

FAULT FINDING ON MIDAS MARINE INSTRUMENTS

SPEED LOG

Set gauge up in demo unit or wire up with battery and transducer and confirm unit does not operate when paddle wheel is spun.

- 1) Confirm transducer is ok, coil resistance should be 1200 to 1500 ohms depending on vintage. Visually check magnets.
- 2) Check voltage regulator Q10 for correct operation at output, (6v for digital and 8v for analogue).
- 3) Check D1 for short circuit and track from terminal 3 to D1 and through to negative rail. Problems here are caused by +12v being connected to terminal 3.
- 4) If speed operating correctly but not log check Q8 & Q9 (This is generally associated with over voltage or short circuit to earth on terminal 6).
- 5) Check continuity of negative track between terminals 1&2 and circular negative track on outside of board.

DIGITAL SEMICIRCLE BOARD (all models).

- 1) Most frequent problem is failure of μ C7660 IC probably caused by over voltage. Check voltage at cathode of diode connected to p5 of 7660 IC (-5.5v for speedo and -4.5v for depth sounder).
- 2) Incorrect operation of Liquid Crystal Display, if some segments are malfunctioning check by substitution.

DEPTH SOUNDERS

- 1) Check current draw of operating unit, this should be 30-50ma pulsing. An audible click should be able to be heard at the face of the depth sounder transducer, this generally confirms correct operation of the transmit section of the depth sounder. Excess current draw (usually greater than 1amp) is usually caused by faulty Q4 (TIP126), output transformer or capacitors C14&C2 shorting to PC board (Check clearance to outside case of capacitor).

Less common is faulty trigger pulse (4001 IC) which can be isolated by removing LM1812 IC.

- 2) The voltage regulators should be checked for correct output 10v for analogue and 10v & 5v for digital models.

WIND SPEED

The WINDSPEED masthead unit operates a reed switch which opens and closes twice per revolution of the masthead unit. Operation of the WINDSPEED gauge can easily be checked by connecting one wire to terminal 1 and one wire to terminal 4, by touching the wires together and moving them apart simulating the reed switch in the masthead unit, the gauge should indicate a reading and the faster this is done the greater the reading.

- 1) Faults are very rare in the gauge unit, check voltage regulator output (8v analogue & 6v digital).
- 2) Masthead unit, check reed switch opens and closes twice per revolution of the wind cups.