

Product: Cluster	Description: <i>TROUBLESHOOTING GUIDE</i>	Date Jan 08
Type: Electric		1

Symptoms	Problem	Solution
Clock/depth works at key-on but resets when engine is started	Insufficient voltage to cluster during startup	Check terminal connections and battery voltage. Check voltages between pin #23 (BAT+) & #4 (GND-) and #22 (IGN+) & 4 (should be the same – if not, check connections). Start engine with meter on #23 & #4 and see if voltage drops below 7V. If it does, battery may be weak or underrated. If battery capacity is sufficient, connections are correct, and vehicle has a trim gauge, install MCIU (Marine Insufficient voltage to cluster during Cluster Isolation Unit).
Clock turned off over the winter	This is normal – unit shuts off after 21 days of non-use	Reset clock using mode/adjust
Flashing cluster during key-on that goes away when engine is started	Insufficient voltage to cluster during startup	Check terminal connections and battery voltage. Check voltages between pins 23&4 and 22&4. If not the same, check for improper ground (pin 4) or improper positive (pin 23).
Cluster flashes continuously or no power at all to cluster	Insufficient voltage to cluster	Use steps above to check key-on voltage. If condition continues and electrical connections

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		have been verified, battery voltage is weak. Check for ground between pin #4 and engine block.
Panel comes up with scrolling LCD or in PROG mode	Panel has been exposed to a faulty ground; buttons diodes and/or capacitors have been damaged on panel and cluster panel sees MODE and ADJUST buttons as constantly hot	The cluster has been damaged. Check main ground to pin 4 - make sure ground is connected to buss bar or engine stud. Make sure the buttons have their own ground (buttons should be grounded to pin 3); do not connect buttons to cluster ground (Pin 4). Cluster problems will continue if grounds are not changed. Get a new cluster.
Mode switch inoperative	Mode and adjust buttons may be swapped; mode switch may be bad	Swap buttons, see if mode now works
Dash resets when horn is blown	Momentary voltage drop may cause cluster to re-set	Put a 10uf capacitor across the horn leads
Erratic function; pointers flickering and horn chirping	If Mercury OB (50, 70, 90, 120 HP models), possibly incorrect spark plugs	Use inductive spark plugs to eliminate voltage spikes from ignition coils.
Speed/Depth not working at high speeds	Triducer is most likely incorrectly positioned and cavitating	Triducer should be nearly flush with the bottom of boat is transom-mounted. See Airmar install instructions.
Speed not working, depth OK	Improper voltage coming from triducer to cluster; triducer is dirty	Check for voltage switching from 0-8V positive while turning paddle wheel one blade at a time. See VDO bulletin "6.25.99"; clean triducer
Improper tach reading	Possible incorrect	

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	programming of cluster	
Temp gauge pegs right and alarm goes off	Sender is not sending an ohm reading in required range	Change sender
Triducer shows .6-.9 for cluster depth reading	Possible faulty triducer	Clean existing triducer. If symptoms persist, get a replacement triducer.
Depth alarm sounds in deep water with correct depth setting	Triducer saw air bubbles from wake, wave-hopping	No need to change anything
Alarm horn chirps when boat out of water	Depth alarm set incorrectly (triducer mimics a depth of about 0.7 feet when out of water)	Reset depth to 0
Trim gauge not working	Possible faulty, incorrectly positioned, or non-existent OEM trim sensor; possible mis-wired MCIU	See engine manual; make sure red/yellow wire is connected to terminal that activates engine start solenoid
Engine light on	High current/high frequency exposure to cluster i.e. lightning, welding	Verify grounds and replace cluster
Needle sticks	Dial face has raised off of gauge (possibly due to heat)	Press down dial face
Individual fuel, pressure, temp gauge is not working	Gauge/sender malfunction	Disconnect sender and place a 100 ohm resistor (Radio Shack) in its place. Connect to ground. Dial face should read approximately mid-range. If no reading, perform the same test at the cluster to verify of sender signal wire is good. If still no reading, cluster needs to be replaced.
Depth warning sounds continuously	Depth gauge set to deep	Re-set depth to 3-5 feet
No readings on speedo	Possible bad speedometer /sender, or	Check for voltage to pin 21 – if none, transducer

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	bad transducer	<p>might be bad. Run 12VDC direct to transducer – red wire of tri-ducer to key on.</p> <p>Check for voltage at pin 24 of cluster. Voltage should pulse as paddle wheel is turned.</p> <p>Test for operation – if not replace tri-ducer.</p> <p>If still no reading, cluster needs to be replaced.</p>
Tachometer not working correctly		Check if tach has been re-programmed accidentally.