

WIND MONITOR

Installation and Operating Instructions



INSTALLATION AND OPERATING INSTRUCTIONS

INTRODUCTION

The Stowe Wind Monitor is a self contained instrument providing both apparent windangle and apparent windspeed readout on a single display. A detachable mast head transducer provides angle and speed data via a 6 way mast cable. Connection to ship's 12 volt power supply is required.

The key features are:

- Compact dual function waterproof instrument head

- Full 360° apparent windangle (Analogue)

- 0 – 60 knots digital apparent windspeed (digital LCD)

- Night illumination

- Matches Navigator 1 and 2 Log units

- Can provide additional windspeed reading on Navigator 2

- Optional Close hauled/running meter

- Transducer with 20 metres of mast cable (longer/additional wiring to order)

INSTALLATION OF INSTRUMENT HEAD

The instrument head can be installed on deck or below, and it will normally be possible to install the unit within 300mm(12") of the compass, carry out checks if a closer position is required. Once a suitable position for the instrument head is established the installation work can begin. A 101mm(4") diameter hole is required, and a silicone rubber sealant should be carefully applied around the outer flange. Take care to avoid unsightly smears of sealant. **DO NOT** overtighten the clamping stirrup as this will unduly stress the instrument seals and **MAY BREAK THE GLASS WINDOW.**

INSTALLATION OF MASTHEAD TRANSDUCER

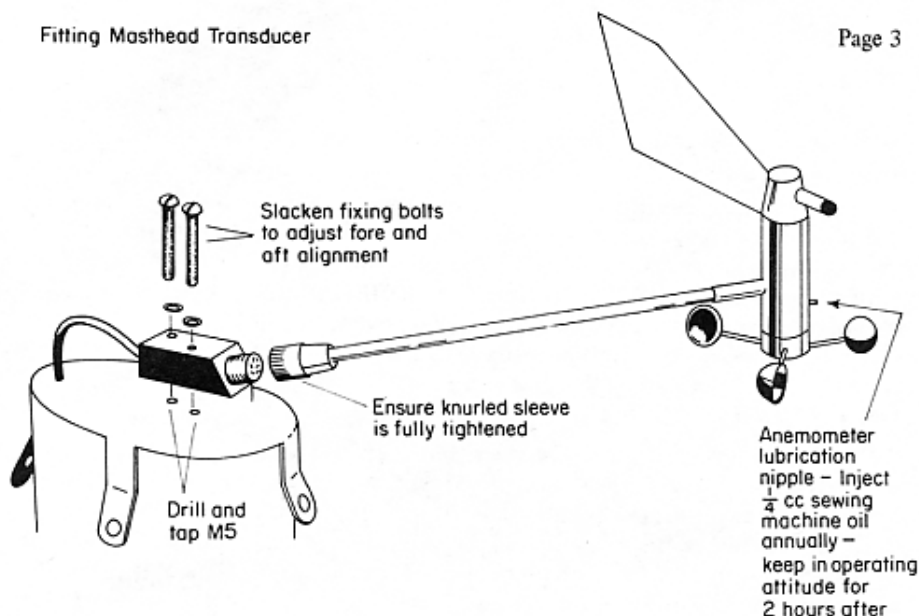
The masthead cable block should be carefully aligned on the masthead plate with the screwed end **ACCURATELY FACING FORWARD.** Using the block as a template, accurately mark out the centre positions for the attachment bolts. Check again that the block is pointing forward correctly as windangle zero adjustment (on head below) is limited. As attachment bolts are a slack fit in mast block, some adjustment is also possible here, (if bolts are properly centred!). Now drill 2 small pilot holes, open up to 4.2mm(11/64) diameter and screw tap the mast plate with an M5 hand tap. Fit mast block with sealing compound and the M5 stainless steel screws and washers provided. **NOTE:** M5 nuts are provided for use if there is access under mast plate.

The mast cable can now be fed down the mast. If the mast is deck stepped the cable must pass through the deck close to the mast, preferably through a 6mm($\frac{1}{4}$ ") gland. **DO NOT USE PLUGS AND SOCKETS AT THIS POINT OR ELSEWHERE.** A good quality internal deckhead terminal box under the mast is permissible – spray with moisture inhibitor occasionally.

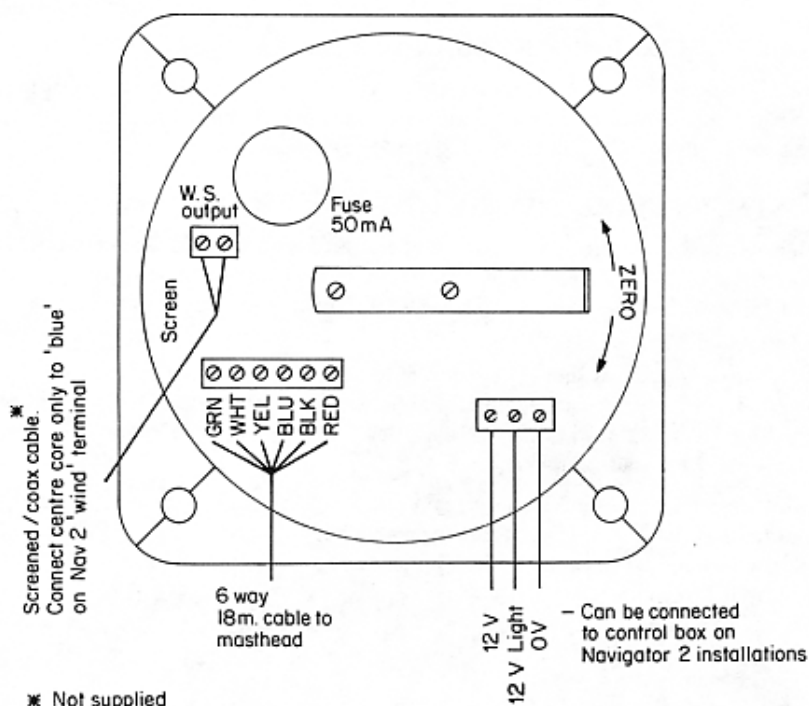
When fitting the masthead transducer take great care to avoid damage to pins, sockets and guide sleeve. Treat pins, sockets, guide sleeve and threads with silicone grease regularly.

POWER SUPPLY

The instrument should be connected to the ship's 12v supply using separate switches and lamp fuses for power and lighting supplies. If used with a Navigator 2 which has a serial number higher than 3000, switched supplies are available from the control box.



Wiring - rear view of instrument head



WIRING (See Diagram)

Firstly disconnect 12 volt power supply at main battery. Connection should now be made to terminal blocks at the rear of the instrument as shown. Use silicone grease, vaseline or WD 40 on wires and terminal blocks to minimise corrosion. NOTE: That incorrect wiring of 6 way cable or application of 12 volt supply to this cable CAN DAMAGE THE COSTLY MASTHEAD POTENTIOMETER. If windspeed connection to Navigator 2 is required any light coaxial or screened cable can be used. The screen is connected at wind monitor end only and length is not critical.

OPERATION/SETTING UP

With 12v power switched on, windangle and windspeed will be displayed, windspeed being updated every 2 seconds. The windangle pointer should be checked for correct 0° orientation when the vessel is pointing directly into wind. Small adjustments can be made by slackening the 2 screws on the zero adjuster (at rear of instrument head) ONE TURN ONLY and rotating zero adjuster in the direction required by the pointer. Retighten screws LIGHTLY. Please note that the instrument is not hermetically sealed on the reverse and condensation may occur in some conditions. This is not harmful and can be cleared by operation of lighting.

CLOSE HAULED/RUNNING METER

Fitting instructions are supplied separately for this product. All connections from the close hauled meter are made to the 6 way terminal block at the rear of the wind monitor head except lighting which is identical to the wind monitor.

MAINTENANCE/TROUBLE SHOOTING

No maintenance is required for the instrument head except that the connection terminal blocks at the rear should be sprayed with WD 40 or similar moisture displacing fluid at the beginning and end of each season. This is to prevent corrosion and seizure of the grub screws.

The masthead transducer should be removed to dry storage each winter and the protection cap firmly placed over masthead block after application of vaseline or silicone grease to socket and thread to prevent corrosion. Failure to fit protection cap will almost certainly make the socket unserviceable.

Trouble shooting procedures are principally to ensure that 12 volt power is correctly connected and that all connections are firmly made. Dirty, wet, corroded and poorly made connections in transducer and power cables are a key cause of equipment failure and must be avoided.

SERVICE

Please make certain that an instrument believed to be faulty does not merely require correct power supply wiring or transducer connections.

Should the unit have to be returned adequate packing with 80mm(3") of all round cushioning must be provided. Please quote the serial number (on rear of instrument head) in any correspondence.

WARRANTY

The instrument is fully guaranteed for 12 months from the date of purchase and claims under warranty must be accompanied by the original or true copy of the receipt of purchase. Please include your name and address, the serial number on the instrument and the reason for return.

WIND MONITOR

OPERATIONAL CHECK LIST & TROUBLE SHOOTING GUIDE

Stowe instruments are carefully proven and tested before shipment. However, installation conditions and procedures (and very occasionally, component failures within the instrument) can cause difficulties and the following check list will direct the user to the source and the remedy.

CONDITION	PROBABLE CAUSE (in order of probability)	ACTION
No wind speed and No wind direction	* 12 volt power supply not connected	Make correct connection in accordance with wiring diagram
	* 12 volt, 0 volt(+ & -) wiring reversed	Check and correct
	* Instrument head fuse blown	Investigate as follows: <ol style="list-style-type: none"> Check if fuse is blown using test meter – note that fuse wire is too fine to be sighted. If fuse is not blown, recheck steps above. If fuse is blown, check all masthead wiring carefully to ensure colour coding is correct at mast base connection (if applicable) and rear of display head. Also check for possible damage to cable at all points and stray strands at terminal connections. When all in order fit spare fuse.
IMPORTANT NOTE Fuse is 20mm x 5mm dia 50 or 65 milliamp. Do not substitute higher value fuse as a combination of incorrect wiring and higher value fuse can seriously damage the masthead transducer.		

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CONDITION	PROBABLE CAUSE (in order of probability)	ACTION
No wind speed	* Wiring error/damage	Check mast wiring is undamaged at deck level and no plug and socket fitted at this point. Check blue wire is correctly connected at mast base junction box (if fitted) and at rear of instrument head. Also check that blue link wire is connected to blue wind speed terminal on Nav 2.
	* Failed wind speed circuit in wind monitor display head	Remove blue wire from 6 way terminal on display head. Then using a short flexible wire connect black to blue terminal about once per second to simulate wind speed pulses. A reading higher than 0 indicates wind speed circuit OK. If not return display head to service centre.
	* Seized anemometer rotor	Return masthead transducer to service centre for bearing replacement.
High/erratic wind speed	* Poor wiring connections in mast cable	Check and remake.
	* Poor 12v power supply causing voltage fluctuation along mast cable	Connect equipment direct to battery to isolate effects of poor connections, volt drops in master switches, fuses etc.
Wind angle display seriously inaccurate OR not functioning in one sector OR not functioning at all	* Wiring error/damage	Check mast wiring is undamaged and correctly connected. In particular check that white, yellow and green (which each control 120° of movement) are not transposed or disconnected.

WIND MONITOR (continued)

CONDITION	PROBABLE CAUSE (in order of probability)	ACTION
	* Failed or damaged potentiometer in mast head transducer OR faulty pointer servo motor in display head.	Identification of faulty item for return can only be firmly established by substitution of known good mast head transducer or display head. Note however pointer servo motor failures in display head are comparatively rare.