

INSTRUCTION MANUAL

25 Kg/50 Kg GROUND FEELER WEIGHT

MODELS G.F.N. 25/ G.F.N. 50

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I HYDROLOGICAL SERVICES STANDARD WARRANTY TERMS

WARRANTY, DISCLAIMER AND LIMITATION OF LIABILITY:

We warrant this product to be free from defects in material and workmanship for a period of three years from the date of shipment hereof or its total rated life, whichever first occurs.

During the warranty period, we will repair or replace this product if it is returned to us with shipping charges prepaid and we determine it to be defective. This warranty shall not apply if this product has been subjected to misuse, negligence, accidents, or misapplied, or modified or repaired by unauthorised persons, or improperly installed, and we shall not be liable to any person for personal injury or property damage caused by such a product.

All other warranties, express and implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, are disclaimed. All other remedies and liabilities, including incidental, consequential, and special damages, losses, and expenses, are excluded.

Note: It is Hydrological Services' policy to support all of our products. If design or workmanship problems arise after this statutory warranty period we request that you contact us.

HYDROLOGICAL SERVICES

**25 KG / 50 KG GROUND FEELER WEIGHT
MODELS GNF25 & GNF50 (NOSE MOUNTING)**

II GENERAL

The Noise Mounting Ground Feeler Weights allow current meters to be used closer to the streambed than with Columbus Pattern but do not protect the meter from incoming debris. When the weight touches the streambed the foot (bottom contact) is forced up into the weight, closing a contact giving a continuous contact signal at the winch.

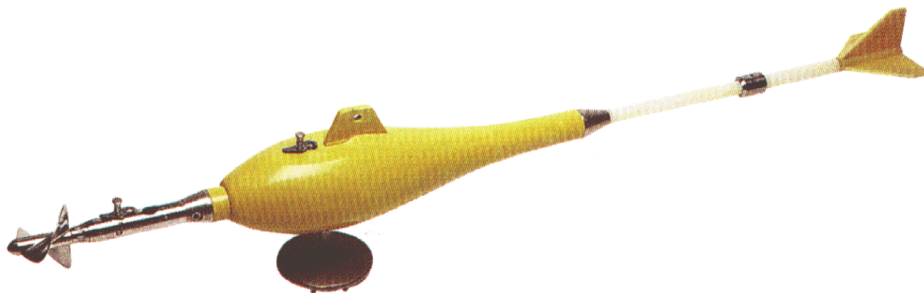


FIGURE 1. NOSE MOUNTING GROUND FEELER WEIGHT

III OPERATION

A. CONTACT SYSTEM

Assembly drawing GFN50-A1 shows the magnet (7) and reed assembly (18), which together comprise the signalling components. As the weight is lowered to the system bed, the plunger will rise 6mm carrying the magnet passed the reed, to close the signal circuit. Over travel of about 6mm will then bring the plunger against the upper cavity to support the full load of the weight.

The circular orientation of magnet or reed within the weight does not influence the switching characteristics of the system. A standard 5mm angle plug with rubber seal fits the plug socket (16). The socket assembly is insulated from the ground body by plastic components (15), (17), and a silicone sealant is used on all surfaces and threads to prevent water entry to the switch cavity.

IV GROUND FEELER WEIGHT ASSEMBLY DRAWING

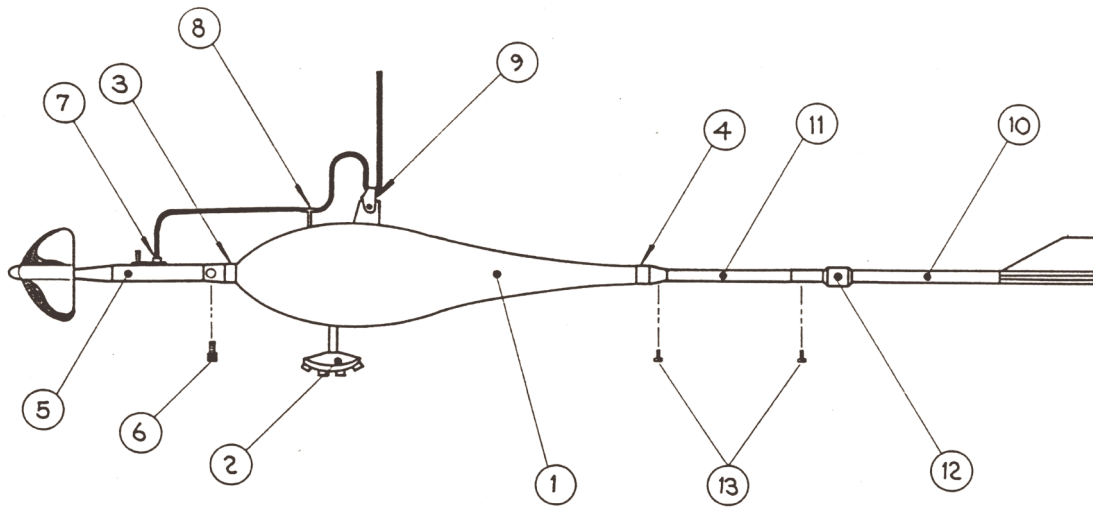


FIGURE 2. GFN25/GFN50 GROUND FEELER WEIGHT WITH OSS-B1 AND TAIL FIN

ITEM No.	DESCRIPTION	QTY	PART No.
1	25 Kg/ 50 Kg Weight Body	1	GFN5001-01 OR GFN2501-01
2	Pad	1	GFN50 02-01
3	Nose Adaptor	1	GFN50 01-07
4	Tail Adaptor	1	GFN50 01-08
5	Current Meter	1	OSS-B1
6	Retaining Screw	1	CMB03-07
7	Angle Plug	1	AP01
8	T Plug	1	TP01
9	C1 Connector	1	C1
10	Tail Fin Assembly	1	CMB09-01A
11	Extension	1	CMB09-02
12	Counterweight	1	GFN50 06-01
13	Retaining Screw	2	SAN20-04

Table 1. PART LIST FOR ASSEMBLY DRAWING (FIG 2)

V DISASSEMBLY - PLUNGER

1. Remove three (3) screws from retainer plate and withdraw complete assembly from plunger cavity. The upper u-packing from ring and washer might be required to be pulled out of the cavity and if so, take care not to damage either the u-packing or cavity surface.
2. Wash all components and inspect u-packing for wear or damage. Clean out any debris which might have accumulated in damage. Clean up any debris which might have accumulated in the upper cavity. Clean out the plunger bore.

Note: The Plunger and Pad are press-fit assembly and are only separated if repairs are required on the plunger.

3. When assembling, take care to fit u-packing and form rings as indicated on assembly drawing GFN50-A1. Use grease on the packing to ensure that plunger will fall down under its own weight when assembled.
4. If properly assembled, the plunger should move into cavity approximately 6mm before reed switch signals.

VI PLUNGER AND REED SWITCH ASSEMBLY

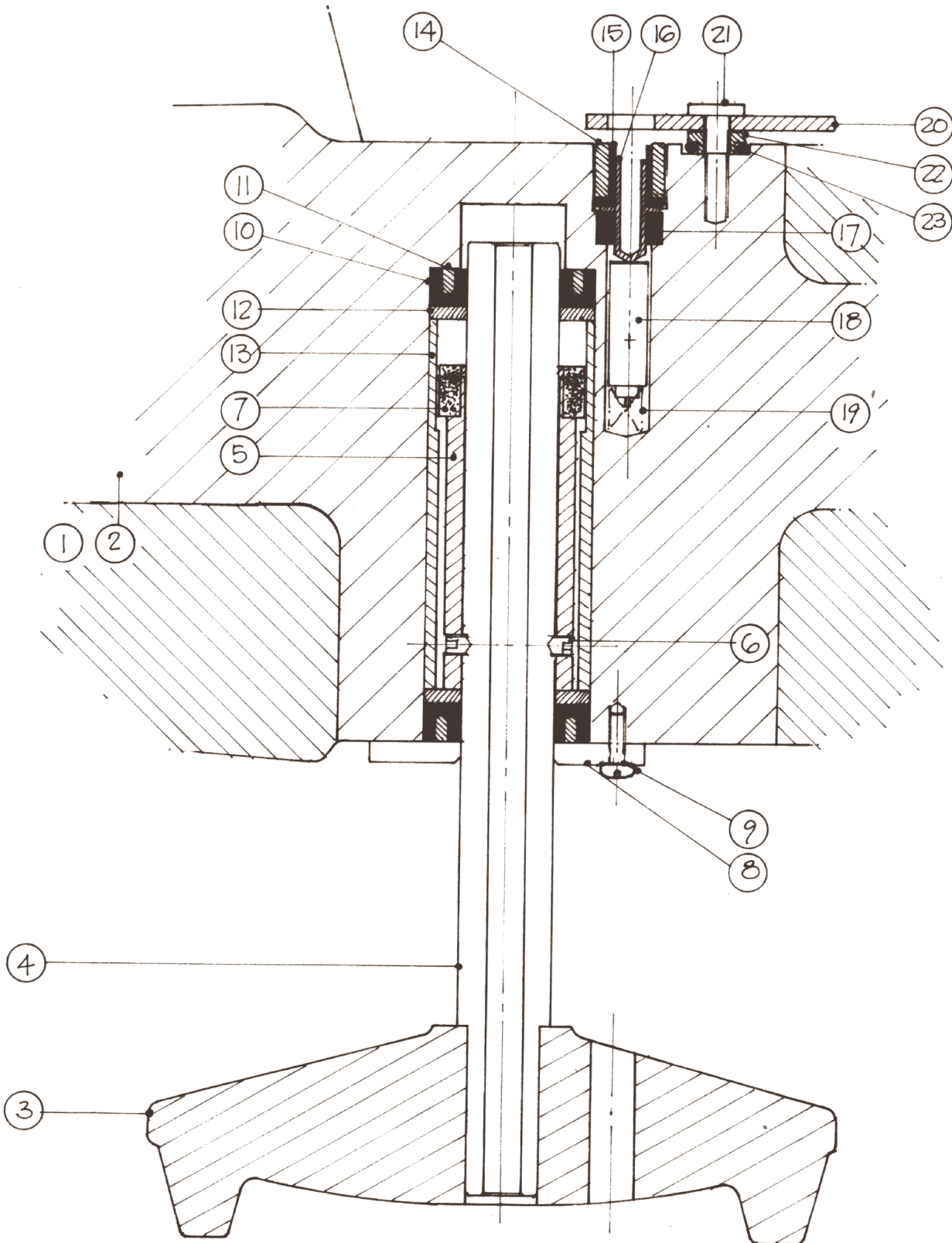


FIGURE 3. PLUNGER AND REED SWITCH ASSEMBLY (GFN50-A1)

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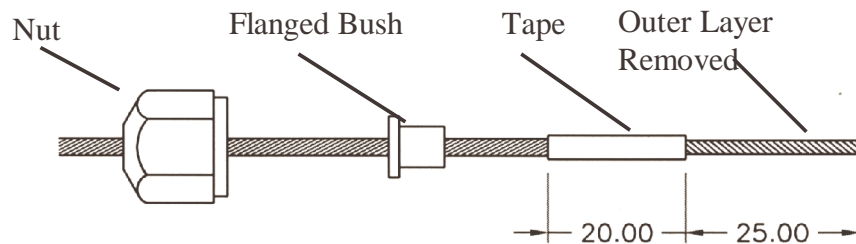
Note: - Items 14,15,16,17 to be assembled with silicone sealant 738 RTV or equivalent.
 - Items 10, 20, 21, 22, 23 to be lubricated with HS 200/50 fluid or similar water resistant oil

ITEM No.	DESCRIPTION	QTY	PART No.
1	Weight Body	1	GFN5001-01 OR GFN2501-01
2	Contact Body	1	GFN5001-02
3	Pad	1	GFN5002-01
4	Plunger	1	GFN5002-02
5	Collar	1	GFN5002-03
6	Grub Screw	2	SC039-04
7	Magnet	1	GFN5002-04
8	Retainer Plate	1	GFN5003-01
9	Screw	3	SC022-09
10	U-Packing	2	SC040-13
11	Form Ring	2	GFN5003-02
12	Washer	2	GFN5003-03
13	Spacer	1	GFN5003-04
14	Retainer	1	CMB07-01
15	Insulator	1	CMB07-02
16	Plug Socket	1	GFN5004-01
17	Insulator	1	CMB07-04
18	Reed Switch Assembly	1	GFN5004-02A
19	Slipring	1	GFN5004-03
20	Clamp	1	CMB08-04
21	Pivot Post	1	GFN5005-01
22	Washer	1	GFN5008-05
23	O-Ring	1	SC024-08

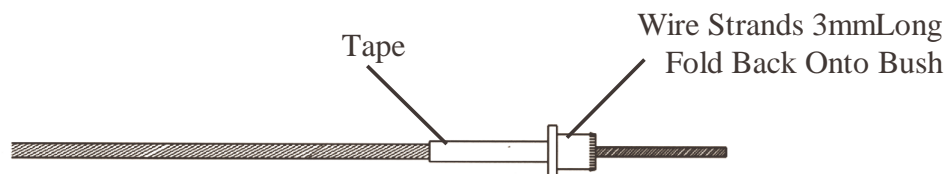
Table 2. PART LIST FOR PLUNGER AND REED ASSEMBLY DRAWING (FIG 3)

VII FITTING ANGLE PLUG TO AMERGRAPH CABLE

1. Slide nut and flanged bush onto Amergraph cable.
2. Wrap insulating tape around cable 25mm (1") from end, or fit heatshrink, 20mm (3/4") long.
3. Unwind outer layer of cable and cut off at tape.



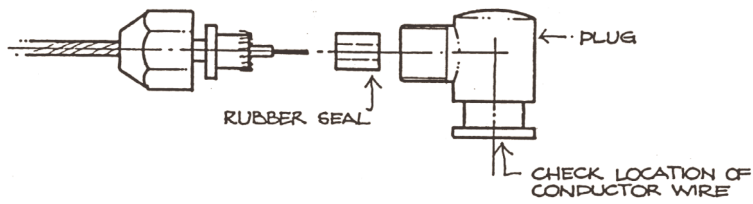
4. Unwind inner cable layer back to tape, one strand at a time and cut off 3mm (1/8") in front of the insulation tape.
5. Slide flanged bush forward and bend the short inner layer strands onto the bush.



6. Strip conductor insulation back to 8mm (5/16") in front of the flanged bush.
7. Coat copper conductor wire with resin-cored solder. **BE CAREFUL** not to heat wire insulation. Cut wire back to 4mm (5/32") long.



8. Slide rubber seal onto conductor and then push cable into plug. Look into the other end of the plug and check that the conductor wire is in the centre of the plug hole.



9. Screw nut onto plug and tighten with a spanner.
10. Screw pin into plug and tighten, using a 1/16" Allen key as a lever.
11. Slide rubber insulator onto pin
12. Check circuit.

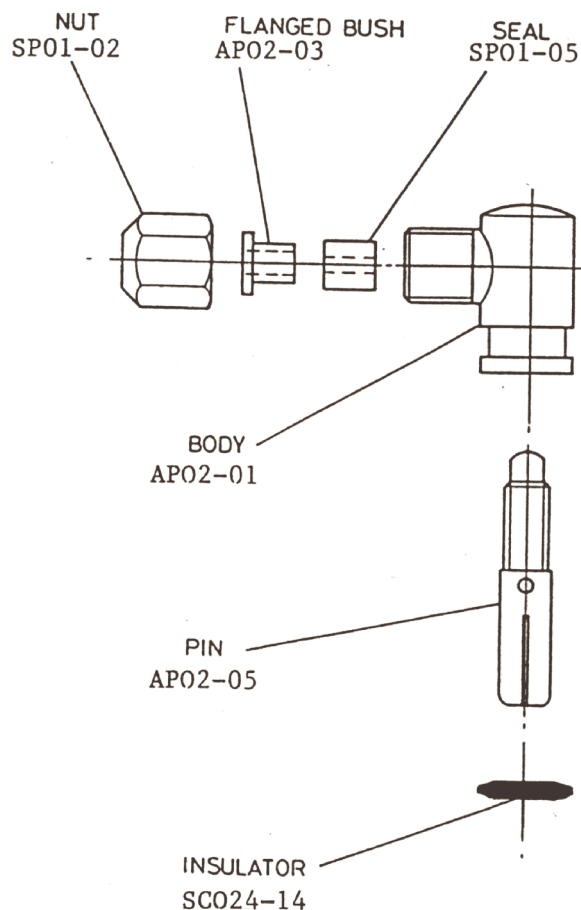


FIGURE 4. ANGLE PLUG ASSEMBLY AP02

VIII FITTING TEE PLUG TO AMERGRAPH CABLE

1. Proceed steps 1-9 on both sides of plug.
2. Screw pin into plug and tighten, using 1/16" hexagon wrench as a lever
3. Slide rubber insulator onto pin
4. Check circuit.

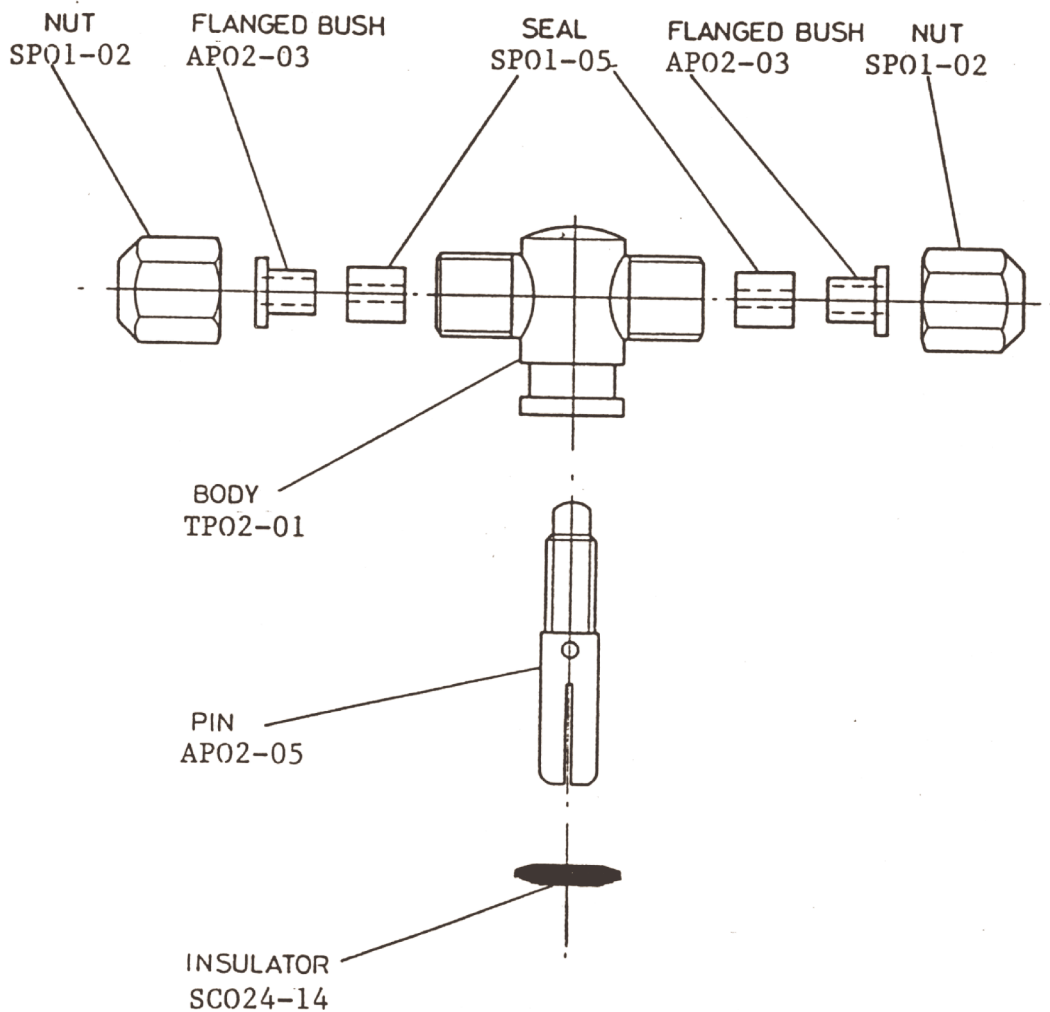


FIGURE 5. TEE PLUG ASSEMBLY TP02

IV TRAVELLER WAY AND GROUND FEELER WEIGHT

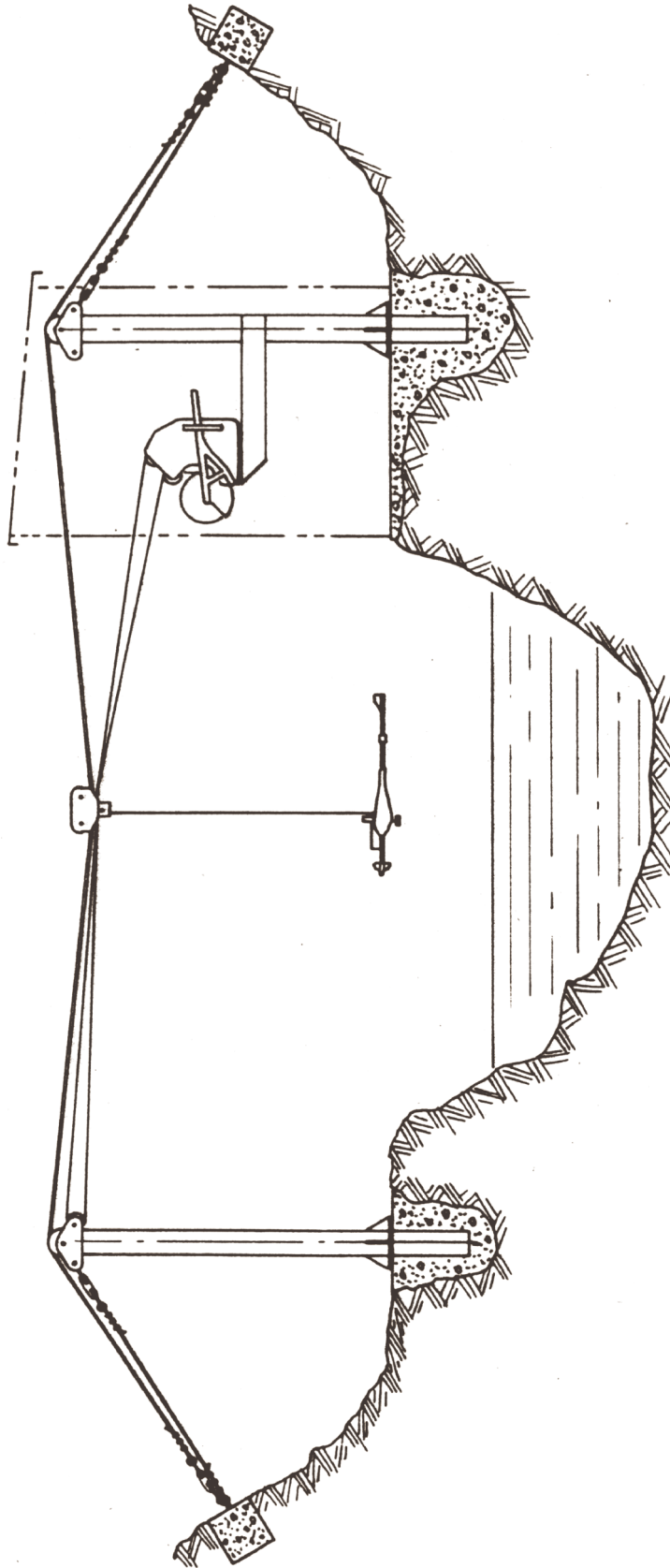


FIGURE 6. LATROBE/BAROSSA TRAVEL-WAY WITH OSS-BI CURRENT METER AND GFN25/50 GROUND FEELER WEIGHT