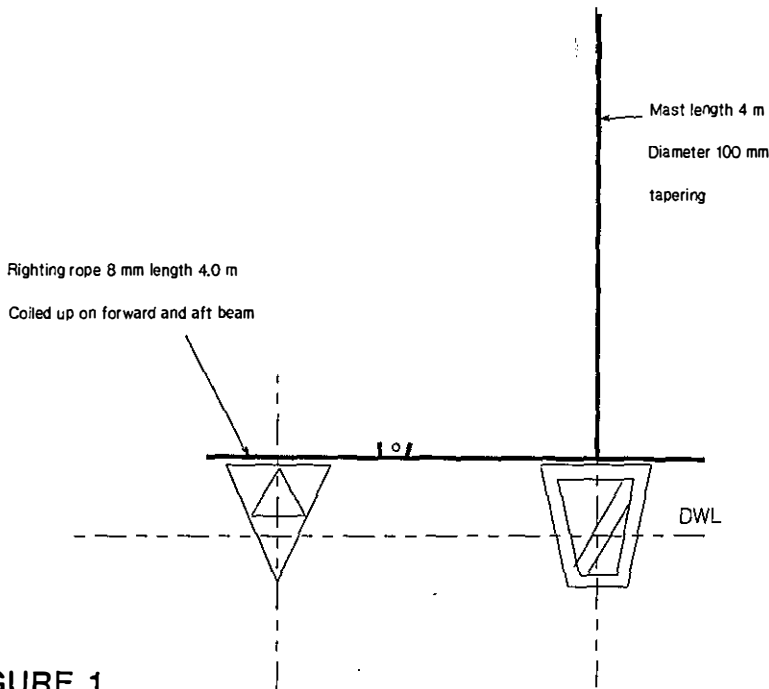
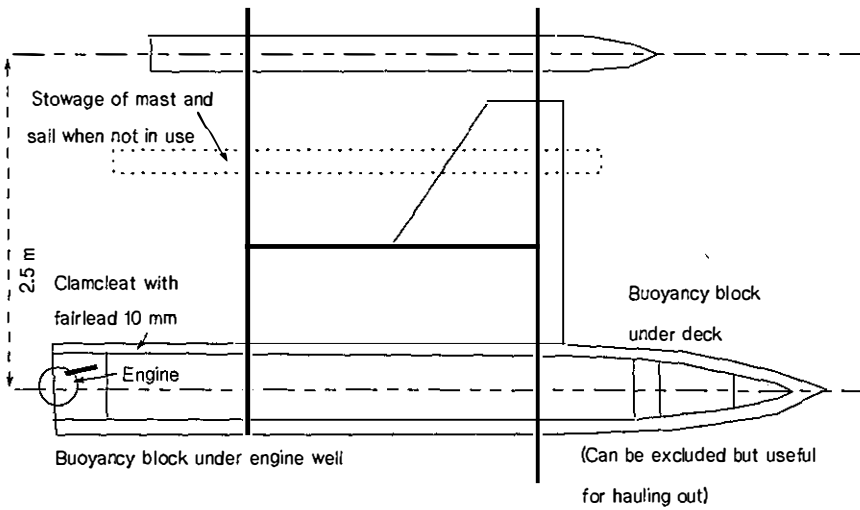
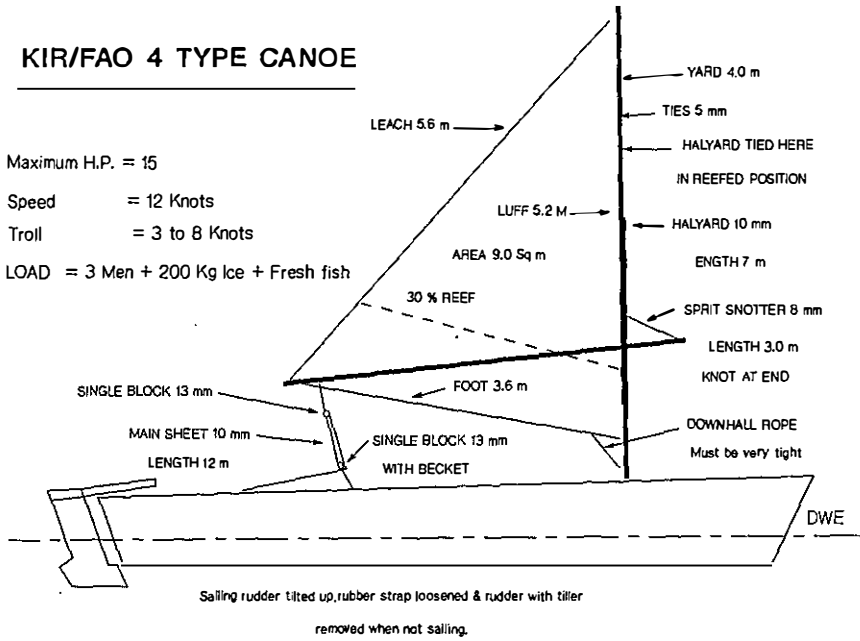
**KIR/FAO 4 TYPE CANOE**

Maximum H.P. = 15

Speed = 12 Knots

Troll = 3 to 8 Knots

LOAD = 3 Men + 200 Kg Ice + Fresh fish



**FIGURE 1**

## Introduction

The use of trolling booms on the KIR 4 canoe was developed by Fisheries in 1986 and field tested on Kiritimati. It allows a small craft to successfully operate with 7-9 lines trolling for tuna and other pelagic species, with low operating costs.

### Gear

The booms consist of a 4 m length of Daku timber, rounded and shaped at each end. They are mounted in cheeks lashed just forward of the mast (see fig.2, detail B)

This rig operates best on the KIR 4 model which has only the auxiliary Gunter rig sail, with the mast mounted on the centre line, this allows the booms to remain in the raised position when sailing. The booms can be fitted to the other models with the mods discussed in later Fisheries manuals.

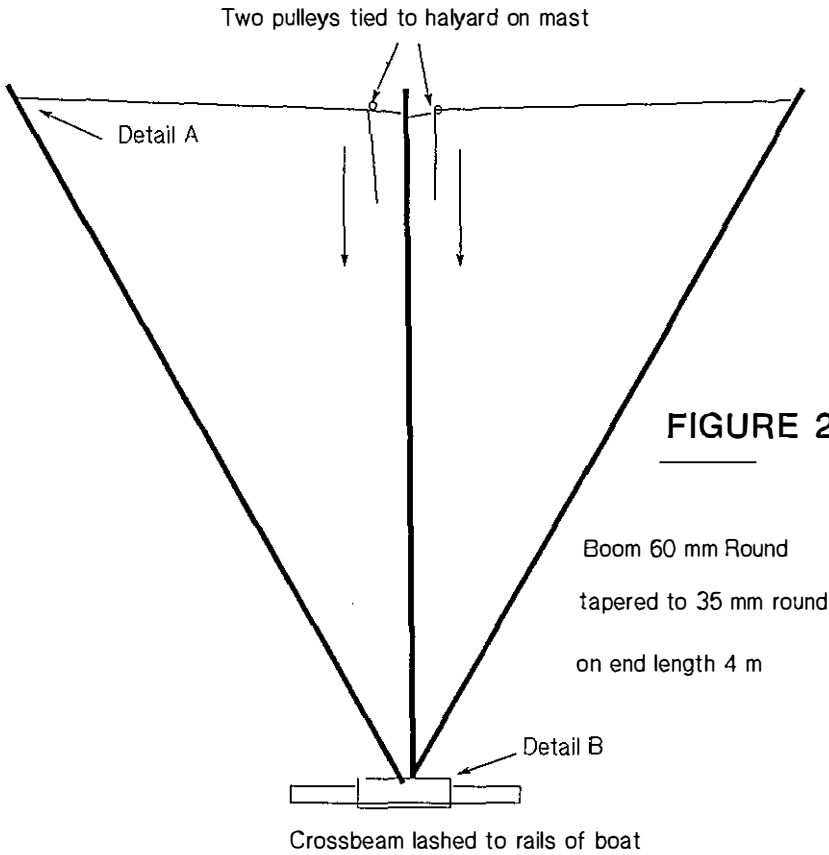
The booms are raised by means of two blocks suspended from the top of the mast to the position shown in fig 3. There are two forestays fitted, one of 6mm polyprop rope and one of stainless steel wire, 4 mm, they both run to the bow as in fig.4. There are downstays to keep the booms rigid, again of 6mm p/p rope. There are no backstays as the trolling lines provide pull in that direction.

### Maintenance

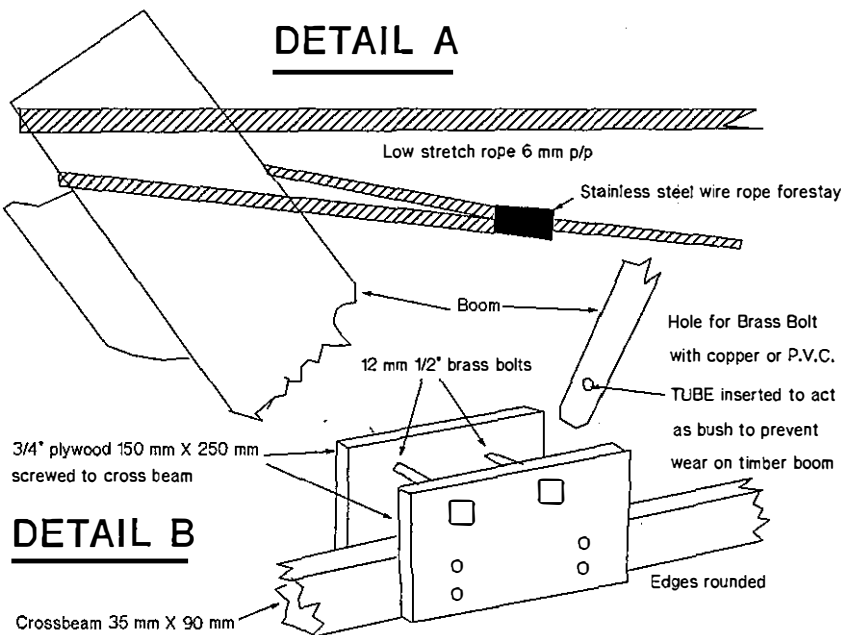
The booms should be kept painted to avoid moisture problems, but after initial coating should only need touching up on yearly basis. It is recommended that all the ropes are replaced on a yearly basis. The stainless steel stays should be inspected regularly and at the first sign of rust associated splintering, be replaced. Cheek lashings should be checked and tightened.

### Fishing gear

The lines run off the boom as shown in fig 4. As can be seen three lines run off each boom, with a seventh line running from the top of the mast. Two further short lines can be run, one from the point on the aft beam just out on the platform and one from the driver's position at the stern, however it is not recommended to run these two until experience has been gained running 7 lines first.



## Construction of Trolling Booms



# TROLLING BOOM RIG:KIR 4

---

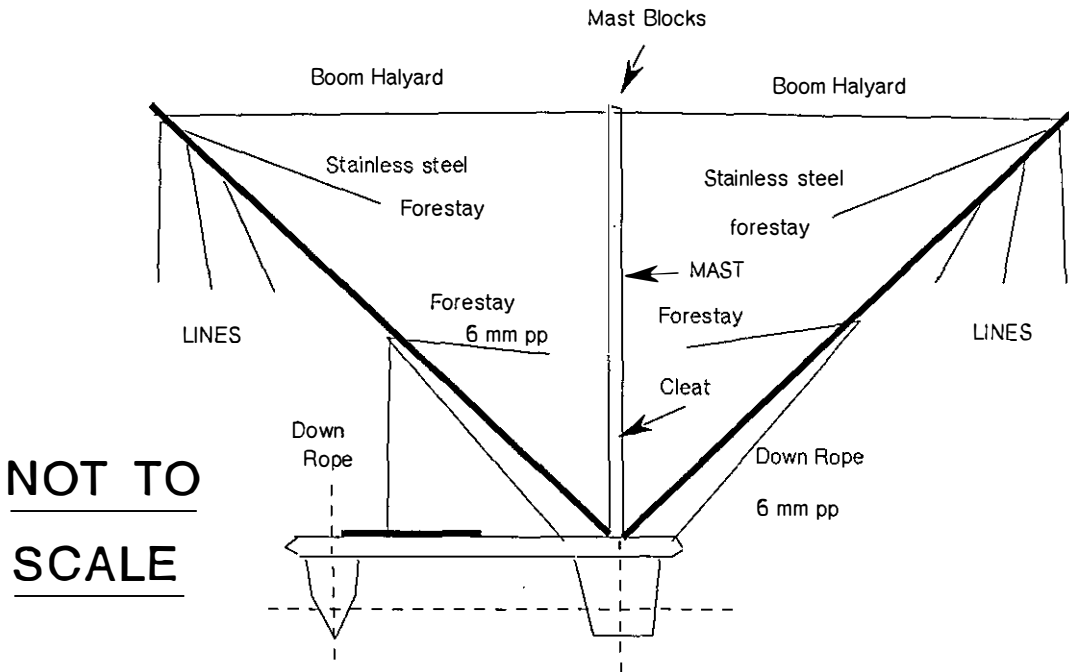
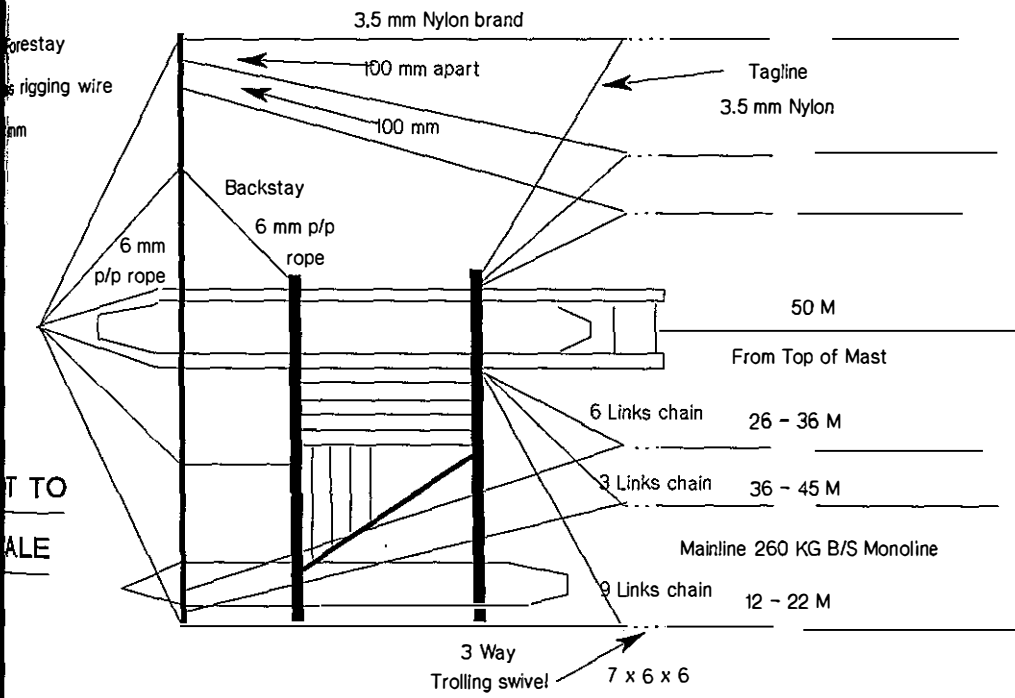


FIGURE 3

# TROLLING BOOM RIG:KIR 4



NOTES: Chain should be 6 or 8 mm ,no heavier.

p/p = Poly propylene rope or similar. NOT nylon.

FIGURE 4

Nylon MUST be used where stated.



Connecting the trolling line to the boom is done using 3.5 mm braided nylon, which due to its stretch acts as a shock cord to help set the hook on strike. The nylon is of different lengths to allow the swivels on the tag lines to lie in the same plane. Before being connected to the swivel, each line has short length of 6mm chain crimped on. As shown in fig 5, and the table below;

## BOW

Line1	Line2	Line3	Line7	Line6	Line5	Line4
-------	-------	-------	-------	-------	-------	-------

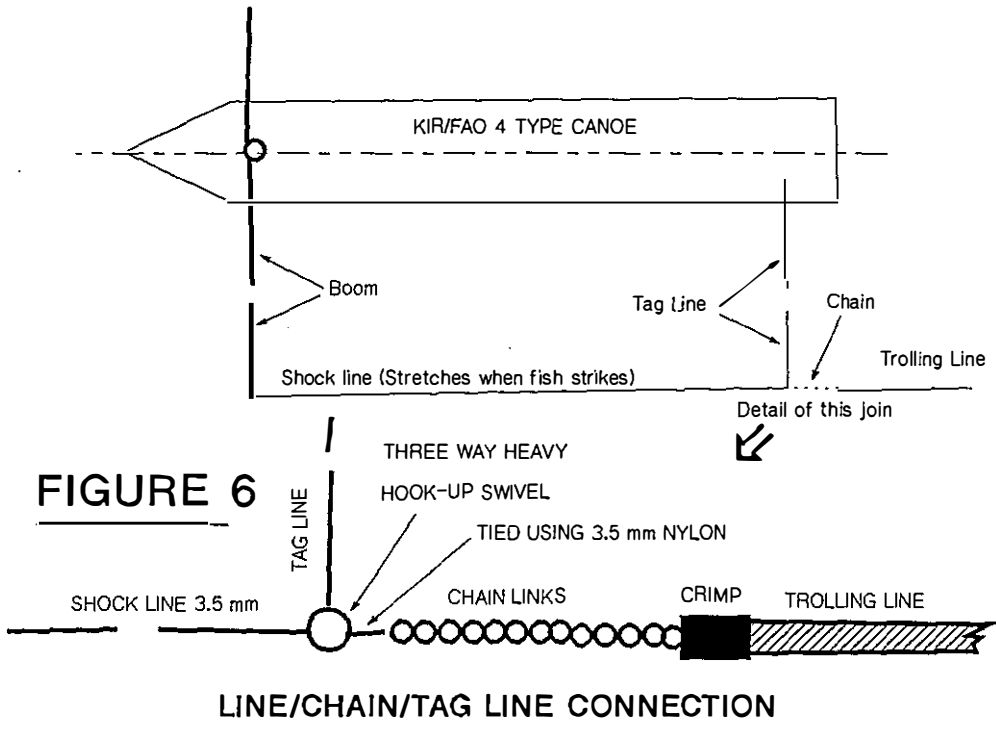
9	3	6	none	6	3	9	links of chain.
---	---	---	------	---	---	---	-----------------

The tag lines consist of 3.5mm braided nylon of the lengths necessary to achieve the line spread shown in figure 4, the outside one should be around 2.5m, the middle 2.0m, the inner 1.5, and the line from the mast about 2.5m. They can be longer as they are adjusted regularly to keep the required spread as shown, they must not be shorter. The swivels used are Yo-Zuri Heavy Hook type of brass construction, size 7x6x6. Figure 5 shows the connection detail of mainline, shock line and tag line.

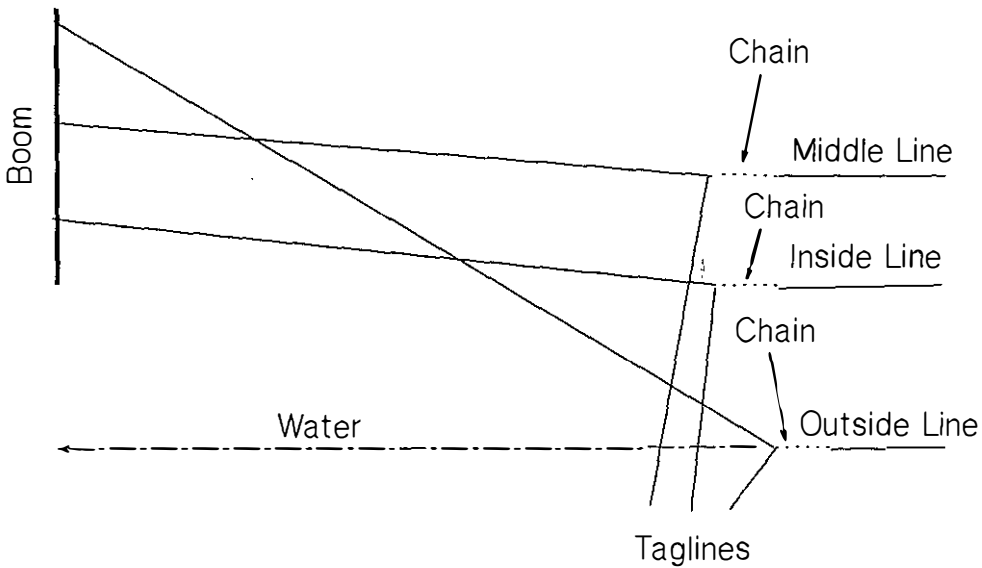
The mainline consists of 260kg breaking strain monofilament, of the lengths shown in fig 4. At the end of each line a trolling snap swivel is crimped on, Yo-Zuri no#8

Note; The main lines must be of the length range shown for the reasons explained in the next section.

The lures are mounted on stainless steel trace wire of at least 75kg b/s for the large jet head type, and 30kg for the smaller jets/jigs. Trace length should be no less than 1m and no more than 2m.



Trolling Line Altitude as viewed from the Main Hull



**FIGURE 6**

### Fishing Operation

Once underway to the fishing grounds the lines should be run out using the following procedure;

1. Steer the canoe in a straight line.
2. Slow down to half throttle (50%).
3. Select a lure and attach it to the outside line, making sure the clip is securely fastened.
4. Pay the outside line away until it runs off the boom in its proper position.
5. Adjust the tag line so it is not hanging too slack.
6. Repeat steps 3-5 with first the middle line and then the inner one.
7. One crewman handles the port side, one the starboard, both lots of lines being run out together.
8. The long mast line should now be run out.
9. If short lines are being used they should be run out at this point.

You are now ready to start the serious business of catching fish. Two choices now occur,

1. To head at full speed to your favorite fishing ground.
2. To head at trolling speed to your favorite spot or to the area where fish were last reported.

This has to be an individual choice but it is recommended that you proceed at trolling speed until fish are sighted, as this way you are saving fuel and increasing your chances of catching stray wahoo or mahi-mahi.

Trolling speed depends on a series of factors;

1. Type of lure, jets for example fish well from 3 to 10 knots, and have even been reported to have caught yellowfin at a speed of 21 knots!!
2. Type of fish being sought, e.g. you can troll faster for wahoo which have strong mouths, than skipjack which are smaller fish and thus it is much easier to end up with just their jaws on your hook!

3. Weather conditions, in bad weather you must troll slower for safety reasons.

In addition with this method of fishing the lines must adopt the attitude shown in fig 6. This is difficult to show on paper but with discription may become clear.

The outside line on each side should run back along the surface of the water for its whole lenght, with at least 75-80% of the chain in the water. The middle line on each side should touch the water surface approximately 4-5 m from the lure. The inner line on each side should touch the water approximately 10m from the lure.

Bearing in mind the above the suggested trolling speed with this rig is between 3 and 8 knots.

Due to the line lenght and chain weights the craft can come around quite fast without the lines tangling, however it is recommended that no more than 45 degrees of helm are used. Be warned that the crew should watch out for the outside line's chains when coming around, see fig 7A.

### Hooking up

This is were the fun starts! One thing which should be stressed right away is that one man has to be in overall command of the craft, he should be the man driving the canoe. He is responsible for controlling the speed of the canoe, its direction, and for gaffing the fish. Each crewman (should be two at least) is responsible for the lines on one side of the boat, with whoever is free taking the line running from the mast.

Let's now run through procedure on hook-up;

1. Driver slows to approximately 25% speed, and makes sure the canoe is heading straight. It pays to have both the throttle and steering adjusted so they are stiff. This way when the driver lets go to gaff the canoe doesn't slow down and go all over the place.

2. If just one fish is hooked is pulled straight into the boat as fast as possible, gaffed if needed, stunned, removed from the hook, put straight in the ice and the line run straight out again.

3. With multiple hookup, each man tends to the lines on his side (the crew should decide before hand into which area of the canoe each will put the lines from his side i.e port side lines aft of the aft beam and starboard lines to the fore side of the aft beam). The fish on the shorter lines must be pulled, this avoids any tangles caused by crossed lines. The line is pulled in fish removed and then that line is returned to the water before the next line is pulled in.

4. Once all the lines are emptied of fish and the lines returned to the water, trolling speed is resumed.

From the above these rules should be followed when retrieving the lines;

1. ON STRIKE SLOW DOWN, DON'T STOP

2. KEEP THE CANOE ON A STRAIGHT COURSE.

3. PULL THE SHORTEST HOOKED LINE FIRST.

4. ONCE THE FISH IS REMOVED RETURN THE LINE TO THE WATER

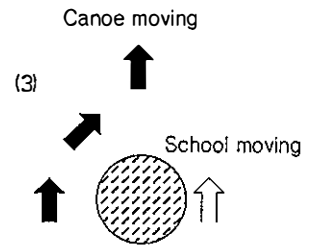
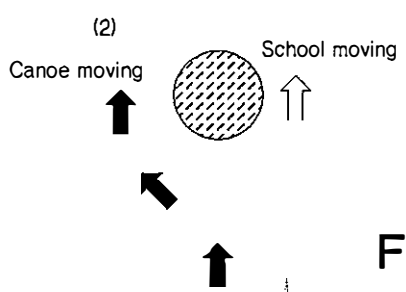
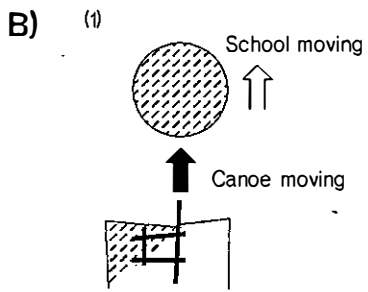
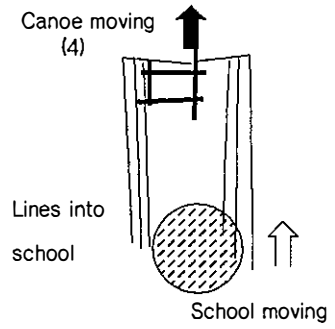
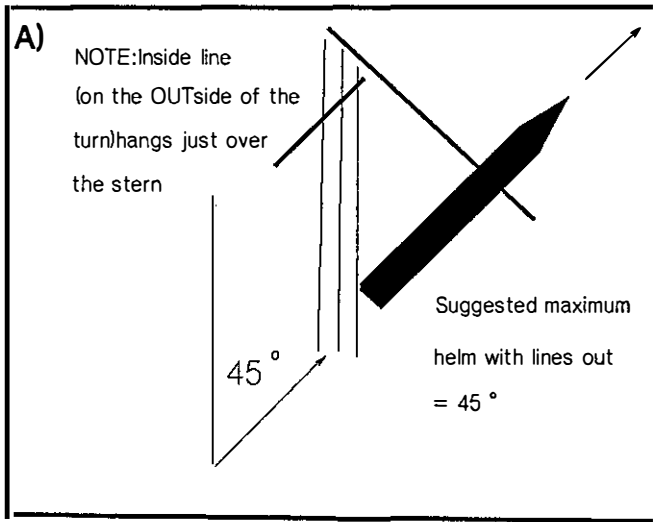
5. THEN PULL THE NEXT LINE.

6. KEEP THE LINES FROM EACH SIDE SEPARATE.

7. DON'T PANIC!!!!

#### Fishing hints.

1. School fish. Unlike poling where you want to be right in the school or at least on the very edge, with the trolling booms you should aim for the boat to always be on the outside of the school with the lines running back through the school as shown in fig 7B. If the fish are fast moving and hits the lines as you are coming around remember to straighten up right away. As you already know, fish bite best just after sunup so it pays to be in the area where fish are schooling before sunup. If the schools are very lively and keep going up and down don't chase all the ocean trying to catch them. Slow down and troll around in the area at normal or a bit slower, sooner or later the school will come up near you. Remember the top speed of the canoe is only around 11 knots, so you can't chase skiffs. Use the size of lure to suit the fish size. With skipjack this is easy, use small feather jigs, small jet heads etc. With yellowfin present a range of sizes from your biggest jet down to your smallest jig. Upon first strike change the other lines to what ever took the the fish. Remember you can present at least 7 different lures to the fish, use that ability. If the fish just don't seem to be biting don't despair, they may just be full and will start feeding again soon, bait may be below the surface so slow right down so the lures sink.



**FIGURE 7**

2.Fads.What applies to Fads also applies to all sorts of floating debris ,logs etc.Fads act like marked sets of food for pelagic fish and are used by them as navigation reference points,a school may well move away from the Fad during the course of the day,but return at late afternoon earlier evening.There are no firm rules but Fads tend to produce best for the first two hours after sunset and again just on sunset.During the day tuna schools(especially skipjack) tend to hang around upcurrent so as the day progresses you should find yourself moving further away from the bouy. As well as tunas you will find rainbow runner, wahoo,mahi-mahi,sailfish ,marlin and sharks around the Fads,these species you should catch through out the day. If there is no action anywhere it is worth trying drop lining,iki-shabi,up and down current from the buoy as the tuna may well be feeding deep.

3.Reef edge trolling.Too and from the grounds and when all else fails,you should troll along the reef edge for wahoo, trevally,dog tooth tuna,etc.A good hint is to stay just on the edge of the dropoff and then run a zig-zag course into slightly deeper water and back to the dropoff.The reason for this is when wahoo are cruising along the reef edge they prefer water of around 80-120m deep.In this situation you should troll your large jets as they will take most of the reef species.What every you do don't stop with the lines out over the reef,because you will hookup to the bottom .

#### Care of your fishing gear.

1.Lines.These should always be coiled properly as kinks led to weakness of the line.Keep them stored in boxes out of the sun or at least covered up,as sunlight affects the lines.Regularly check the crimps,for there is a possibility that after large fish strikes the crimp may pull out slightly.Lines should be replaced every 12-18 months,if looked after they may last as long as 2 years.Avoid knots at all costs!!!

2.Boom/tag lines.These should last a long time,the only thing to watch out for is caffing at the booms and at the swivels.

3.Swivels.Oil once in awhile,make sure that they do swivel.Replace when they fail only.

4.Traces.As with the lines they should be kept coiled when not in use.If any bad kinks appear replace right away.If the wire breaks a few strands replace immediately.

5.Hooks.Sharpen hooks at least once a week.They will last a lot longer if on returning from your fishing trips you wash off your lures with fresh water.Bent hooks should be straightened or replaced right away.Sharp hooks catch fish,blunt hooks lose fish!!!

6.Lures.As already mentioned above,lures should be washed off in fresh water when you return from fishing.Any skirts which have been badly chewed should be replaced before the next fishing trip.Jet heads should be polished with a rag at least once a week.Replace what you lose.

7.Gaff.It is worth mentioning here to keep your gaff razor sharp and greased (this gives good penetration on gaffing).

IT PAYS TO SPEND SEVERAL HOURS EACH WEEK CHECKING AND  
SERVICING YOUR BOOMS AND FISHING RIG,AT SEA IT CAN BE  
TOO LATE!!

GOOD FISHING !!!

ACKNOWLEDGEMENTS;

Chief Fisheries Officer,Teekabu Tikai for his support.

Fisheries Licensing Officer,Bob Hastings for his  
computer generated drawings.

FAO Consultant,Mike Savins for his construction drawings.

Fisheries Officer,Rimeta Beniamena for the translation.