



TECH SUPPORT

1. Lower Installation & Maintenance Costs

For applications where the Saturn S-001 Seismic Switch is being 'married' to an MSC Master Seismic Controller, the owner can lower their Saturn S-001 installation cost and long-term maintenance cost by operating the Saturn S-001 unit from the MSC's 12V DC-DC converter. In which case, the Saturn's internal battery and external 110 Vac power adapter can be omitted. The MSC's 24Vdc battery set (via the DC-DC converter) will provide the back-up power to the S-001 Saturn Seismic Switch on loss of primary 110 Vac power.



Since, using the above approach, the internal battery and 110 Vac power adapter have been removed from the Saturn S-001 unit, the owner does not have to run 110 Vac power and install a power outlet next to the Saturn location. Separate conduits for 110 Vac power and low voltage signals can be replaced with a single conduit for low voltage power and control. Further, there will be no batteries to check and/or replace in the Saturn S-001 every year.

2. Tips for 'seismic trip' testing your ESS earthquake instrumentation (i.e. during the Great California Shakeout each year).

In addition to annual inspection, test and preventative maintenance services by a qualified testing agency, a number of owners elect to self-test their seismic instrumentation in conjunction with public emergency planning events such as, the "Great California Shakeout".

Although we can't provide site specific test plans in a generic document like this one, here are some tips to help you with your planning:

- a) Notify plant personnel regarding system testing.
- b) Notify any off-site monitoring services/agencies regarding the testing (avoids fire department responding to the alarm).
- c) Presuming you do not want to interrupt plant operations during the simulated test, use the engineering controls available in the plant Life Safety System (LSS) or Facility Management System (FMS) to bypass, disable or otherwise inhibit the seismic alarm signal from the seismic unit from reaching the plant PLC monitoring system (LSS, FMS, etc.)

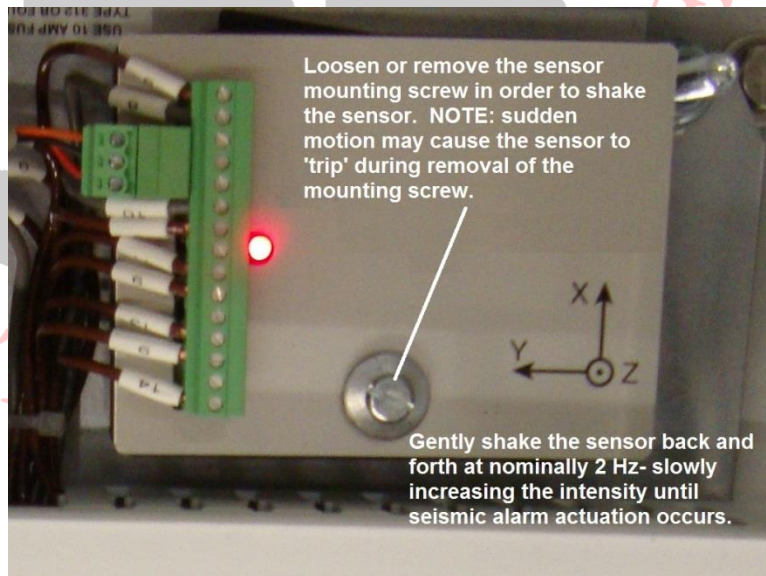
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TECH SUPPORT



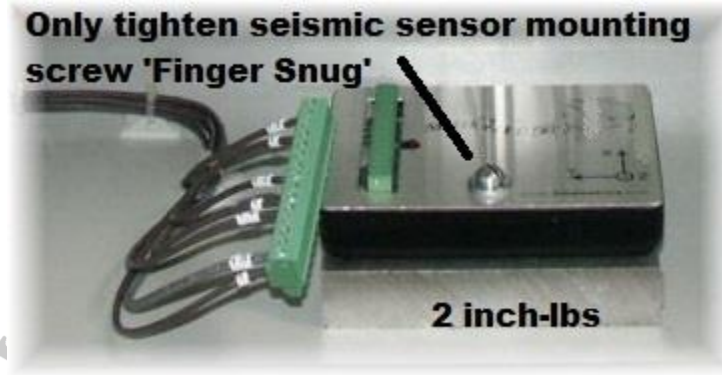
- d) Open bypass valves that may temporarily 'shunt' safety valves actuated directly by the Saturn, Apollo or MSC seismic device.
- e) Loosen/remove the seismic sensor mounting bolt and gently shake the sensor between 2 and 3 Hz. This is a REAL dynamic test that causes the sensor to transduce acceleration and to actuate its alarm relay when the sensed acceleration exceeds the programmed trip point. Refer to your system's commissioning report or most recent inspection & test report (preferable) for the current settings.
- f) Following the seismic trip test, re-install the sensor but, DO NOT over-tighten the sensor mounting screw; just





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FINGER-SNUG at about 2 in-lbs.



- g) Reset the seismic instrumentation
- h) Verify that the safety valves are reset.
- i) Close the bypass valve(s), if any.
- j) Remove engineering controls blocking the alarms from the seismic system to the plant monitoring system (LSS, FMS, etc.)
- k) Notify off-site monitoring agencies that the testing is complete.
- l) Notify plant personnel that the testing is complete.
- m) For system repairs or to schedule annual inspection & testing services, contact AGB- an approved testing agency. AGB's field work is supported by objective test data collected in the course of testing your seismic instrumentation. A written report presenting the test results and certification of the operation of the seismic instrumentation is transmitted to the owner following the field work.

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