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P80 INSTRUCTION MANUAL

SIGNETMARINE

2-4401.090 REV. B
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1.0 INTRODUCTION

THE SIGNET P80 IS A KNOTMETER, DEPTHSOUNDER, TEMPERATURE INDICATOR, AND A LOG BUILT INTO ONE COMPACT, EASY TO USE UNIT. ALL FUNCTIONS AND ALARM SETTINGS CAN BE DISPLAYED SIMULTANEOUSLY ON THE FORMATTABLE LIQUID CRYSTAL DISPLAY. A GLANCE AT THE SCREEN AND ANY ALARM SETTING CAN BE EASILY IDENTIFIED. ALARM FUNCTIONS INCLUDE HIGH AND LOW DEPTH ALARMS SETTABLE FROM 0.0 TO 500.0 FEET. THE LOG ALARM IS SETTABLE FOR A FIXED DISTANCE RUN FROM A CURRENT POSITION AND THE HIGH AND LOW SPEED ALARMS WARN OF EXTREME SPEED CONDITIONS.
EVEN WITH ITS SOPHISTICATED PERFORMANCE AND MICROPROCESSOR CIRCUITRY, THE P80 IS REMARKABLY SIMPLE TO USE. EACH FUNCTION CAN BE ACTIVATED WITH THE TOUCH OF A BUTTON AND ALARM DEPTH CAN BE SET IN JUST SECONDS. THE UNIT IS SHIPPED STANDARD WITH TRANSOM MOUNT MULTI-TRANSDUCER AND TILT-MOUNT BRACKET FOR INDICATOR INSTALLATION AND COMES WITH ALL THE REQUIRED CABLING AND HARDWARE.

THE SIGNET P80 HAS BEEN DESIGNED USING THE LATEST DEVELOPMENTS IN TECHNOLOGY. EACH UNIT HAS BEEN TESTED AND PASSED EXTENSIVE QUALITY CONTROL STANDARDS PRIOR TO PACKAGING FOR SHIPMENT. INCLUDED WITH YOUR P80 IS AN INSTRUCTION MANUAL WHICH INCLUDES AN OPERATION SECTION WHICH CONSISTS OF A DETAILED EXPLANATION OF THE OPERATION OF EACH FEATURE. THE INSTRUCTION MANUAL SERVES AS A QUICK REFERENCE OF OPERATION AND THEREFORE SHOULD BE KEPT NEAR YOUR P80.

WARNING

THE P80 IS ONLY AN AID TO THE SAFE OPERATION OF YOUR RECREATIONAL VESSEL, AND DOES NOT REDUCE THE NEED FOR CAUTION OR JUDGEMENT. WHEN OPERATING IN VERY SHALLOW WATER, LESS THAN 10.0 FEET, THE OPERATOR SHOULD EXCERCISE CAUTION (REDUCE SPEED) AND VERIFY THE FOLLOWING INFORMATION.

1. THE LOW DEPTH ALARM IS SET CORRECTLY WITH AUDIBLE ALARM ENABLED
2. THE SURFACE OFFSET IS CORRECT AND UNDERSTOOD
3. THE DEPTH TRANSDUCER INSTALLATION IS CORRECT

2.0 UNPACKING

YOUR P80 SYSTEM IS SHIPPED COMPLETE WITH ALL COMPONENTS AND REQUIRED CABLING AND HARDWARE FOR OPERATION. WHEN YOU RECEIVE THE P80 SYSTEM, INSPECT THE SHIPPING CONTAINER AFTER OPENING IT. IF THE PACKAGE SHOWS ANY OBVIOUS DAMAGE, CONTACT THE SHIPPING COMPANY IMMEDIATELY. IF THE PACKAGE APPEARS TO BE IN GOOD CONDITION, UNPACK THE CONTAINER AND VERIFY THAT ALL OF THE FOLLLOWING COMPONENETS ARE INCLUDED AND APPEAR IN GOOD CONDITION (SEE ALSO "SYSTEM COMPONENTS");

P80 INDICATOR (#2-4401.110)

MULTI-TRANSDUCER, INCLUDING MOUNTING (#2-2407.100)

CABLE ASSEMBLY, POWER (#2-1000.260)

MOUNTING KIT (#2-0000.100-X OR #1-0000.100)

PROTECTIVE COVER (#1-0000.513)

P80 :NSTRUCTION MANUAL (#2-4401.090)

3.1 MULTI-TRANSDUCER, WEDGE INSTALLATION

SELECTING LOCATION: BEST OPERATION IS USUALLY ACHIEVED WHEN THE TRANSDUCER IS MOUNTED CLOSE TO THE BOAT'S CENTERLINE. CENTERLINE INSTALLATION ASSSURES MINIMUM POTENTIAL AERATION OVER THE ACOUSTIC WINDOW OF THE TRANSDUCER. ON TWIN DRIVE INSTALLATIONS, IT IS BEST TO INSTALL BETWEEN THE DRIVES. ON SINGLE DRIVE INSTALLATIONS IT IS RECOMMENDED THAT THE TRANSDUCER BE MOUNTED ON THE SIDE OF THE BOAT WHERE THE PROPELLER BLADE IS ROTATING UPWARDS. IF POSSIBLE, THE TRANSDUCER SHOULD NOT BE MOUNTED DIRECTLY BEHIND ANY STRAKES, RIBS, INTAKES AND OUTLETS, OR ANY PROTRUSION WHICH MAY CAUSE TURBULANCE OR CAVITATION (ON SLOWER HEAVIER BOATS, GOOD RESULTS CAN BE ACHIEVED FURTHER FROM THE BOAT CENTERLINE).

BRACKET INSTALLATION: THE TRANSDUCER SHOULD BE ORIENTED VERTICALLY WITH THE WATER TO YIELD A VERTICALLY DIRECTED ACOUSTIC BEAM.

1. ATTACH THE TRANSDUCER TO THE BRACKET WITH THE STAINLESS STEEL HARDWARE PROVIDED (SEE FIG 1). HAND-TIGHTEN SCREWS SO THAT THE TRANSDUCER REMAINS IN PLACE.

2. PLACE TRANSDUCER AND BRACKET AT SELECTED LOCATION ON THE TRANSOM. ALIGN THE TRANSDUCER SO THAT THE BOTTOM SURFACE OF THE TRANSDUCER IS ABOUT 1/4" BELOW THE UNDERSIDE OF THE BOAT HULL (SEE FIG.2&3). DO NOT PLACE THE TRANSDUCER FURTHER DOWN BELOW THE BOAT UNDERSIDE BECAUSE IT WILL INCREASE DRAG, SPRAY AND WATER NOISE.

3. MARK OUTLINE OF SLOTS ON TRANSOM AND LOCATE CENTERLINES FOR SCREWS (SEE FIG 2). DRILL FOUR HOLES 1/2" DEEP, USING A #28 OR 9/64" DRILL (CAREFUL NOT TO GO TOO DEEP). IN FIBERGLASS HULLS CHAMFER THE PILOT HOLES TO PREVENT CRACKING (1/4" DRILL 1/16" DEEP).

4. USING TAPPING SCREWS PROVIDED, TIGHTEN BRACKET TO THE TRANSOM SO THAT THE BOTTOM OF THE TRANSDUCER IS FLUSH WITH THE UNDERSIDE OF THE BOAT (SEE FIG 3). SECURE TRANSDUCER TIGHTLY TO BRACKET.

5. ROUTE THE CABLE TO THE INSTRUMENT, KEEP THE CABLE CLEAR OF IGNITION, TACHOMETER, ALTERNATOR OR OTHER SOURCES OF ELECTRICAL INTERFERENCE.
NOTE: CONNECTOR REMOVAL OR CABLE SPLICING VOIDS TRANSDUCER WARRANTY.

NOTE: SOME HULLS ARE SPECIFICALLY DESIGNED TO DIRECT AIR UNDER THE HULL, MOVING THE TRANSDUCER AWAY FROM THE CENTERLINE CAN IMPROVE PERFORMANCE.

3.1 WEDGE MULTI-TRANSDUCER INSTALLATION

(2-2407.100)

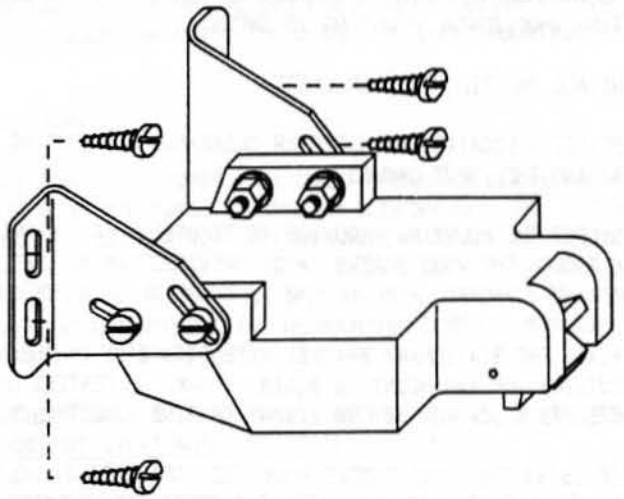


FIGURE 1
BRACKET ASSEMBLY

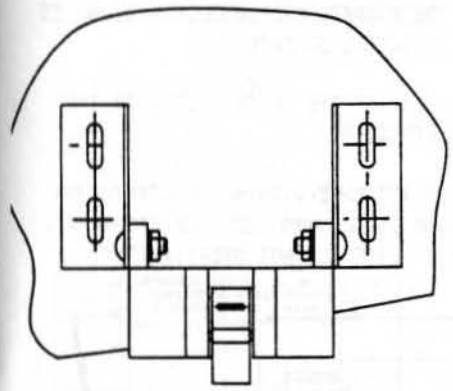


FIGURE 2
LOCATING HOLES

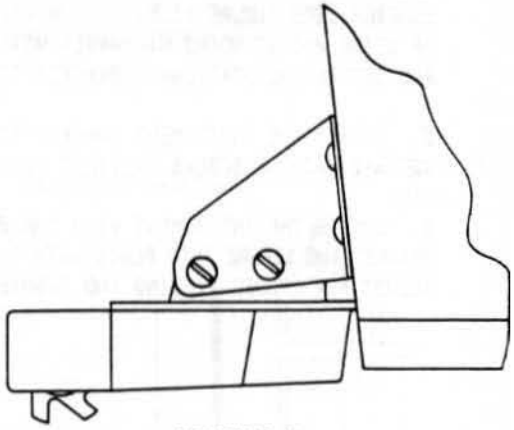


FIGURE 3
TRANSDUCER LOCATION

NOTE: IF THE VESSEL IS KEPT IN SALT WATER FOULING MAY OCCUR, IF FOULING OCCURS, USE A STIFF BRUSH OR PUTTY KNIFE TO REMOVE GROWTH. WET SANDING OF TRANSDUCER BOTTOM IS PERMISSIBLE WITH #220 OR FINER GRADE WET OR DRY SAND-PAPER.
IF PADDLEWHEEL BECOMES FOULED REMOVE PADDLEWHEEL ASSEMBLY FROM THE MAIN HOUSING FOR CLEANING. THE SPEED SENSOR SHAFT IS DESIGNED TO FRACTURE UPON IMPACT. BE SURE TO REMOVE SPEED SENSOR BEFORE BEACHING THE BOAT. SPARE SPEED SENSORS ARE AVAILABLE THROUGH SIGNETMARINE.

3.2.1 TILTMOUNT INSTALLATION

THE P80 HAS (4) BRASS MOUNTING INSERTS LOCATED SYMMETRICALLY ON THE REAR OF THE INSTRUMENT WHICH IS CAPABLE OF SUPPORTING HORIZONTAL AND VERTICAL MOUNTING (HORIZONTAL MOUNTING IS SHOWN).

TO INSTALL THE TILTMOUNT BRACKETS:

1. SELECT A LOCATION WITH PROPER CLEARANCE FOR TILTING AND ACCESS TO THE KEYPAD AND THE INPUT CABLES.

2. SELECT THE MOUNTING HARDWARE TO BE USED. IF THE MOUNTING SURFACE IS THICK ENOUGH THE WOOD SCREWS (#10) PROVIDED CAN BE USED. A THINNER PANEL MAY REQUIRE STANDARD (#10) MACHINE HARDWARE OR (#10) MOLYBOLTS (NOT PROVIDED).

3. PLACE THE STATIONARY BRACKET (SEE FIGURE 1) ON THE MOUNTING SURFACE AND OUTLINE THE TWO MOUNTING SLOTS. MARK THE CENTERS OF THE SLOTS (KIDNEY SHAPE SLOTS ALLOW FOR ±8° ROTATION FOR FINE ADJUSTMENT).

4. IF USING THE WOOD SCREWS PROVIDED, DRILL PILOT HOLES (#28 DRILL OR 9/64" DRILL) 1/2" DEEP. TIGHTEN THE STATIONARY BRACKET TO THE MOUNTING SURFACE (SEE FIGURE 1).
IF USING #10 STANDARD HARDWARE (NOT PROVIDED) DRILL PROPER CLEARANCE HOLES AND SECURE THE STATIONARY BRACKET TO THE MOUNTING SURFACE.

5. ATTACH THE INSTRUMENT BRACKET TO THE BACK OF THE INSTRUMENT WITH THE (2) #10 MACHINE SCREWS PROVIDED (SEE FIGURE 2).

6. LOCATE THE INSTRUMENT WITH THE BRACKET ATTACHED WITHIN THE STATIONARY BRACKET AND SECURE INTO PLACE WITH THE THUMB SCREWS PROVIDED (SEE FIGURE 2). ADJUST FOR PROPER VIEWING AND TIGHTEN INTO PLACE (DO NOT OVERTIGHTEN).

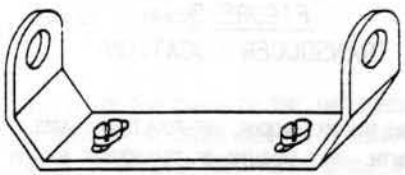


FIGURE 1
(STATIONARY BRACKET)

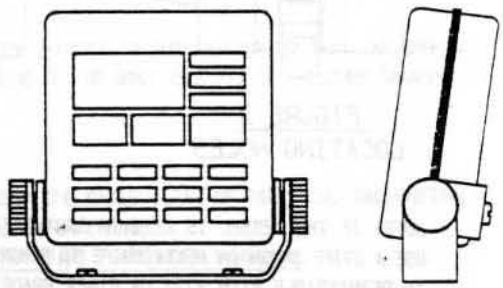


FIGURE 2
(TILTMOUNT ASSEMBLY)

3.2.2 BULKHEAD INSTALLATION

AN OPTIONAL MOUNTING FOR THE P80 ALLOWS FOR FLUSH MOUNTING AGAINST AN INSTRUMENT PANEL OR BULKHEAD USING THE SIGNET BULKHEAD MOUNTING KIT (#1-0000.100).

BULKHEAD INSTALLATION:

1. SELECT A LOCATION WITH PROPER INSTRUMENT OPERATION CLEARANCE WITH 2" OF CLEARANCE BEHIND THE PANEL (CONNECTOR CLEARANCE). THE INSTRUMENT SHOULD BE MOUNTED TO INSURE A 90° VIEWING ANGLE FROM ALL POSITIONS IN THE COCKPIT.

2. FOLLOW THE INSTRUCTIONS PRINTED ON THE MOUNTING TEMPLATE PROVIDED FOR DRILLING OPERATION (SEE FIGURE 1).

3. ATTACH THREADED STUDS TO THE 4 BRASS INSERTS LOCATED ON THE REAR OF THE INSTRUMENT (DO NOT OVERTIGHTEN STUDS TO INSTRUMENT).

4. PLACE INSTRUMENT (WITH STUDS ATTACHED) AND GASKET AGAINST THE INSTRUMENT PANEL AND TIGHTEN THE WING NUTS EVENLY (DO NOT OVERTIGHTEN) TO INSURE EVEN COMPRESSION OF THE SOFT GASKET (SEE FIGURE 2).

TOOLS REQUIRED:

- DRILL WITH A 1/4" DRILL BIT
- 2" DIA HOLE SAW
- STANDARD SCREWDRIVER (SMALL)

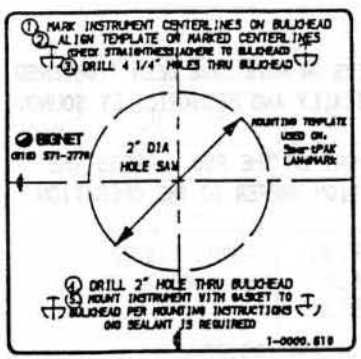


FIGURE 1
(MOUNTING TEMPLATE)

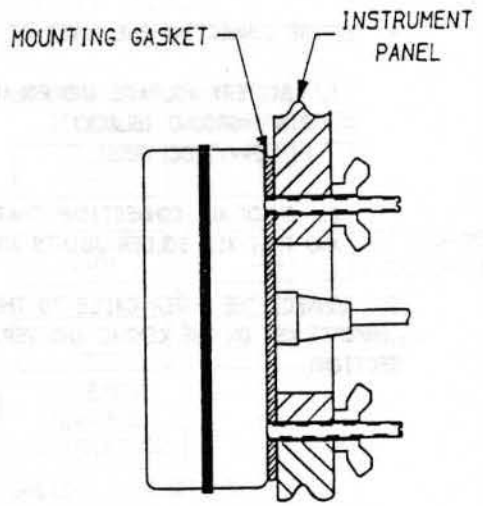


FIGURE 2
(BULKHEAD ASSEMBLY)

3.2.3 POWER SOURCE HOOK-UP

THE P80 IS POWERED BY A STANDARD 12 VOLT BATTERY (CAR OR MARINE TYPE). WHENEVER POSSIBLE, AVOID USING THE STARTING BATTERY FOR THE P80 POWER. FOR BOATS WITH ONLY ONE BATTERY, IT IS RECOMMENDED THAT THE P80 BE TURNED OFF BEFORE STARTING (THE P80 IS PROTECTED BY A 1 AMP FUSE).

FOLLOW THE HOOK-UP PROCEDURES OUTLINED:

1. THE RED WIRE MAY BE CONNECTED TO A CIRCUIT BREAKER OR FUSE BLOCK WITH A CURRENT RATING OF 1 AMP. SINCE THE CABLE INCLUDES A 1 AMP IN-LINE FUSE THE RED WIRE CAN BE CONNECTED DIRECTLY TO THE "+" TERMINAL OF THE BATTERY. THE BLACK WIRE CONNECTS TO THE (-) COMMON GROUND, BATTERY NEGATIVE TERMINAL.

2. AVOID SHARING CIRCUIT BREAKERS WITH CB, VHF, OR SSB RADIOS. IT MAY CAUSE INTERFERENCE TO THE DEPTHSOUNDER RECEIVER.

3. FOR PROPER PIN ASSIGNMENTS OF THE POWER CONNECTOR, REFER TO THE "PORT DIAGRAMS".

4. BEFORE CONNECTING THE POWER OT THE P80, IT IS GOCD PRACTICE TO VERIFY:

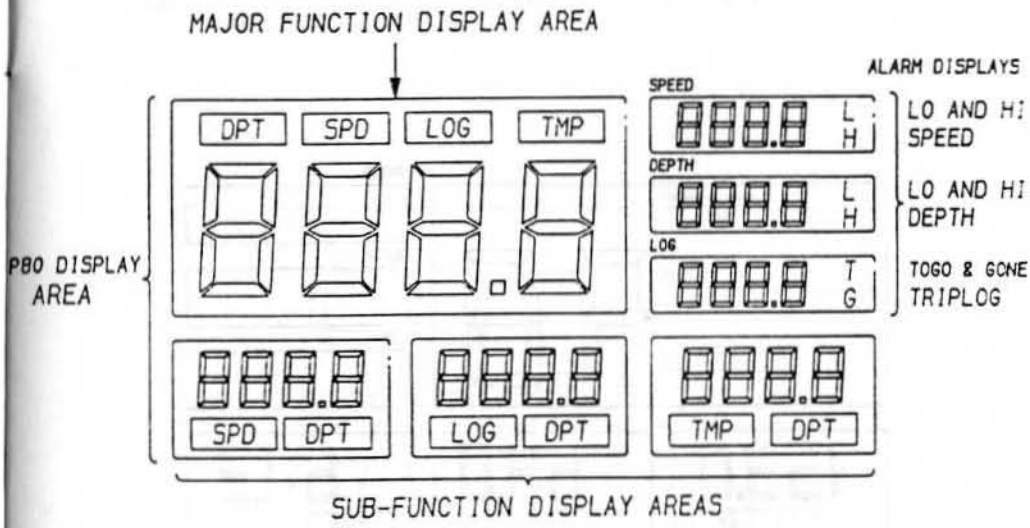
   1. BATTERY VOLTAGE AND POLARITY:
      PIN 1=GROUND (BLACK)
      PIN 2=+12VDC (RED)

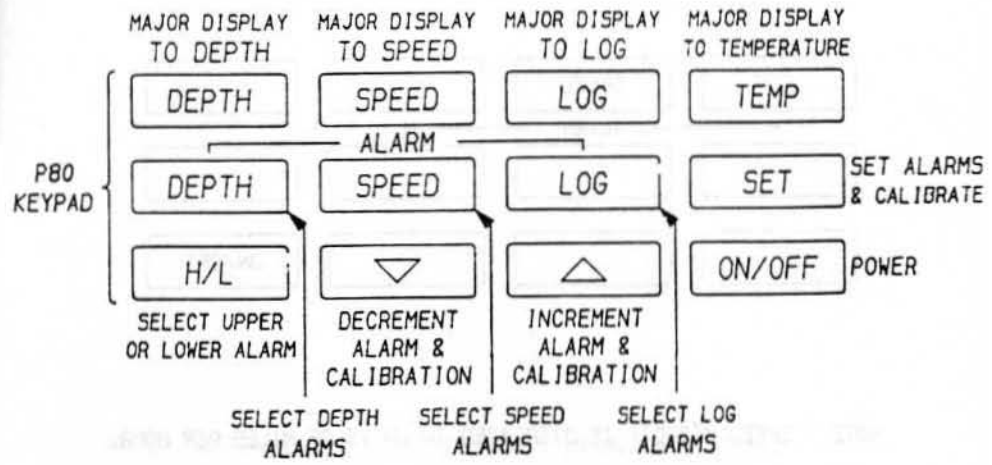
   2. CHECK ALL CONNECTIONS THAT USE SCREWS OR NUTS HAVE BEEN TIGHTENED AND THAT ALL SOLDER JOINTS ARE ELECTRICALLY AND MECHANICALLY SOUND.

5. CONNECT THE POWER CABLE TO THE "PWR" PORT OF THE P80. PRESS THE "ON/OFF" KEY ON THE KEYPAD AND VERIFY OPERATION (REFER TO THE OPERATION SECTION).

4.1 INSTRUMENT LAYOUT

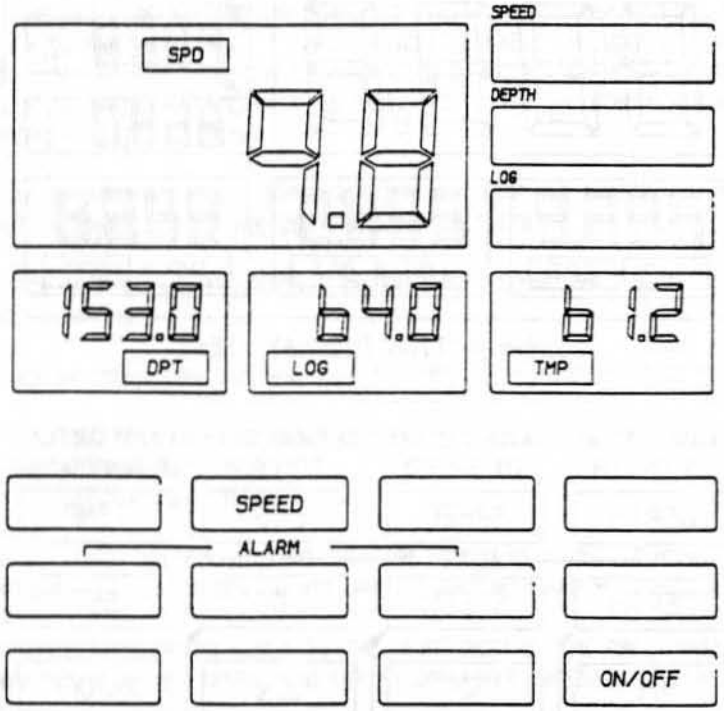
SHOWN BELOW IS A QUICK REFERENCE WHICH BRIEFLY DESCRIBES THE P80 TERMINOLOGY AND OPERATION (SEE OPERATION SECTION FOR DETAILS).





4.2.1 SPEED MODE ("SPD")

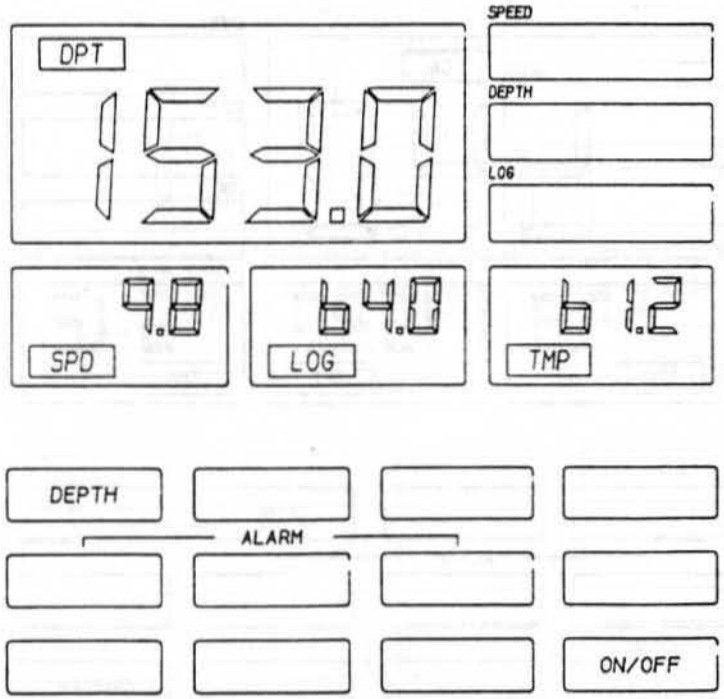
UPON POWER-UP DEPTH IS DISPLAYED IN THE MAJOR FUNCTION AREA, AT ANY TIME THE SPEED CAN BE DISPLAYED IN THE MAJOR FUNCTION AREA BY PRESSING THE "SPEED" KEY SHOWN BELOW. THE SPEED VALUE CAN BE CALIBRATED (SEE "CALIBRATING SPEED"). TWO SPEED ALARMS ARE AVAILABLE: LOW SPEED, AND HIGH SPEED (SEE "SETTING SPEED ALARMS").



NOTE: SPEED ("SPD") IS DISPLAYED IN UNITS OF MILES PER HOUR.

4.2.2 DEPTH MODE ("DPT")

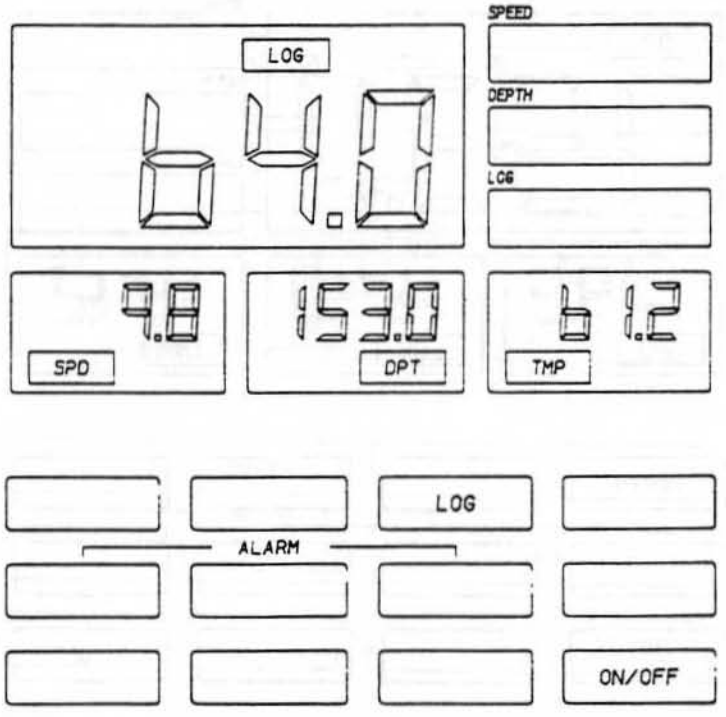
UPON POWER-UP DEPTH IS DISPLAYED IN THE MAJOR FUNCTION AREA, AT ANY OTHER TIME DEPTH CAN BE DISPLAYED IN THE MAJOR FUNCTION AREA BY PRESSING THE "DEPTH" KEY SHOWN BELOW. THE DEPTH VALUE CANNOT BE CALIBRATED BUT A SURFACE OFFSET IS AVAILABLE (SEE "SETTING SURFACE OFFSET"). THREE DEPTH ALARMS ARE AVAILABLE: LOW DEPTH, HIGH DEPTH, AND ANCHOR WATCH (SEE "SETTING DEPTH ALARMS").



NOTE: DEPTH ("DPT") IS DISPLAYED IN UNITS OF FEET.

4.2.3 LOG MODE ("LOG")

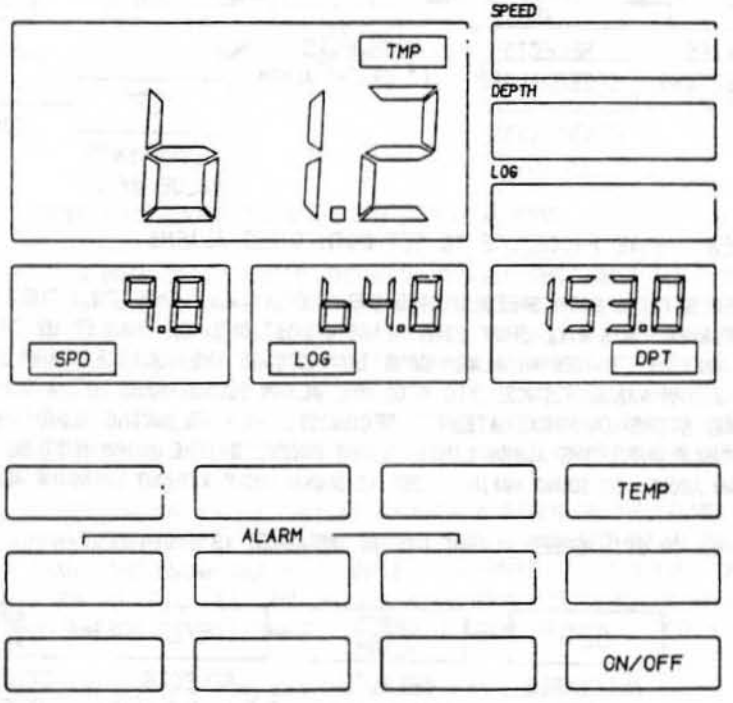
UPON POWER-UP DEPTH IS DISPLAYED IN THE MAJOR FUNCTION AREA, AT ANY TIME THE LOG CAN BE DISPLAYED IN THE MAJOR FUNCTION AREA BY PRESSING THE "LOG" KEY SHOWN BELOW. THE LOG VALUE IS INDIRECTLY CALIBRATED ACCORDING TO SPEED CALIBRATION (SEE "CALIBRATING SPEED"). THE LOG VALUE IS RESETTABLE (SEE "RESETTING LOG"). TWO LOG ALARMS ARE AVAILABLE: TOGO ("T"), AND GONE ("G") (SEE "SETTING LOG ALARMS").



NOTE: LOG ("LOG") IS DISPLAYED IN UNITS OF MILES.

4.2.4 TEMPERATURE MODE ("TMP")

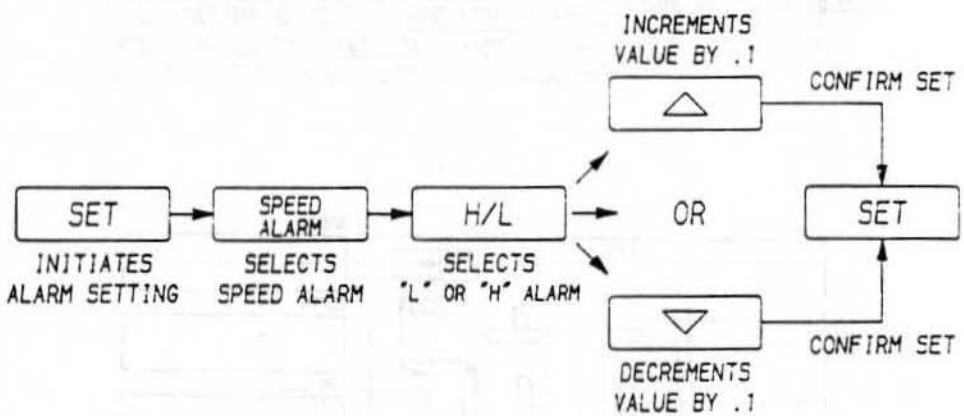
UPON POWER-UP DEPTH IS DISPLAYED IN THE MAJOR FUNCTION AREA, AT ANY TIME THE TEMPERATURE CAN BE DISPLAYED IN THE MAJOR FUNCTION AREA BY PRESSING THE "TEMP" KEY SHOWN BELOW. THE TEMPERATURE VALUE CANNOT BE CALIBRATED AND THERE ARE NO TEMPERATURE ALARMS AVAILABLE.



NOTE: TEMPERATURE ("TMP") IS DISPLAYED IN UNITS OF °F.

4.3.1 SETTING SPEED ALARMS

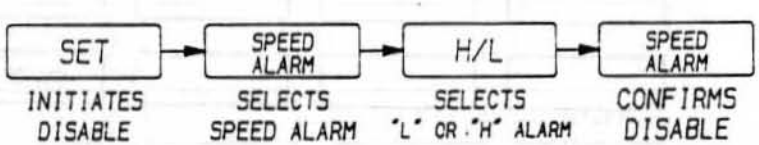
THE SPEED ALARMS (2) CAN BE SET AS SHOWN BELOW:



REPEAT ABOVE PROCEDURE TO SET BOTH SPEED ALARMS.

AFTER SETTING BOTH SPEED ALARMS THE DISPLAY WILL SHOW ONLY THE LAST VALUE CONFIRMED, BUT WILL SHOW BOTH ALARM CONDITIONS ARE ENABLED BY DISPLAYING "L" AND "H". WHEN AN ALARM CONDITION OCCURS THE AUDIBLE ALARM SOUNDS AND THE ALARM VALUE BLINKS. TO STOP THE ALARM SOUND PRESS SET AND HOLD UNTIL SOUND STOPS (APPROXIMATELY 5 SECONDS). THE BLINKING ALARM VALUE WILL CONTINUE UNTIL THE ALARM LIMIT IS NOT EXCEEDED (THE ALARM MUST BE SET, AS SHOWN ABOVE, TO SOUND AGAIN). SET AS SHOWN ABOVE WITHOUT CHANGING ALARM VALUE.

EITHER OR BOTH SPEED ALARMS CAN BE DISABLED AS SHOWN BELOW:

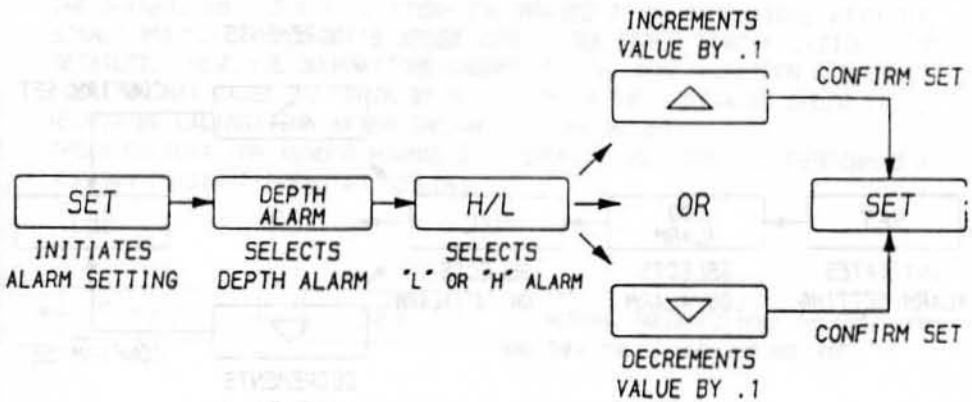


REPEAT THE ABOVE PROCEDURE TO DISABLE BOTH SPEED ALARMS.

NOTE: PRESSING THE "△" OR THE "▽" FOR MORE THAN 2 SECONDS CAUSES THE DISPLAYED VALUE TO CHANGE AT A FASTER RATE.

4.3.2 SETTING DEPTH ALARMS

THE DEPTH ALARMS (2) CAN BE SET AS SHOWN BELOW:

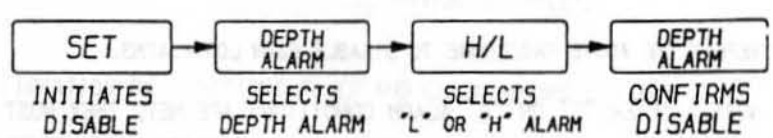


REPEAT ABOVE PROCEDURE TO SET BOTH DEPTH ALARMS.

AFTER SETTING BOTH DEPTH ALARMS THE DISPLAY WILL SHOW ONLY THE LAST VALUE CONFIRMED, BUT WILL SHOW BOTH ALARM CONDITIONS ARE ENABLED BY DISPLAYING "L" AND "H". WHEN AN ALARM CONDITION OCCURS THE AUDIBLE ALARM SOUNDS AND THE ALARM VALUE BLINKS. TO STOP THE ALARM SOUND PRESS SET AND HOLD UNTIL SOUND STOPS (APPROXIMATELY 5 SECONDS). THE BLINKING ALARM VALUE WILL CONTINUE UNTIL THE ALARM LIMIT IS NOT EXCEEDED (THE ALARM MUST BE SET, AS SHOWN ABOVE, TO SOUND AGAIN). SET AS SHOWN ABOVE WITHOUT CHANGING THE ALARM VALUE.

NOTE: TO SET ANCHOR WATCH (DEVIATION FROM A GIVEN DEPTH VALUE) SET LO ALARM ABOVE (SHALLOWER THAN) THE KNOWN DEPTH AND SET HI ALARM BELOW (DEEPER THAN) THE KNOWN DEPTH. (EXAMPLE: ANCHORED IN 50.0 FEET OF WATER SET LO ALARM TO 45.0 FEET AND HI ALARM TO 55.0 FEET, ALARM WILL SOUND GIVEN ANY BOTTOM DEVIATION OF >5.0 FEET FROM ORIGINAL DEPTH VALUE).

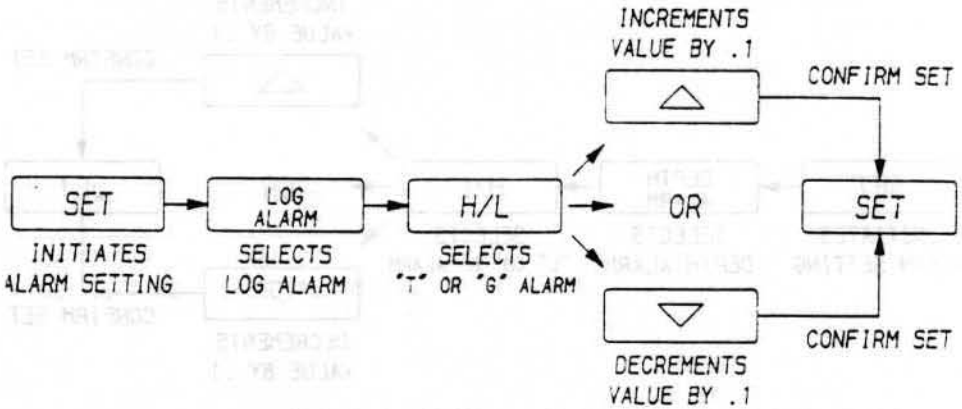
EITHER OR BOTH DEPTH ALARMS CAN BE DISABLED AS SHOWN BELOW:



REPEAT THE ABOVE PROCEDURE TO DISABLE BOTH DEPTH ALARMS.

4.3.3 SETTING LOG ALARMS

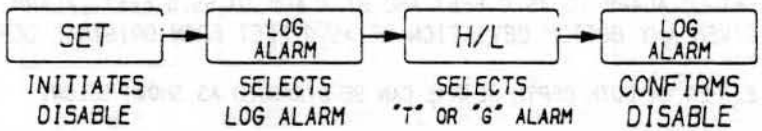
THE LOG ALARMS (2) CAN BE SET AS SHOWN BELOW:



REPEAT ABOVE PROCEDURE TO SET BOTH LOG ALARMS.

AFTER SETTING BOTH LOG ALARMS THE DISPLAY WILL SHOW ONLY THE LAST VALUE CONFIRMED, BUT WILL SHOW BOTH ALARM CONDITIONS ARE ENABLED BY DISPLAYING "T" AND "G". WHEN AN ALARM CONDITION OCCURS THE AUDIBLE ALARM SOUNDS AND THE ALARM VALUE BLINKS. TO STOP THE ALARM SOUND PRESS SET AND HOLD UNTIL SOUND STOPS (APPROXIMATELY 5 SECONDS). THE BLINKING ALARM VALUE WILL CONTINUE UNTIL THE ALARM LIMIT IS NOT EXCEEDED (THE ALARM MUST BE SET, AS SHOWN ABOVE, TO SOUND AGAIN). SET AS SHOWN ABOVE WITHOUT CHANGING THE ALARM VALUE.

EITHER OR BOTH LOG ALARMS CAN BE DISABLED AS SHOWN BELOW:

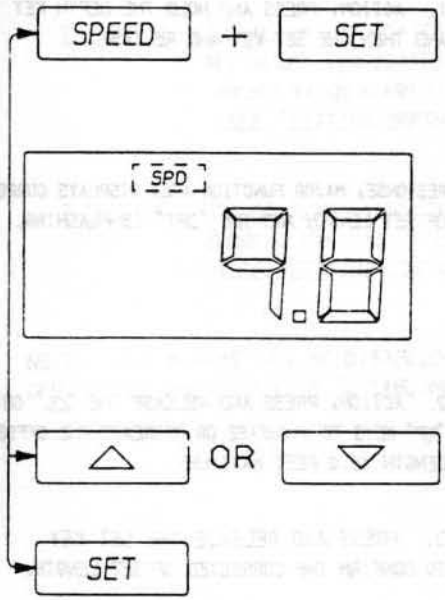


REPEAT THE ABOVE PROCEDURE TO DISABLE BOTH LOG ALARMS.

NOTE: AFTER "T" OR "G" ALARM CONDITIONS ARE MET, THEY MUST BE RESET.

4.4.1 CALIBRATING SPEED

THE SIGNET P80 HAS BEEN FACTORY CALIBRATED TO BE COMPATIBLE WITH THE SIGNET MULTI-TRANSDUCER'S SPEED INPUT (SEE SPEED SPECIFICATIONS FOR DETAILS). HOWEVER, VARIATIONS CAUSED BY HULL CONFIGURATION AND SENSOR LOCATION MAY CAUSE AN ERROR OF UP TO 20% IN THE INDICATED SPEED VALUE, REQUIRING CALIBRATION AFTER THE UNIT IS INSTALLED.
SPEED CALIBRATION (UNDER NORMAL BOAT SPEED CONDITIONS) IS PERFORMED AT A KNOWN CONSTANT SPEED AS FOLLOWS:



1. ACTION: PRESS AND HOLD THE SPEED KEY AND THEN THE SET KEY AND RELEASE.

RESPONSE: MAJOR FUNCTION AREA DISPLAYS SPEED AND THE "SPD" IS FLASHING.

2. ACTION: PRESS AND RELEASE THE "△" OR "▽" KEYS TO INCREASE OR DECREASE THE SPEED VALUE UNTIL THE CORRECTED VALUE IS OBTAINED. (CHANGES SLOWLY BY .1).

3. PRESS AND RELEASE THE SET KEY TO CONFIRM THE CORRECTED SPEED VALUE.

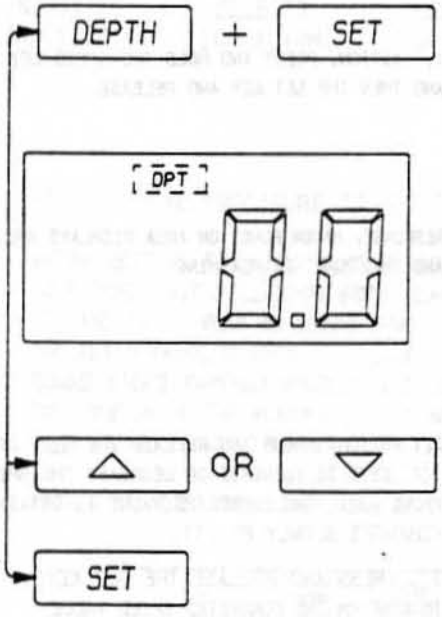
RESPONSE: THE "SPD" STOPS FLASHING AND CALIBRATION IS COMPLETE.

VERIFY CALIBRATION BY RESETTING POWER AND CHECKING SPEED VALUE.

NOTE: IF SPEED IS CALIBRATED > ± 20% OF FACTORY VALUE, THE LOG VALUE WILL NOT BE CORRECT, AND UPON POWER RESET THE FACTORY CALIBRATION WILL BE RETAINED.

4.4.2 SETTING SURFACE OFFSET

THE SIGNET P80 IS CAPABLE OF RETAINING A SURFACE OFFSET LENGTH (THE LENGTH IN FEET FROM THE BOTTOM OF THE DEPTH TRANSDUCER TO THE BOAT'S WATERLINE). THE SURFACE OFFSET SHOULD BE SET IF YOUR BOAT DRAWS MORE THAN 1 FOOT OF WATER AND YOU ARE CONCERNED WITH ACCURATE WATER DEPTH (NOT DEPTH FROM THE BOTTOM OF THE TRANSDUCER) READINGS IN SHALLOW WATER. TO SET THE SURFACE OFFSET, MEASURE THE LENGTH IN FEET FROM THE BOTTOM OF THE DEPTH TRANSDUCER TO THE BOAT'S WATERLINE AND ENTER THE OFFSET LENGTH AS FOLLOWS:



1. ACTION: PRESS AND HOLD THE DEPTH KEY AND THEN THE SET KEY AND RELEASE.

RESPONSE: MAJOR FUNCTION AREA DISPLAYS CURRENT OFFSET LENGTH AND THE "DPT" IS FLASHING.

2. ACTION: PRESS AND RELEASE THE "△" OR "▽" KEYS TO INCREASE OR DECREASE THE OFFSET LENGTH (8.0 FEET MAXIMUM).

3. PRESS AND RELEASE THE SET KEY TO CONFIRM THE CORRECTED OFFSET LENGTH.

RESPONSE: THE "DPT" STOPS FLASHING AND THE SURFACE OFFSET IS SET.

VERIFY OFFSET LENGTH BY FOLLOWING STEPS 1 AND 3.

4.5.1 ALARM FUNCTIONS

THE P80 IS CAPABLE OF DISPLAYING UP TO THREE USER SET AUDIBLE ALARM CONDITIONS AT ONE TIME AND ENABLING UP TO SIX AUDIBLE ALARM CONDITIONS. THERE ARE THREE DEDICATED ALARM DISPLAY AREAS (SPEED, DEPTH, LOG) LOCATED IN THE UPPER RIGHT-HAND CORNER OF THE P80 DISPLAY. THE ALARM CONDITIONS ASSOCIATED WITH THE THREE FUNCTIONS ARE:

SPEED: LO ALARM (INDICATES SPEED SLOWER THAN SET SPEED)
HI ALARM (INDICATES SPEED FASTER THAN SET SPEED)
(SEE "SETTING SPEED ALARMS")

DEPTH: LO ALARM (INDICATES A DEPTH LESS THAN SET DEPTH)
HI ALARM (INDICATES A DEPTH GREATER THAN SET DEPTH)
ANCHOR WATCH ALARM (INDICATES CHANGE FROM A KNOWN BOTTOM DEPTH)
(SEE "SETTING DEPTH ALARMS")

LOG: TO GO ALARM (INDICATES MILES LEFT, ALARM SOUNDS AT 0.0)
GONE ALARM (INDICATES MILES GONE, ALARM SOUNDS AT SET DISTANCE)
(SEE "SETTING LOG ALARMS")

NOTE: ALL ALARMS CAN BE DISABLED, ENABLED, OR SELECTIVELY DISABLED AS DEFINED BY THE USER (SEE "DISABLING ALARMS").

4.5.2 DISABLING ALARM SOUND

THE AUDIBLE (SOUND) PORTION OF AN ALARM CAN BE IMMEDIATELY DISABLED AS FOLLOWS:

SET	ACTION: WHILE ALARM CONDITION IS PRESENT PRESS AND HOLD THE SET KEY FOR MORE THAN 5 SECONDS. RESPONSE: ALARM SOUND DISCONTINUES.

NOTE: ALARM VALUE WILL CONTINUE FLASHING UNTIL ALARM CONDITION IS NOT NOT EXCEEDED. ALARM SOUND IS DISABLED FOR THE GIVEN ALARM CONDITION, AND MUST BE RESET TO ENABLE THE AUDIBLE (SOUND) PORTION OF THE ALARM.

4.5.3 DISABLING ALARM

SPEED ALARM	SET	SPEED ALARM	H/L	SPEED ALARM
	INITIATES DISABLE	SELECTS SPEED ALARM	SELECTS "L" OR "H" ALARM	CONFIRMS DISABLE

REPEAT THE ABOVE PROCEDURE TO DISABLE BOTH SPEED ALARMS.

DEPTH ALARM	SET	DEPTH ALARM	H/L	DEPTH ALARM
	INITIATES DISABLE	SELECTS DEPTH ALARM	SELECTS "L" OR "H" ALARM	CONFIRMS DISABLE

REPEAT THE ABOVE PROCEDURE TO DISABLE BOTH DEPTH ALARMS.

LOG ALARM	SET	LOG ALARM	H/L	LOG ALARM
	INITIATES DISABLE	SELECTS LOG ALARM	SELECTS "T" OR "G" ALARM	CONFIRMS DISABLE

REPEAT THE ABOVE PROCEDURE TO DISABLE BOTH LOG ALARMS.

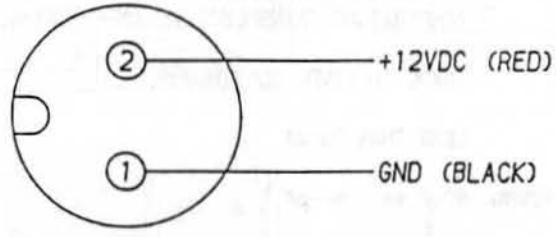
4.5.4 RESETTING LOG

THE LOG CAN BE RESET TO 0.0 AS SHOWN:

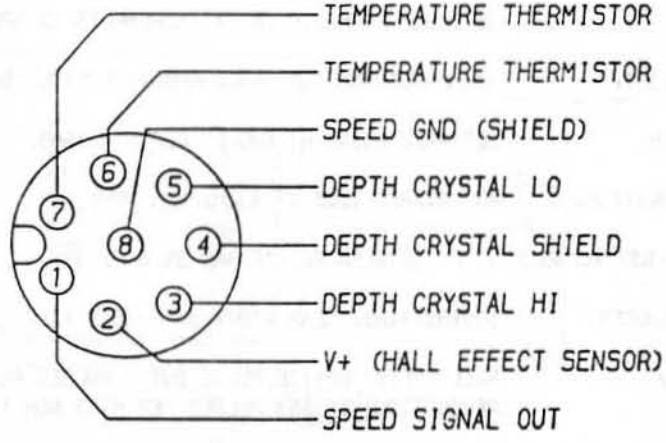
RESET LOG	SET	LOG ALARM	ACTION: PRESS AND RELEASE THE SET KEY, PRESS THE LOG ALARM KEY FOR > 5 SECONDS. RESPONSE: LOG RESETS TO 0.0
	INITIATES RESET	SELECTS LOG	

4.5.5 PORT DIAGRAMS

"PWR" PORT



"XDCR" PORT

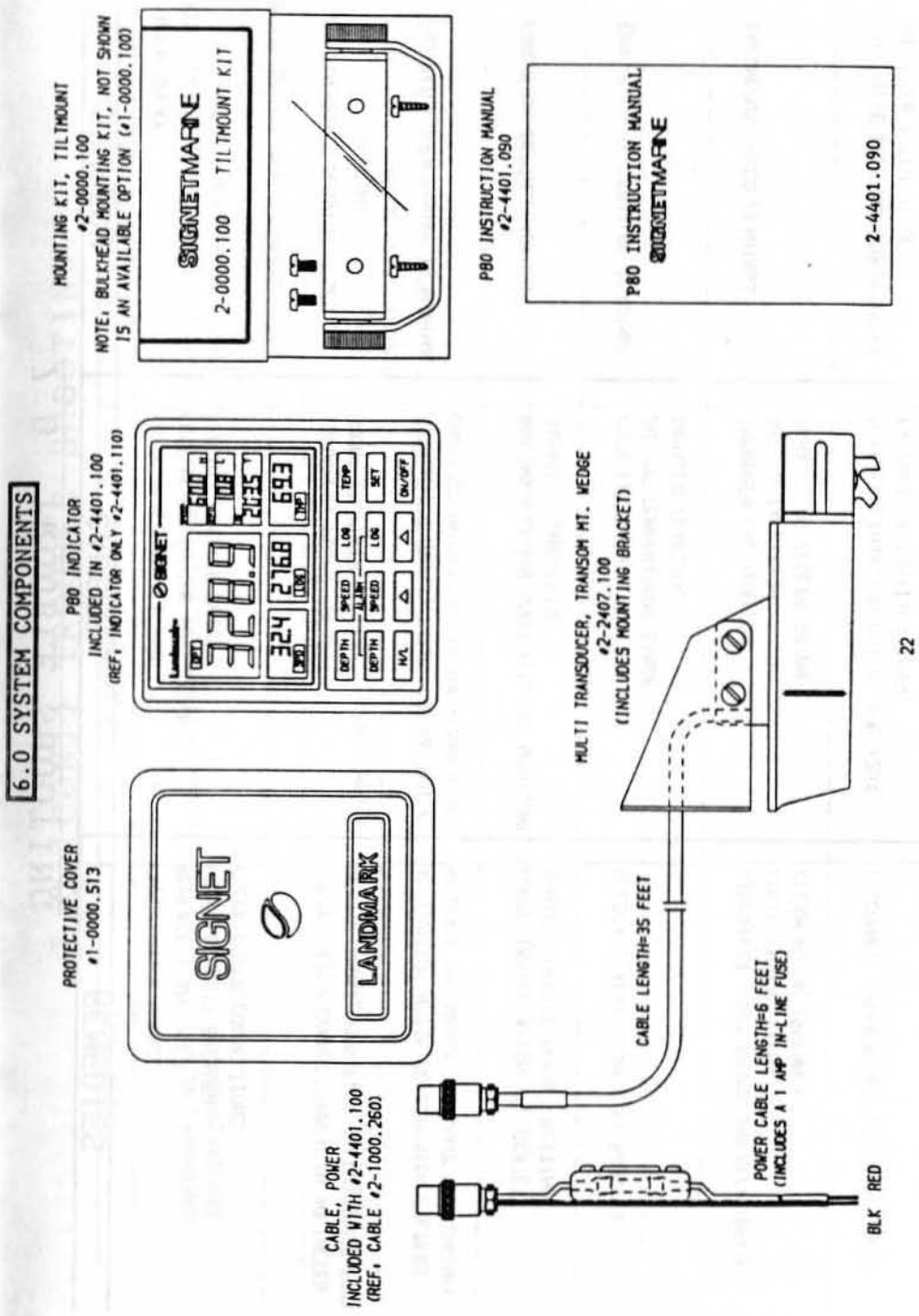


5.0 SPECIFICATIONS

CONSTRUCTION:	UV PROTECTED ABS ENCLOSURE WITH SOFT SILICONE SEAL.
DIMENSIONS:	4.2" X 4.2" X 1.5" DEEP
OPERATING TEMPERATURE:	10°F TO 140°F
DISPLAY TYPE:	LIQUID CRYSTAL DISPLAY, 1/3 DUTY CYCLE, HIGH TEMPERATURE, TRANSFLECTIVE, TOP-VIEWING, BACKLIT.
OPERATING VOLTAGE:	10VDC TO 16VDC CONTINUOUS.
POWER DRAIN:	LESS THAN 200mA
DEPTHSOUNDER OUTPUT POWER:	60.0 WATT pK-pK
DEPTH RANGE:	3.0 TO 500.0 FEET (NOM).
SPEED RANGE:	0.0 TO 60.0 MPH (NOM).
LOG RANGE:	0.0 TO 999.9 MILES (RESETTABLE).
TEMPERATURE RANGE:	32.0 TO 99.0°F
ALARMS:	SETTABLE FROM 0.0 IN .1 INCREMENTS (2 SPEEDS)
SURFACE OFFSET:	ADJUSTABLE FROM 0.0 TO 8.0 FEET IN 1.0 FOOT INCREMENTS
ANCHOR WATCH:	SETTABLE USING HI AND LO DEPTH ALARMS.
SPEED CALIBRATION:	ADJUSTABLE ±20% (5.432Hz/MPH NOM)
WATER TEMPERATURE ACCURACY:	±1°F (BETWEEN 50.0°F AND 99.0°F)
DEPTH TRANSDUCER:	200kHz±4kHz, BEAM WIDTH AT -3dB=9°±1°
SPEED SENSOR:	HALL EFFECT DEVICE, PULSE OUT=3 PULSES PER REVOLUTION (19,554 PULSES PER MILE NOM.)
TEMPERATURE SENSOR:	THERMISTOR, 10kΩ NOM. AT 25°C

NOTE: ALL SETTABLE/CALIBRATEABLE FEATURES ARE NON VOLATILE

6.0 SYSTEM COMPONENTS



SYMPTOM	CAUSES	REMEDIES
ALARM SOUNDS CONTINUOUSLY	ALARM CONDITIONS SET	DISABLE ALARMS AND RESET DISABLE ALARM SOUND
CONTINUOUS FOULING, TRANSDUCER GROWTH	HARSH ENVIRONMENTAL CONDITIONS	COAT BOTTOM OF TRANSDUCER WITH COPPER- BASED ANTI-FOULING PAINT (SLIGHTLY REDUCES DEPTHSOUNDER SENSITIVITY) ROUTINE CLEANING (DO NOT USE SOLVENTS)

7.0 (CONT) TROUBLE SHOOTING

7.0 TROUBLE SHOOTING

SYMPTOM	CAUSES	REMEDIES
NO DISPLAY	NO DC POWER TO THE PBO FUSE BLOWN IN THE POWER CABLE CIRCUIT BREAKER BLOWN	CHECK POWER SOURCE REPLACE 1 AMP FUSE RESET CIRCUIT BREAKER CHECK POWER CONNECTIONS
CONTINUOUSLY BLOWING FUSES	INCORRECT POWER POLARITY SHORT ON POWER SUPPLY	CHECK SUPPLY CONNECTIONS WITH VOLTMETER REMOVE SHORT CONDITION (WATER/WIRES ETC)
PBO FAILS WHEN ENGINE IS RUNNING	ALTERNATOR NOISE, OTHER ENGINE NOISE CONDUCTED INTERFERENCE ON THE +12VDC LINE	ALTERNATOR NOISE SUPPRESSION FILTERS RELOCATE PBO SOURCE (SEPARATE FROM ENGINE)
ERRONEOUS DEPTH READINGS	BAD INSTALLATION (CAVITATION OR AERATION) DAMAGED TRANSDUCER	CHECK INSTALLATION (RELOCATE) VERIFY SURFACE OFFSET SETTING
ERRONEOUS TEMPERATURE READINGS	POOR LOCATION OUT OF TEMPERATURE RANGE DAMAGED TRANSDUCER	RELOCATE AWAY FROM HEAT SOURCES
ERRONEOUS SPEED READINGS	IMPROPER CALIBRATION BAD INSTALLATION DAMAGED OR FOULED ROTOR	DISCONNECT POWER SOURCE AND RECALIBRATE CHECK INSTALLATION CLEAN ROTOR ASSEMBLY
LOG VALUE DOES NOT CORRESPOND WITH THE SPEED VALUES	SPEED CALIBRATION OUT OF THE ±20% FACTORY CALIBRATION RANGE	DISCONNECT POWER SOURCE AND RECALIBRATE

8.1 THRU-HULL MULTISENSOR INSTALLATION (2-2406.100)

CHOOSING A PROPER LOCATION

- Mount the transducer as near as possible to the hull centerline to insure contact with the water at all times. (refer to Fig.3).
- Mount the transducer at least 18" fore of the keel (sailboat) or the propellor (powerboat) (refer to Figs. 1 & 2).
- On sailboat and powerboat displacement hulls the transducer should be mounted midship and fore. Verify transducer is submerged during normal boat attitudes, motions, and heel angles.
- On planing hulls the transducer should be mounted well Aft to insure that the transducer is submerged at higher boat speeds.
- The transducer should be oriented vertically (within 10 degrees) with the water to yield a vertically directed acoustic beam.
- Provide a clearance radius of 5" inside the hull for transducer installation and periodic maintenance.
- Mount the transducer within 35' of the indicator or processing unit, shielded cable should not be spliced or extended.
- Do not position the transducer Aft of protruding fittings or vents to avoid turbulence.

INSTALLING THE THRU-HULL MULTISENSOR

1. Atfer choosing a proper location, drill a 3/8" (.38") pilot hole through the hull.

2. Drill a 2" hole thru the hull to accept the Brass Multisensor fitting.

3. Apply a small amount of bedding compound to the inner surface of the fitting body. Use a polysulphide or polyurethane compound; do not use a silicone seal. Insert the fitting through the hole from the outside. The Paddlewheel should be at the aft end of the Multisensor aligned parallel to the centerline.

4. From inside the hull, install the nut on the fitting. Make sure the Sensor body is aligned properly and tighten securely with a wrench (refer to Fig. 3).

5. Remove excess bedding compound (follow manufacturer's curing instructions).

6. Install the Speed Sensor into the fitting (arrow on top of Sensor must be pointing fore), secure it in place by inserting the Brass clevis pin through the fitting and Speed Sensor. Attach the safety rings to the clevis pin.

7. Route the cable to the instrument, keep the cable clear of ignition, tachometer, alternator or other sources of electrical interference. Connector removal or cable splicing voids transducer warranty.

THRU-HULL MULTISENSOR INSTALLATION, FIGURES

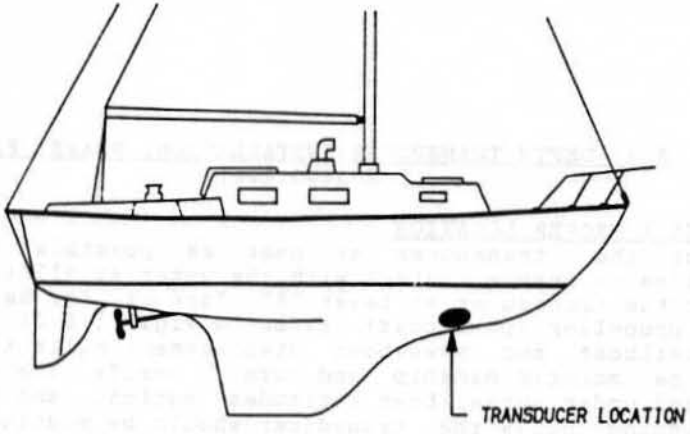


FIG.1

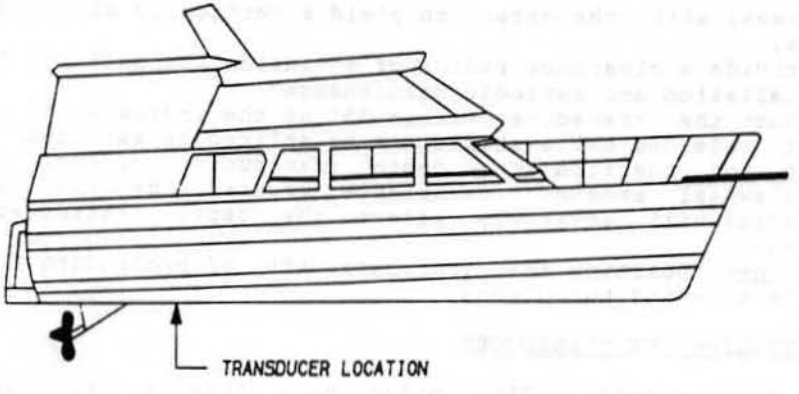


FIG.2

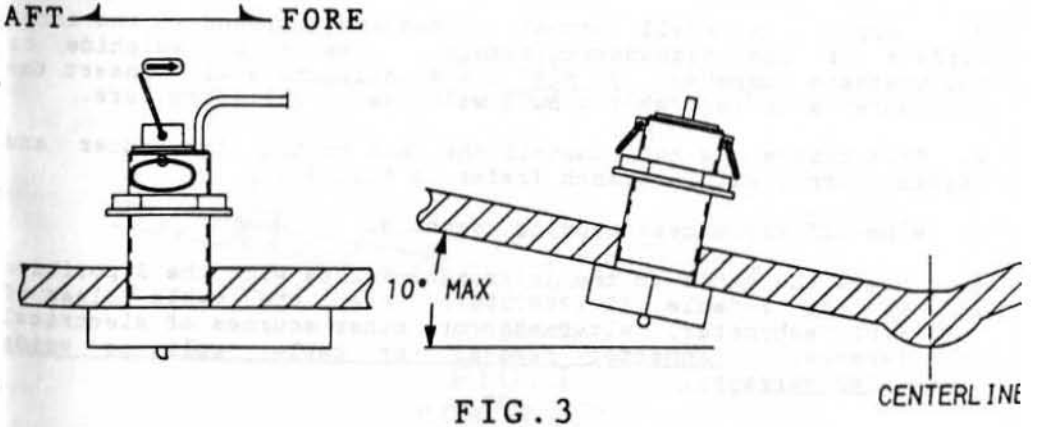


FIG.3

8.2 DEPTH TRANSDUCER INSTALLATION, BRASS, FAIRED (2-2405.100)

CHOOSING A PROPER LOCATION

- Mount the transducer as near as possible to the hull centerline to insure contact with the water at all times.
- Mount the transducer at least 18" fore of the keel (sailboat) or the propellor (powerboat) (refer to Figs. 1 & 2).
- On sailboat and powerboat displacement hulls the transducer should be mounted midship and fore. Verify the transducer is submerged under normal boat attitudes, motions, and heel angles.
- On planing hulls the transducer should be mounted well Aft to insure the transducer is submerged at higher boat speeds.
- The transducer should be oriented vertically (within 10 degrees) with the water to yield a vertically directed acoustic beam.
- Provide a clearance radius of 5" inside the hull for transducer installation and periodic maintenance.
- Mount the transducer within 35' of the indicator or processing unit, shielded cable should not be spliced or extended.
- Do not position the depth transducer directly behind a Paddlewheel sensor, turbulence created by the Paddlewheel rotation will adversely affect the depth transducer at high speeds.
- Do not position the transducer Aft of protruding fittings or vents to avoid turbulence.

INSTALLING THE TRANSDUCER

1. Drill a 3/8" (.38") pilot hole through the hull at the position you have selected.

2. Cut a 7/8" (.88") hole through the hull.

3. Apply a small amount of bedding compound to the inner surface of the transducer flange. Use a polysulphide or polyurethane compound; do not use a silicone seal. Insert the transducer stem through the hull with the "v" pointing fore.

4. From inside the hull install the nut on the transducer and tighten firmly with a wrench (refer to Fig. 3).

5. Wipe off any excess bedding compound.

6. Route the cable to the instrument (mates with the 3 position leg of the Y-Cable (2-2000.260)), keep the cable clear of ignition, tachometer, alternator or other sources of electrical interference. Connector removal or cable splicing voids transducer warranty.

FAIRED BRASS DEPTH TRANSDUCER INSTALLATION, FIGURES

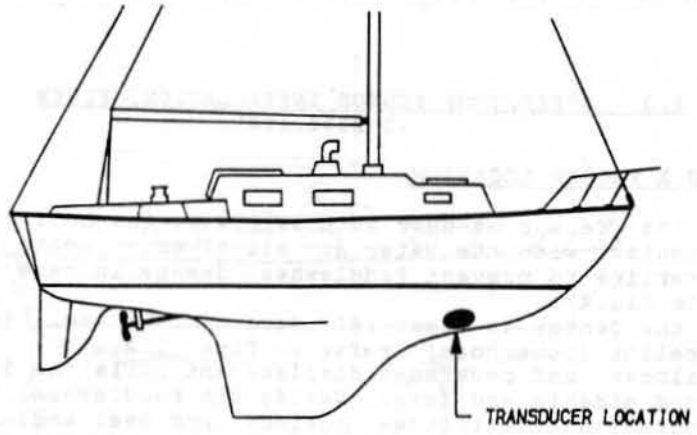


FIG.1

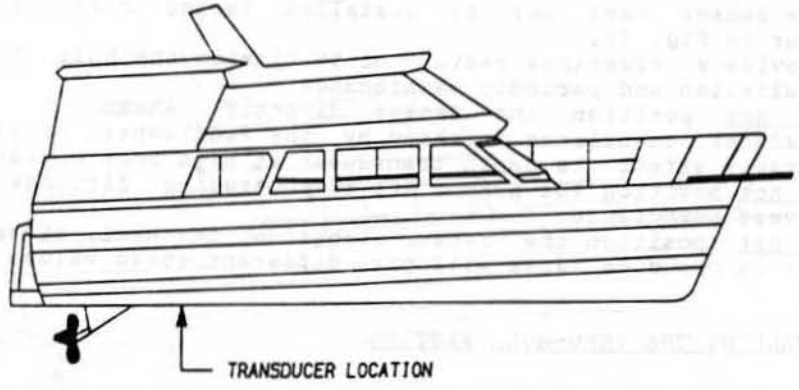


FIG.2

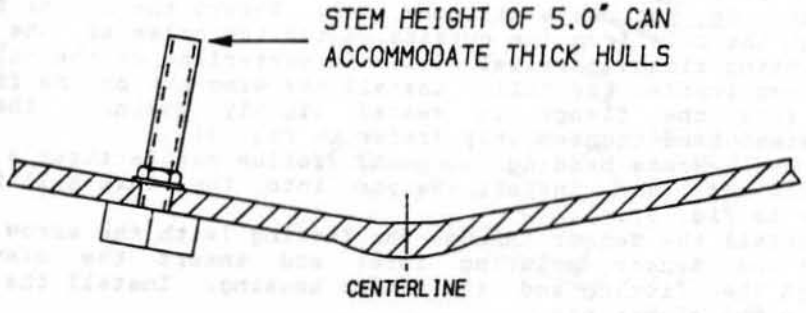


FIG.3
(LOOKING AFT)

8.3 SPEED/TEMP SENSOR INSTALLATION, FLUSH (2-2200.100)

CHOOSING A PROPER LOCATION

- Mount the Sensor as near as possible to the hull centerline to insure contact with the water at all times. Avoid mounting at the centerline to prevent Paddlewheel damage in case of grounding (refer to Fig.4).
- Mount the Sensor at least 18" fore of the keel (sailboat) or the propellor (powerboat) (refer to Figs. 1 & 2).
- On sailboat and powerboat displacement hulls the Sensor should be mounted midship and fore. Verify the Paddlewheel is submerged during normal boat attitudes, motions, and heel angles.
- On planing hulls the Sensor should be mounted well Aft to insure that the Paddlewheel is submerged at higher boat speeds.
- The Sensor need not be installed facing directly downward (refer to Fig. 3).
- Provide a clearance radius of 5" inside the hull for Sensor installation and periodic maintenance.
- Do not position the Sensor directly ahead of a depth transducer, turbulence created by the Paddlewheel rotation will adversely affect the depth transducer at high boat speeds.
- Do not position the Sensor Aft of protruding fittings or vents to avoid turbulence.
- Do not position the Sensor alongside the keel, diferent flow paths on opposite tacks will give different speed values.

INSTALLING THE THRU-HULL FITTING

1. Atfer choosing a proper location, drill a 3/8" (.38") pilot hole through the hull.
2. Cut a 2" hole through the hull for the fitting.
3. Apply a small amount of bedding compound to the inner surface of the fitting flange. Use a polysulphide or polyurethane compound; do not use a silicone seal. Insert the Sensor fitting through the hole from the outside, align the holes at the top of the fitting along (parallel with) the centerline of the hull.
4. From inside the hull, install the wing-nut on the fitting. Make sure the flange is seated tightly against the hull underside, hand-tighten only (refer to Fig. 3).
5. Remove excess bedding compound (follow manufacturer's curing instructions) and install Sensor into the thru-hull fitting (refer to Fig. 3).
6. Install the Sensor through the fitting (with the arrow on the top of the Sensor pointing fore) and insert the clevis pin through the fitting and the Sensor housing. Install the safety ring to the clevis pin.
7. Route the cable to the indicator, connect to the 4 position leg of the Y-Cable (2-2000.260).

SPEED/TEMP SENSOR INSTALLATION, FIGURES

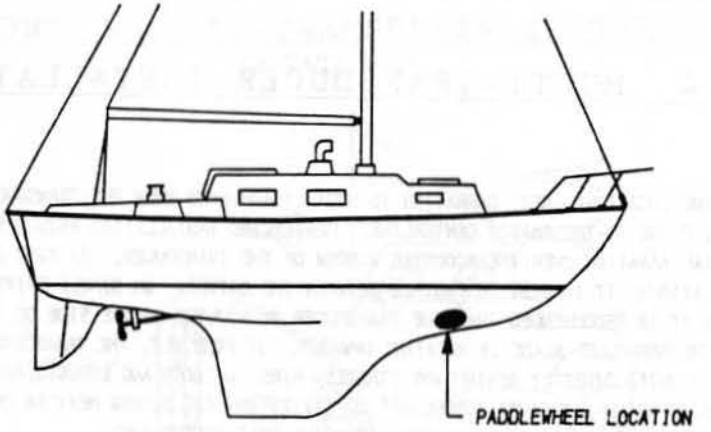


FIG.1

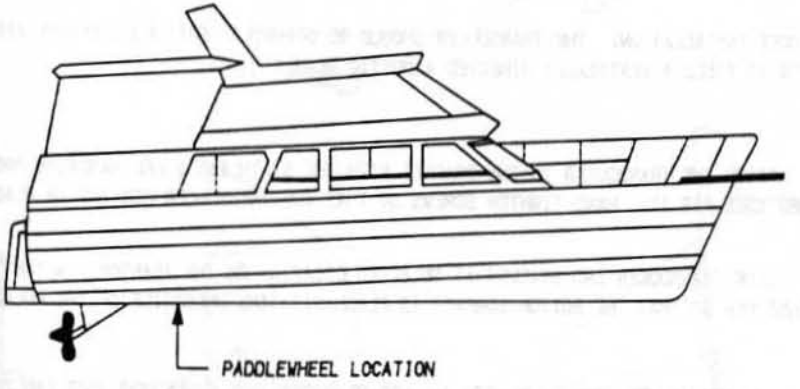


FIG.2

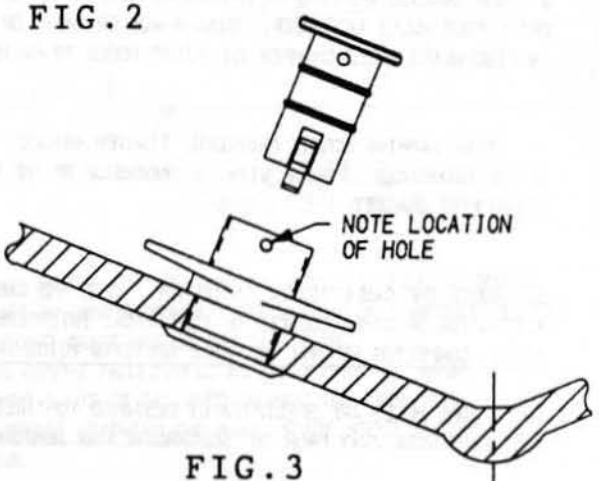


FIG.3

8.4 MULTI-TRANSDUCER INSTALLATION

SELECTING LOCATION: BEST OPERATION IS USUALLY ACHIEVED WHEN THE TRANSDUCER IS MOUNTED CLOSE TO THE BOAT'S CENTERLINE. CENTERLINE INSTALLATION ASSSURES MINIMUM POTENTIAL AERATION OVER THE ACOUSTIC WINDOW OF THE TRANSDUCER. ON TWIN DRIVE INSTALLATIONS, IT IS BEST TO INSTALL BETWEEN THE DRIVES. ON SINGLE DRIVE INSTALLATIONS IT IS RECOMMENDED THAT THE TRANSDUCER BE MOUNTED ON THE SIDE OF THE BOAT WHERE THE PROPELLER BLADE IS ROTATING UPWARDS. IF POSSIBLE, THE TRANSDUCER SHOULD NOT BE MOUNTED DIRECTLY BEHIND ANY STRAKES, RIBS, INTAKES AND OUTLETS, OR ANY PROTRUSION WHICH MAY CAUSE TURBULANCE OR CAVITATION (ON SLOWER HEAVIER BOATS, GOOD RESULTS CAN BE ACHIEVED FURTHER FROM THE BOAT CENTERLINE).

BRACKET INSTALLATION: THE TRANSDUCER SHOULD BE ORIENTED VERTICALLY (±10°) WITH THE WATER TO YIELD A VERTICALLY DIRECTED ACOUSTIC BEAM.

1. ATTACH THE TRANSDUCER TO THE BRACKET WITH THE STAINLESS STEEL HARDWARE PROVIDED (SEE FIG 1). HAND-TIGHTEN SCREWS SO THAT THE TRANSDUCER REMAINS IN PLACE.

2. PLACE TRANSDUCER AND BRACKET AT SELECTED LOCATION ON THE TRANSOM. ALIGN THE TRANSDUCER SO THAT THE BOTTOM SURFACE IS FLUSH WITH THE UNDERSIDE OF THE HULL.

3. MARK OUTLINE OF SLOTS ON TRANSOM AND LOCATE CENTERLINES FOR SCREWS (SEE FIG 2). DRILL FOUR HOLES 1/2" DEEP, USING A #28 OR 9/64" DRILL (CAREFUL NOT TO GO TOO DEEP). IN FIBERGLASS HULLS CHAMFER THE PILOT HOLES TO PREVENT CRACKING (1/4" DRILL 1/16" DEEP).

4. USING TAPPING SCREWS PROVIDED, TIGHTEN BRACKET TO THE TRANSOM SO THAT THE BOTTOM OF THE TRANSDUCER IS FLUSH WITH THE UNDERSIDE OF THE BOAT (SEE FIG 3). SECURE TRANSDUCER TIGHTLY TO BRACKET.

5. ROUTE THE CABLE TO THE INSTRUMENT, KEEP THE CABLE CLEAR OF IGNITION, TACHOMETER, ALTERNATOR OR OTHER SOURCES OF ELECTRICAL INTERFERENCE.
NOTE: CONNECTOR REMOVAL OR CABLE SPLICING VOIDS TRANSDUCER WARRANTY.

NOTE: SOME HULLS ARE SPECIFICALLY DESIGNED TO DIRECT AIR UNDER THE HULL, MOVING THE TRANSDUCER AWAY FROM THE CENTERLINE CAN IMPROVE PERFORMANCE.

8.4 (CONT) MULTI-TRANSDUCER INSTALLATION
(2-2402.100)

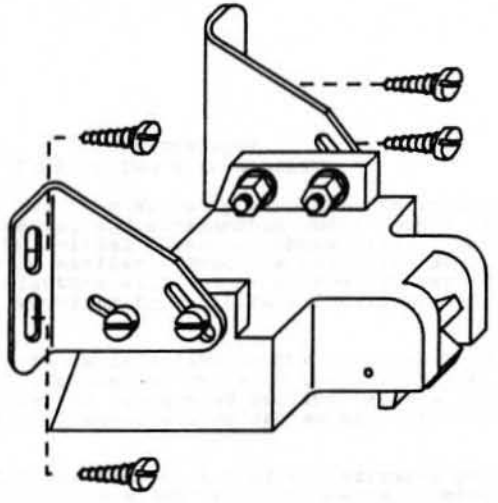


FIGURE 1
BRACKET ASSEMBLY

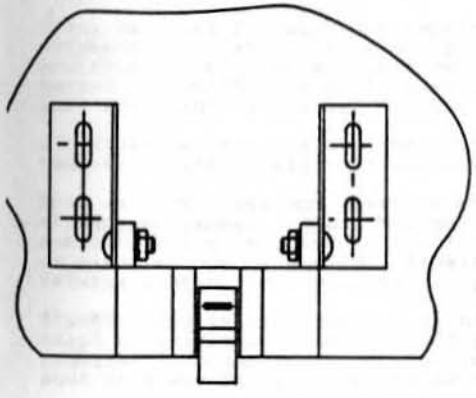


FIGURE 2
LOCATING HOLES

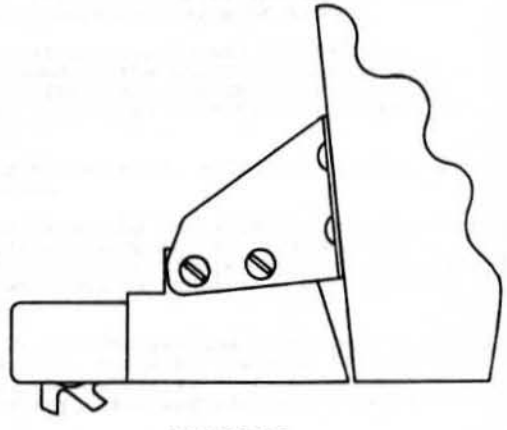


FIGURE 3
TRANSDUCER LOCATION

NOTE: IF THE VESSEL IS KEPT IN SALT WATER FOULING MAY OCCUR, IF FOULING OCCURS, USE A STIFF BRUSH OR PUTTY KNIFE TO REMOVE GROWTH. WET SANDING OF TRANSDUCER BOTTOM IS PERMISSIBLE WITH #220 OR FINER GRADE WET OR DRY SAND-PAPER.
IF PADDLEWHEEL BECOMES FOULED REMOVE PADDLEWHEEL ASSEMBLY FROM THE MAIN HOUSING FOR CLEANING. THE SPEED SENSOR SHAFT IS DESIGNED TO FRACTURE UPON IMPACT. BE SURE TO REMOVE SPEED SENSOR BEFORE BEACHING THE BOAT. SPARE SPEED SENSORS ARE AVAILABLE THROUGH SIGNETMARINE.

SIGNETMARINE
LIMITED TWO YEAR WARRANTY

SIGNETMarine's Limited Two Year Warranty warrants its instruments to be free from defect in material and workmanship under normal use two years from date of purchase by initial owner, or three years from date of manufacture, whichever is earlier. Products not purchased within three years from date of manufacture will not be covered by warranty. Proof of date of purchase is required to validate all warranty service.

Instruments which prove to be defective in the first year of the warranty period will be repaired or replaced free of charge including labor, F.O.B. our factory, or designated Service Centers (addresses furnished upon request). Transducers or cables are not covered after installation.

The limited warranty for the second year of the warranty period covers only non-moving parts, such as electrical components. Meter movements will not be covered after one year. All units qualifying for warranty repair after one year are subject to a service charge of $20.00.

Items returned for warranty repair must be prepaid and insured for shipment. Warranty claims are processed on the condition that prompt notification of a defect is given to SIGNETMarine within the warranty period. SIGNETMarine shall have the sole right to determine whether in fact a warranty situation exists.

SIGNETMarine warranty does not cover travel time, mileage expenses, removal, reinstallation or calibration.

This warranty does not cover defects caused by installation, abuse, or electrical damage. SIGNETMarine will not warranty any instruments damaged during shipment to the factory which arrive either less the case or were improperly packed. Repair attempts by other than authorized Service Centers will void warranty.

SIGNETMarine is continually making design changes and improvements that adapt to original circuit configuration. These may be incorporated as required in older units on a minimal charge basis. Pre-authorization must be given by SIGNETMarine before any field upgrades are undertaken.

CONSEQUENTIAL DAMAGES

SIGNETMarine shall not be liable for special consequential damages of any nature with respect to any merchandise or service sold, rendered, or delivered.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.