

APPENDIX 5

Proposed Advisory Note on the Artisanal
Longline Fishing, targetting large ocean
pelagic fishes.

TECHNICAL CO-OPERATION ATN/SF-2474-BA
INSTITUTIONAL STRENGTHENING OF FISHERIES DIVISION
OF MINISTRY OF AGRICULTURE, FOOD AND FISHERIES

Proposed Advisory Note on the
"Artisanal Longline Fishing,
targetting large Ocean Pelagic Fishes"

March 1988

INTRODUCTION

Longline fishing for large Oceanic Pelagic fishes can be achieved by the present Barbados fishing vessels. It should however be emphasised that without major modification and a reasonable capital outlay, longlining would be a means of supplementing the traditional catches of flying fish, dolphin, kingfish etc. This may be achieved by using longlines of relatively short length, say for example 2 miles and by limiting the number of hooks, buoys etc. However, it must be clearly understood (by the fishing Skipper) that the longline must drift freely (unattached) of the vessel while it is deployed. Therefore, a vigilant night watch-operation is called for in order that the vessel will be frequently brought back onto station (next to the longlines strobe lighted flag pole). Otherwise the whole longline may be "lost". Therefore there will be disruption of traditional night fishing practices and this disruption will have to be understood, and tolerated in order for success to be achieved with this longline fishing method.

Basic equipment, per mile and approximate cost in US\$

(a) "Gangion" reel for hooks and line	\$ 50.00
(b) Buoyline reel	50.00
(c) Mainline reel	500.00
(d) Mainline & Spare line	250.00
(e) Gangion line and spare, $\frac{1}{2}$ mainline length	50.00
(f) Buoys (12 & spares)	50.00
(g) "Snap-on" connectors with swivels (40)	40.00
(h) Crimps and crimping tool (1,000)	100.00
(i) Hooks (40)	80.00
(j) "Hi-flyer" Poles (3)	30.00
(k) Strobe lights, 4 plus batteries	120.00
(l) Lightsticks (300/tube)	300.00
(m) Squid bait	<u>60.00</u>

per mile in US\$ TOTAL 1680.00

OPERATION

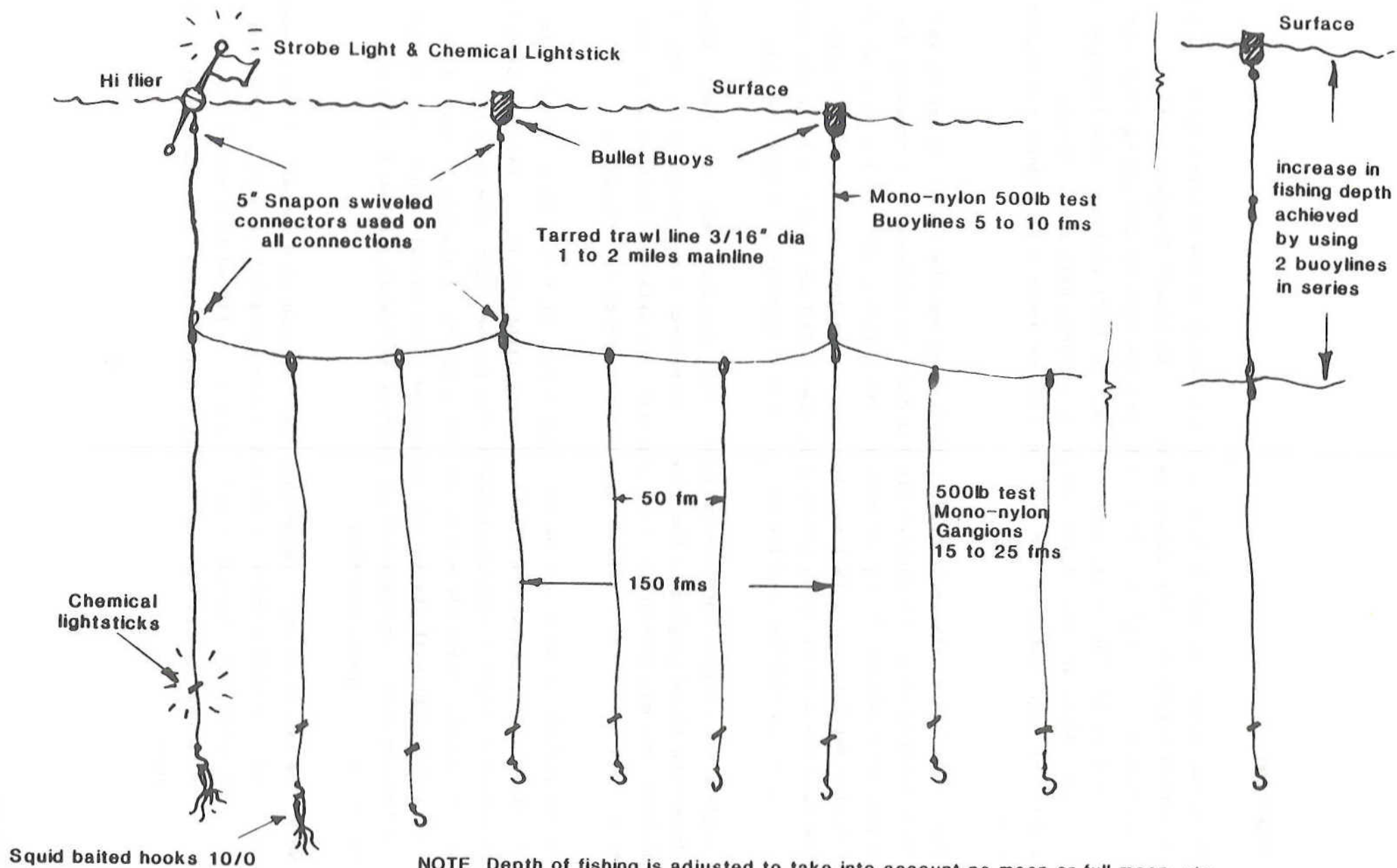
Prior to sunset, around 1730hrs, with the vessel in the desired location, the operation begins with the attaching of the "Hi-flyer" flagpole to the beginning of the longline. All attachments are made by utilizing "snap-on" connector clips. The vessel drifts and as the drift continues the longline is paid out. Hooks are baited with squid or suitable bait and a chemical lightstick is attached to the gangion hookline about 5 feet above the baited hook.

The gangions are between 15 to 25 fathoms long and the buoylines are between 5 to 10 fathoms long. The desired fishing depth is achieved by increasing the number of buoylines. Using one buoyline the mainline will be suspended at its buoyline depth of say 5 fathoms: By using 2 buoylines, connected in series, the mainline will be submerged by a further 5 fathoms ($5+5 = 10$). if the moon is full it is fishing practice to fish deeper than during a dark, new moon.

Gangions are clipped onto the mainline, about one for every 50 fathoms. After connecting three gangions a buoyline is connected to the mainline in order to maintain the mainline depth. (see diagram). Approximately halfway along the mainline a second "Hi-flyer" flagpole is clipped on to a buoyline.

At the end of the mainline the third and final "Hi-flyer" is attached. This "Hi-flyer" is fitted with a flashing strobe light and it is also good practice to attach a chemical lightstick beside the strobe-light. The operation of setting usually takes about 2 hours. The longline is allowed to drift free during the night with the vessel manoeuvred so as to maintain visual contact. The hauling operation commences at daybreak and usually takes 3 hours to recover the equipment and fish.

NOTE: The expert strongly recommends that the insurance company of the vessel and/or a marine surveyor should be consulted before major alterations or attachments such as longline reels are fitted to a vessel. In order to ensure good safety and stability and continued insurance cover of the vessel.



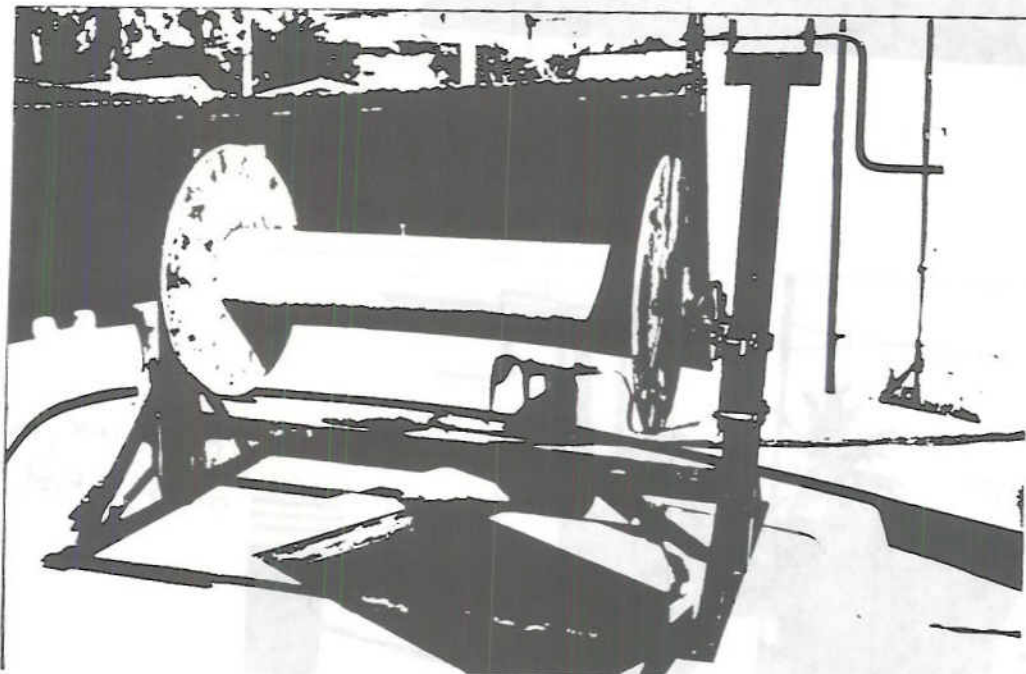
NOTE Depth of fishing is adjusted to take into account no moon or full moon etc.

By adjusting length of buoylines by using in multiples eg. 1- 5 fm 2 - 10 fm 3 - 15 fm etc.

TYPICAL "LONGLINE" SET



"First" CAPTURE
ON LONGLINE

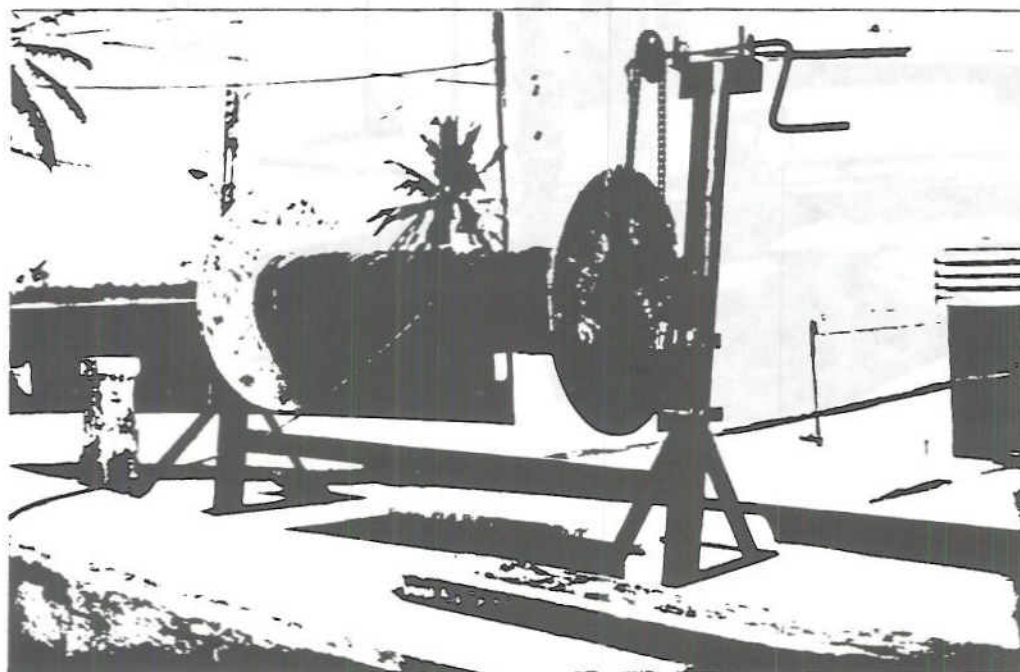


HAND POWERED
LOCAL MAINLINE
REEL.

BuoyLINE
Spooler



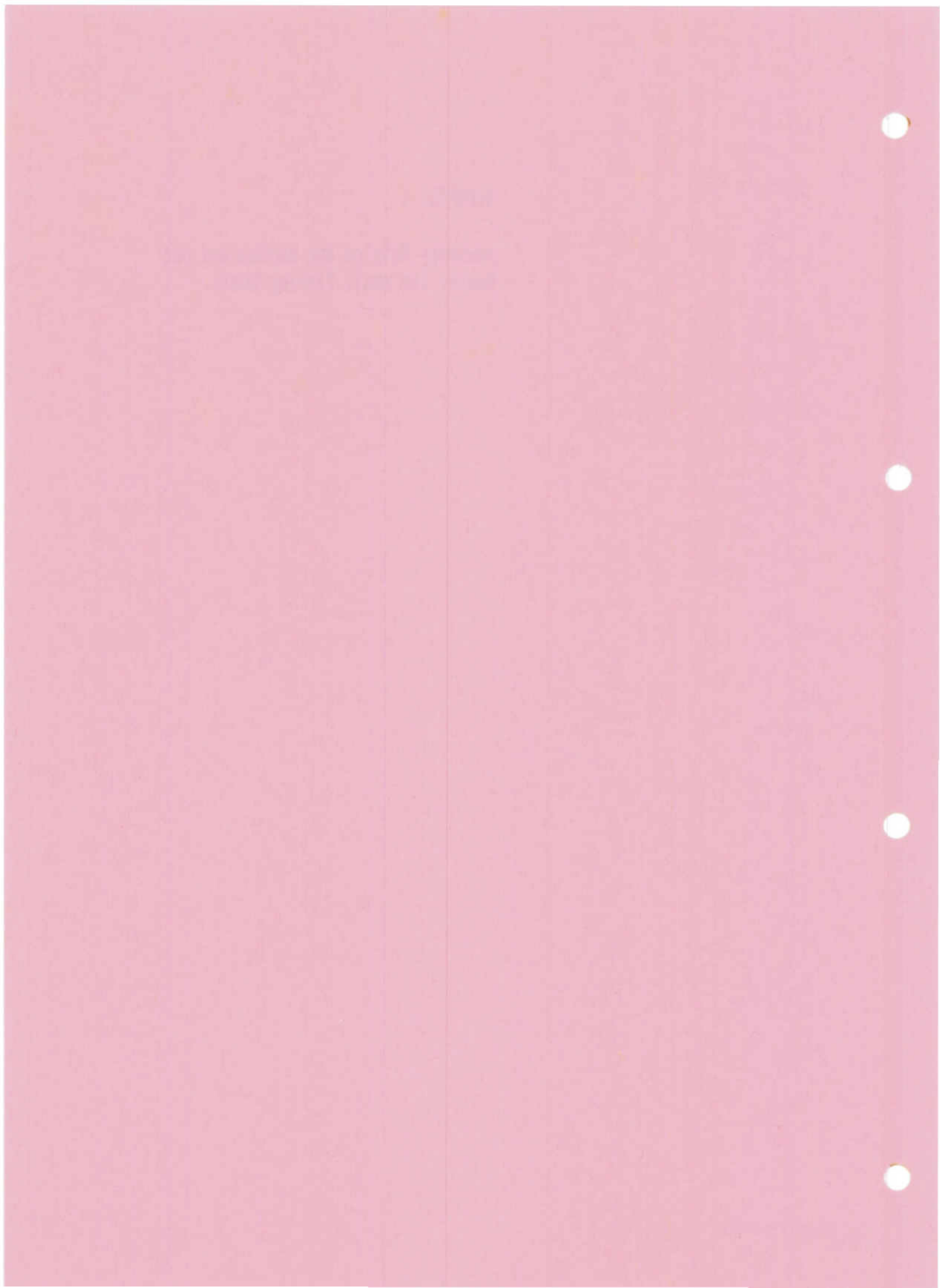
"Ganglion" Spooler



MAINLINE, WOUND
ONTO REEL.

APPENDIX 6

Advisory Note on the mechanised pot
hauler for small fishing boats.



Report No. FGT6

TECHNICAL CO-OPERATION ATN/SF-2474-BA
INSTITUTIONAL STRENGTHENING OF FISHERIES DIVISION
MINISTRY OF AGRICULTURE, FOOD AND FISHERIES

Advisory note on the mechanized pot hauler
for small fishing boats

L.D.M. HARRISON
Fishing Gear Technologist

MAY 1988

Introduction

Fishermen who are currently operating fish-pots can benefit by increasing the number of fish-pots that they haul each day and by fishing pots in deeper waters. This can be achieved by mechanization for example, by fitting hauling devices such as a small motor powered winch and gunwhale mounted rope rollers, in order to speed up hauling and to lighten the effort of the fisherman.

Equipment

Small motor driven winches, see annex can be purchased from a number of companies alternatively, the winch may be fabricated locally, for example, from second hand parts. All that is required is an engine of 4 or 5 h.p., lawn mower type, a small gearbox of about 8:1 ratio, 2 shaft bearings, a capstan head, (which may be of local hard wood) and a steel drive shaft. In addition, a gunwhale mounted rope roller may also be fabricated locally from local materials similar to the one described in the annex.

Installation

The winch should be installed in such a position that would allow the capstan head to be used comfortably, even during poor weather conditions. The motor and gearbox part of the winch should be kept clear of the working space, and at the same time, the controls should be easily accessible to the winch operator for starting and speed control during hauling. (see diagram, page one of the annex). It would be good practice to construct a small box type winch protection cover of plywood.

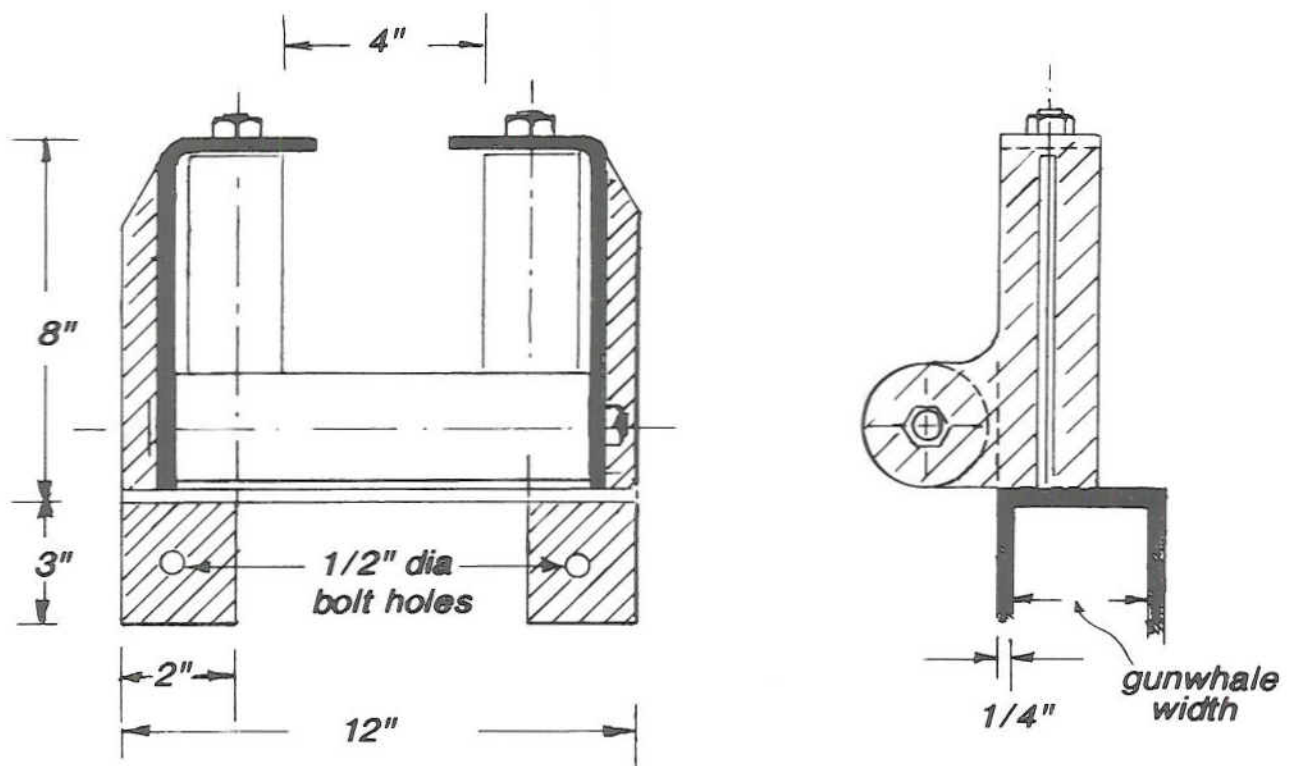
Operation

The winch engine is started and a few minutes allowed for the engine to reach working temperature. The fish-pot rope is drawn in over the gunwhale and between the rope roller. A round turn is taken with the rope, around the capstan head.

The operator hauls the fish-pot by pulling on the rope with sufficient power in order to permit a small slippage of the rope on the capstan head, so as not to overload or stall the small engine. With a little practice, very heavy fish-pots may be raised by these winches with relative ease. As soon as the fish pot is at gunwhale height, the rope is removed from the capstan head, made secure and the fishermen "boards" and deals with the fish pot in the traditional manner.

NOTE: It is very important to ensure that the winch is bedded down very securely into the vessel as the winch should not be able to move about or to be pulled out of its position for safety reasons.

GUNWHALE MOUNTED "ROPE ROLLER" FOR TRAP HAULING



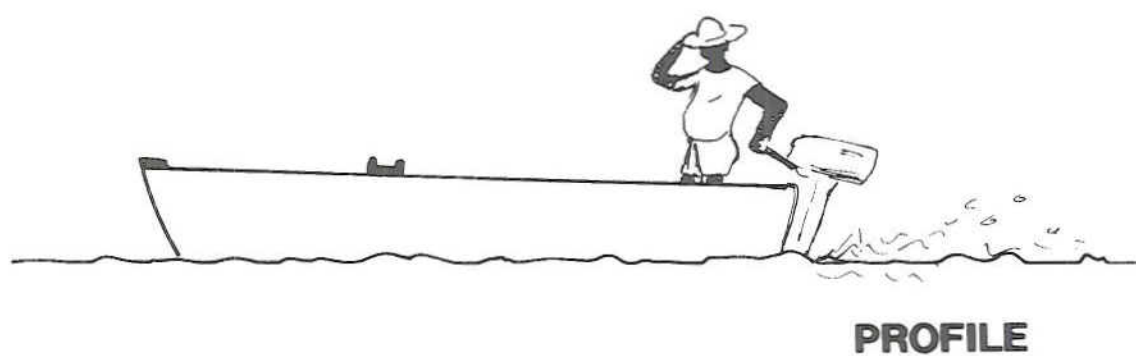
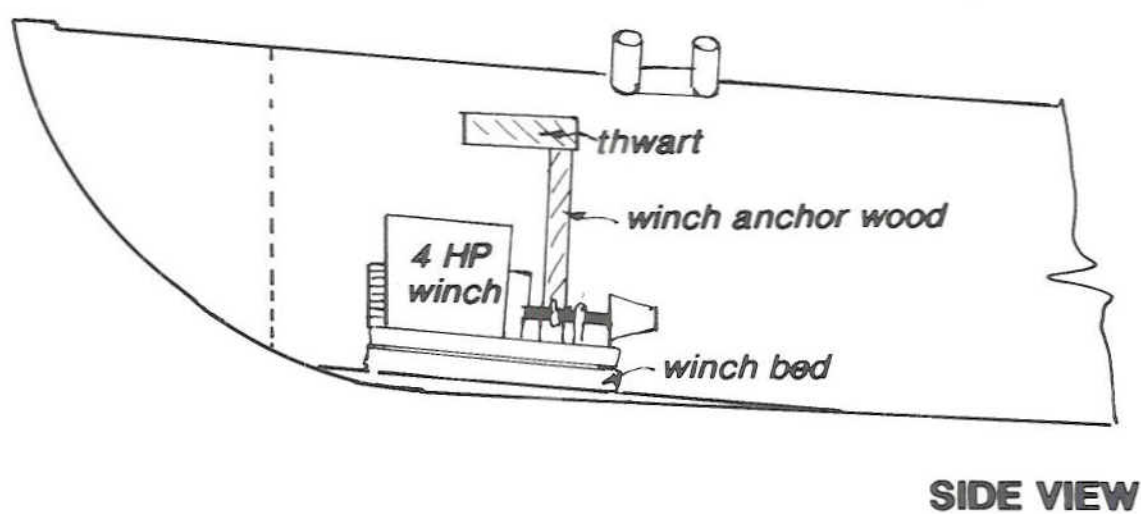
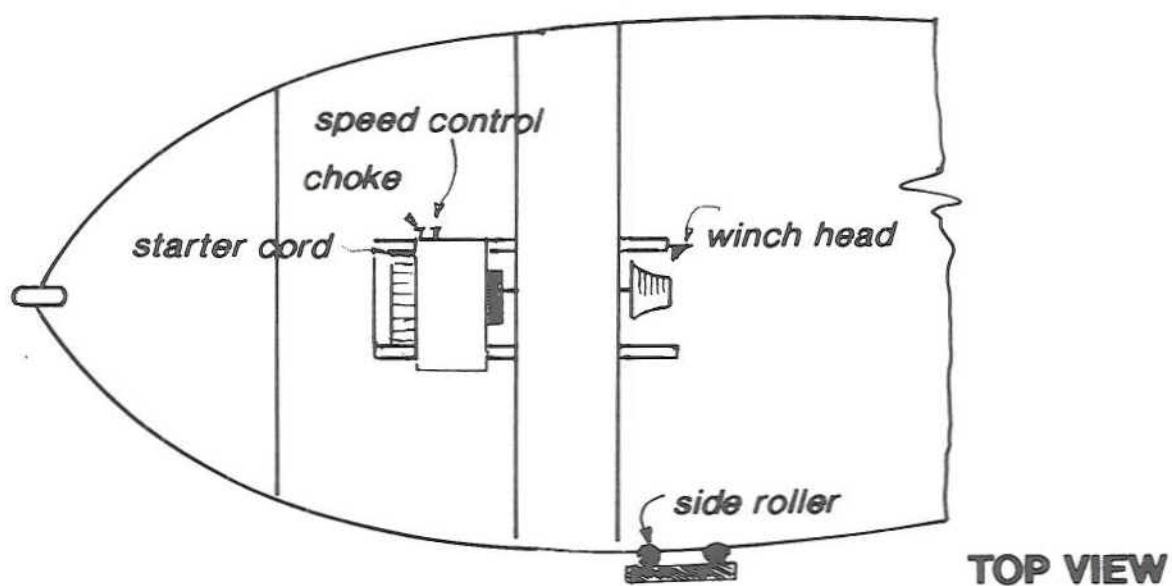
Materials

1/4" mild steel 4" width x 5feet

24" x 2" dia brass prop shaft (8" x 3")

36" 1/2" stainless steel rod

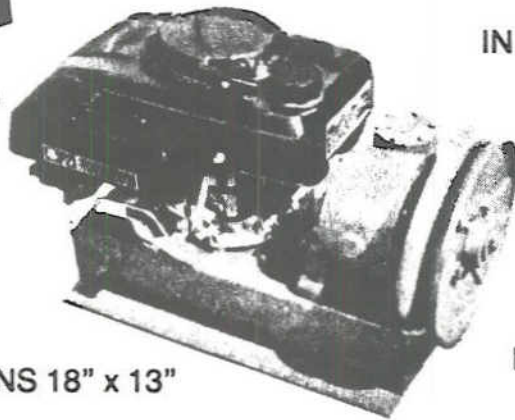
3 nuts (to fit 1/2" ss rod, when threaded)



14' "Moses" fitted with a small 4 HP gasoline winch for pot hauling

SEAWINCH HAULING GEAR

THE COMPACT RANGE



BASE DIMENSIONS 18" x 13"

EASILY REMOVED WHEN NOT REQUIRED
IDEAL FOR THE SMALL BOAT.
CHOICE OF POWER UNIT - EITHER
BRIGGS & STRATTON OR HONDA
PETROL ENGINES.

A COMPLETE HAULING SYSTEM
IN JUST ONE PIECE OF EQUIPMENT.
BUILT TO THE STANDARDS
NECESSARY FOR COMMERCIAL
FISHERMEN TO WORK POTS,
LONG LINE AND NETS.

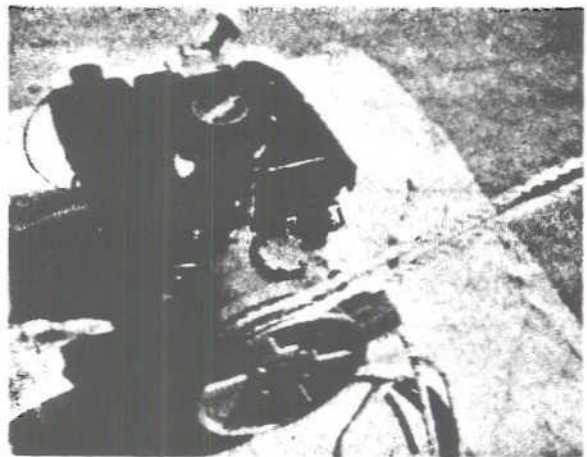
LIGHT WEIGHT — UNDER 80 lbs ●
CAN BE POSITIONED ANYWHERE ●
WORKS THROUGH FAIRLEAD ROLLER
OR DAVIT ●

NEW

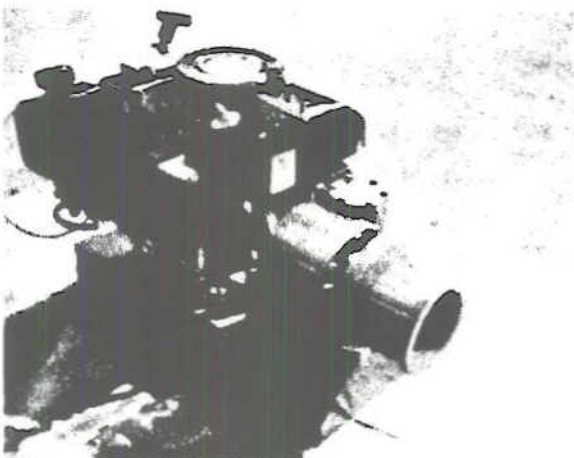
150	- 360 lbs. pull at 200 ft/min.
STANDARD	- 400 lbs. pull at 200 ft/min.
COMMERCIAL	- 500 lbs. pull at 200 ft/min.



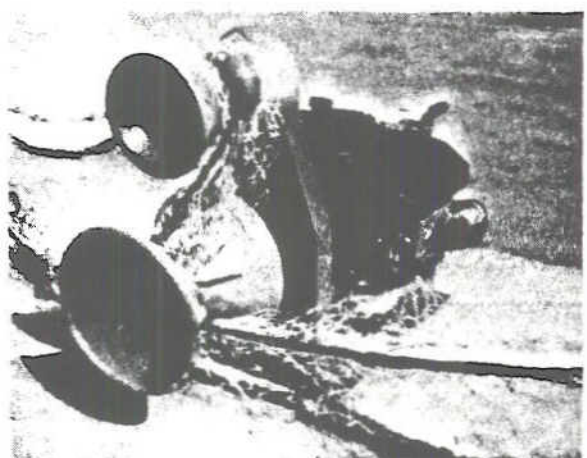
LINEWHEEL ASSEMBLY WITH SELF HAULING SHEAVE



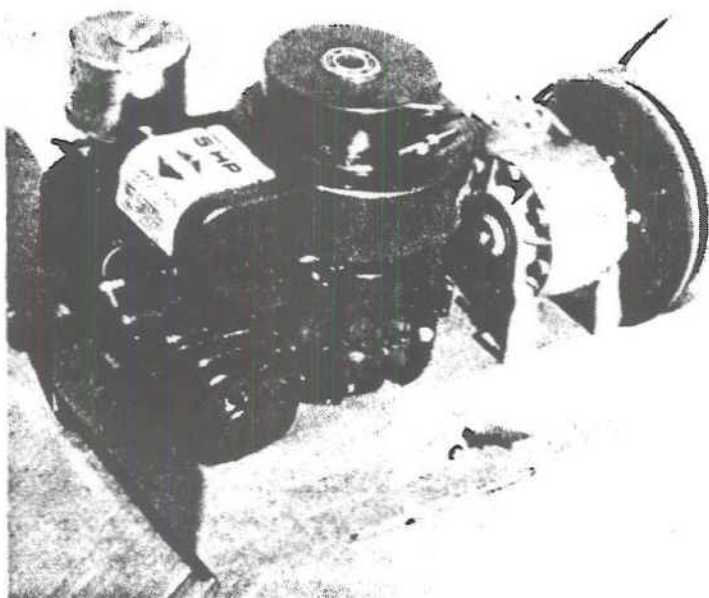
DOUBLE LINE WHEEL FOR HANDLING TWO ROPES



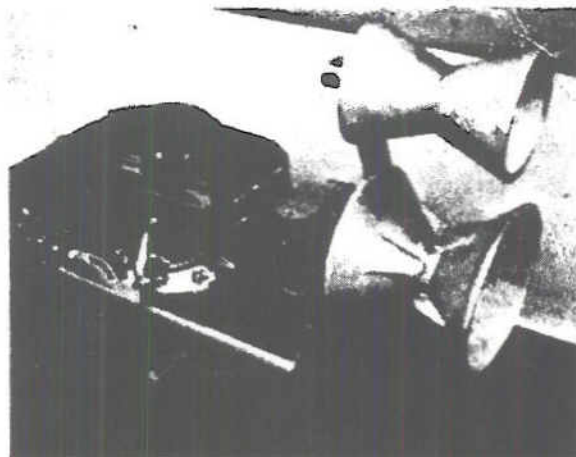
CAPSTAN ASSEMBLY FOR HAULING ON SINGLE ROPE



NET DRUM ASSEMBLY FOR TRAMMEL AND GILL NETS
THIS UNIT PULLS FROM OPPOSITE DIRECTION



COMMERCIAL MODEL FITTED WITH
BRIGGS AND STRATTON 5HP ENGINE.



NET HAULING DRUM

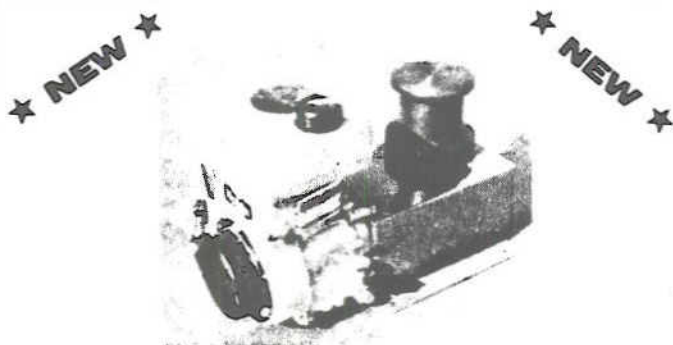
OPTIONAL EXTRAS

- CAPSTAN HEAD
- DOUBLE LINE WHEEL
- NET HAULING DRUM

CLUTCH FOR QUICK ENGAGEMENT AND RELEASE. SEALED FOR LIFE GEARBOX. ENCLOSED TRANSMISSION. THE 10 INCH DIAMETER LINEWHEEL AND STRIPPING BLADE GIVE FULL AUTOMATIC HAULING AND CAN BE ADJUSTED TO TAKE FROM 2mm LINE TO 12mm ROPE.

COMPACT HYDRAULIC also available

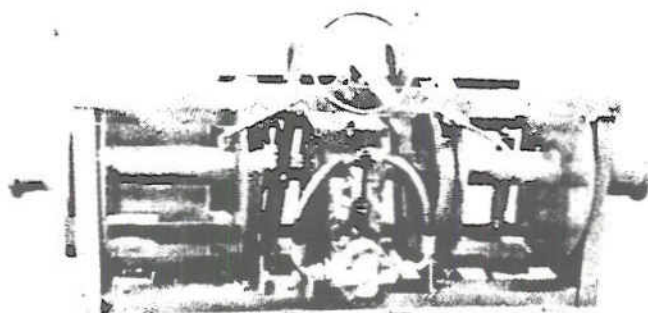
Power Unit GX140 5HP Honda Pump 27 litres/min. output
Reservoir 4 litres capacity Dimensions 20" x 15" x 14"
Dry Weight 23 kg. Suitable for 600 lb line
Hauler or Capstan



WEIGHS 22 KILOS PULLS 360 LBS (160 KILOS)
2 hp ROBIN ENGINE

DIMENSIONS: Overall 18" x 11" x 13" High
Base 9½" x 9½" Capstan Head 3½" dia.

HYDRAULIC HAULERS



LARGER VERSIONS DESIGNED & BUILT.
DETAILS ON APPLICATION.

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Marine Equipment

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Mr. L. Hull,
Department TF,
Crown Agents,
St. Nicholas House,
Sutton,
SURREY.

25th February 1988.

Dear Sir,

Further to your telephone call to Mr. Winton at Seawinch, I have pleasure in enclosing, as requested, 6 copies of the leaflet describing the Seawinch Compact hauling range which I trust you will find of interest. If we can provide you with any further information please do not hesitate to let me know.

The prices for these units F.O.B. Barbados would be as follows:-

Standard Model:	Honda GXV 120 or Briggs & Stratton 4 hp engine.	£ 634
Commercial Model:	Honda GXV 160 or Briggs & Stratton 5 hp engine.	616
Compact Hydraulic:		553
Junior Compact:	Robin 2 hp engine.	484
<u>Optional Extras:</u>		
	Capstan Head	43
	Double Line Wheel	57
	Net Hauling Model	127

THE ABOVE PRICES ARE FOR QUANTITIES UP TO 15. FOR NUMBERS IN EXCESS OF 15 THERE WOULD BE A 5% REDUCTION.

Yours faithfully,
for SEAWINCH LTD.



E.J. CARTER - Director.

A&G POWER PULLER

For Lobster & Crab Traps and For Fish Traps

OVER 18,000 SOLD SINCE FIRST BUILT IN 1956

The A&G POWER PULLER eliminates the difficult back breaking work of pulling up pots or traps by hand. Can be mounted on any size boat from a 16' skiff to a 150' vessel. Simple to operate...and in a normal workday 3 to 4 times the amount of traps can be pulled. To insure a "trouble-free" operation, build a plywood housing around the unit, leaving only the "HEAD" showing, and drill a few holes to allow the fumes from the muffler to escape. We suggest using the optional EXTRA LARGE MUFFLER, which cuts down the noise by two-thirds, and lasts ten times longer than the regular muffler.

COMPLETE POWER PULLERS

COMPLETE POWER PULLER USING 4HP ENGINE
WITH 6 to 1 REDUCTION GEAR AND
PULLER ARM STYLE A.....\$688.86

COMPLETE POWER PULLER USING 8HP ENGINE
WITH 6 to 1 REDUCTION GEAR AND
PULLER ARM STYLE B.....\$841.20

REPLACEMENT PARTS

4HP Engine with 6 to 1
reduction gear.....\$515.37
8HP Engine with 6 to 1
reduction gear.....\$644.10
Iron Head w/1" Bore.....\$ 53.68
Couplings (Set).....\$ 46.25
12"Steel Shaft (keyed).....\$ 18.95
18"Steel Shaft (keyed).....\$ 22.75
Bearings (each).....\$ 24.50

PULLER ARM ASSEMBLIES

STYLE A: Iron Head, Coupling, 12" Shaft,
and 1 Bearing.....\$173.49
STYLE B: Iron Head, Coupling, 18" Shaft,
and 2 Bearings.....\$186.87

OPTIONAL EQUIPMENT

Brass Open End Block.....\$ 72.10
Brass Sheave for Open End Block.....\$ 25.00
Steel Pin for Open End Block.....\$ 11.00
Galvanized Open End Block.....\$ 71.10
Extra Large Muffler.....\$ 57.00
Adaptor for Ex.Lg.Muffler (8HP only)\$ 44.10

PULLER ARM
ASSEMBLIES

STYLE A

STYLE B

Coupling

Steel Shaft

Bearing

Iron Winch Head



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