

Things to remember when using electronic altimeters in NAR competition

REFERENCE: [USMRSC 14.10](#)

OVERVIEW:

NOTE: YOU MUST FOLLOW ALL OF THE PROVISIONS OF USMRC 14.10, 14.10.1, 14.10.2 AND 14.10.3 AND APPENDIX G IN ORDER TO SET A NAR NATIONAL ALTITUDE PERFORMANCE RECORD USING AN ELECTRONIC ALTIMETER.

1. Altimeter must be on the list. [ALTIMETERS APPROVED FOR CONTEST USE](#)
2. To set a national record, the altimeter must be marked “yes” in the Records? column.
3. At least 3 vent holes following manufacturer’s instructions and complying with [USMRSC 14.10](#) placement of vent holes.
4. You must provide all hardware, software and documentation for reading the altimeter.
5. You must return the altimeter as recovered.
6. Decision of contest official on the interpretation of the altimeter data is final.

SELECTION:

* Appendix G, United States Model Rocket Sporting Code

<http://www.nar.org/contest-flying/us-model-rocket-sporting-code/appendix/altimeters-approved-for-contest-use/>

* Your altimeter must be on the current list of NAR Contest Board approved altimeters (see link above).

* In order to set a NAR National Performance Record, the altimeter must be marked “yes” in the **Records?** col Appendix G, United States Model Rocket Sporting Code.

CONSTRUCTION:

* Follow the altimeter manufacturer’s instructions for creating vent holes in the rocket and comply with [USMRSC 14.10](#) on placement of vent holes.

* Your altimeter measures air pressure. Follow the manufacturer’s instructions for creating holes and comply with [USMRSC 14.10](#) on placement of vent holes in your rocket so that the altimeter can properly sense changes in atmospheric pressure. This could be as simple as poking holes in the body tube.

* For example, the Jolly Logic Altimeter One instructions call for “... at least three 1/16” to 1/8” diameter holes evenly spaced around the payload bay or fuselage as close to the nosecone as possible, but low enough not to be blocked by the nosecone once it is inserted.” Ensure that you comply with [USMRSC 14.10](#) on placement of vent holes.

* If the holes in your rocket are too small or too few the air pressure inside the rocket will not change quickly enough for the altimeter to record an accurate altitude.

* Follow the altimeter manufacturer’s instructions for creating vent holes in the rocket and comply with [USMRSC 14.10](#) on placement of vent holes.

PROCEDURES:

* Leave the altimeter OUT for safety check-in.

* You will turn on and ZERO the altimeter in the presence of the official. ZERO means to follow the manufacturer's instructions to prepare the altimeter to record a new altitude. See the "[Verifying 'Zeroed'](#)" column of Appendix G of the USMRSC. See the Notes at the bottom of the altimeter table.

* AFTER the Safety Check official has examined the altimeter to ensure it is unaltered and zeroed, you will install the altimeter in the presence of the Safety Check-In official.

* The official may request the documentation for the altimeter.

* You MUST return your entry to the returns official "as recovered, unopened". This means that if your altimeter rides in a payload section or altimeter bay, you must return the entry with the section or bay unopened. You will open the section or bay in the presence of the returns official. If your altimeter does NOT ride in a special section (Jolly Logic Altimeter One and Two), you must return it attached to the entry.

* Both you and the returns official will concur as to the altimeter's readout.

* The decision by the contest official on the interpretation of the altimeter data is final.

YOUR ALTIMETER RESPONSIBILITIES:

* Follow the altimeter manufacturer's instructions for creating vent holes in the rocket and comply with [USMRSC 14.10](#) on placement of vent holes.

* YOU will verify that the altimeter is on, zeroed, and ready to fly.

* YOU will verify that the make and model of the altimeter is recorded on the flight card. Contest officials will not enter a flight without this into Contest Manager.

* If the altimeter fails to report an altitude or cannot be returned, and the flight has not been DQ'd for any safety or event rule reason, then that flight can be considered "Track Lost" and [USMRSC 14.9](#) can be applied. You must decide:

1. Treat the flight as **UNOFFICIAL** and try again. This is an additional flight.
2. Treat the flight as **OFFICIAL** and only receive flight points.

* If you use the Jolly Logic altimeter, be sure to attach it securely to the part of the rocket most likely to come back. Don't attach it only to the nosecone or parachute. It will fly away if the nosecone or parachute breaks away.

O. Lee James, III NAR 15058 SR L1
NAR Southwest Regional Contest Board Chairman
southwestcontestboard@nar.org
<http://www.tccnar.org>