



Orange County Fire Authority Community Risk Reduction INFORMATIONAL BULLETIN 01-20

Subject: Model Rocket Safety

Purpose: More than one million young people and adults participate in and enjoy model rocketry annually. Model rocketry is used in more than 30,000 elementary, middle, and high school science curriculums across the United States, but accidents can happen if rockets are not used properly.

To ensure that you have a safe and enjoyable experience, OCFA reminds you that while no permit is required, you shall follow the safety requirements published by the National Association of Rocketry Model Rocket Safety Code, and as well as the requirements of the California Code of Regulations Title 19, Division 1, Chapter 6, NFPA 1122, and Health and Safety Code 12552.

- Materials:** Model rockets shall be constructed using only lightweight, non-metal parts for the nose, body, and fins of the vehicle.
- Motors:** Use only certified commercially-made model rocket motors. Do not tamper with these motors or use them for any purposes except those recommended by the manufacturer. Size "D" is the maximum motor size for model rockets. Using larger motors for rockets requires a permit approved by OCFA.
- Ignition System:** Launch rockets with an electrical launch system and electrical motor igniters. The launch system shall have a safety interlock in series with the launch switch that returns to the "off" position when released or removal of the safety interlock device or key.
- Misfires:** If the rocket does not launch when the electrical launch system is engaged, remove the launcher's safety interlock device/key or disconnect its battery, and wait 60 seconds after the last launch attempt before approaching the rocket.
- Launch Safety:** Make sure that everyone is paying attention and located away from the launch point. Use a countdown as a final warning prior to launch.
- Rocket Launcher:** Launch the rocket from a guide rod, tower, or rail that is pointed to within 10 degrees of vertical to ensure that the rocket flies nearly straight up. Use a blast deflector to prevent the motor's exhaust from hitting the ground. To prevent accidental eye injury, place launchers so that the end of the guide rod is above eye level or cap the end of the rod when not in use.
- Flight Safety:** Do not launch rockets at targets, into clouds, or near airplanes. Do not put any flammable or explosive payload inside the rocket.
- Launch Site:** Property owner permission for model rockets shall be obtained prior to any launch activities. Launch the rocket outdoors in an open area, and during normal weather conditions (no fog, low cloud cover, rain or other conditions that reduce visibility or affect the rocket's performance). Wind speed shall not exceed 20 miles per hour. Ensure that there is no dry vegetation or other combustible materials close to the launch pad, and that the launch site does not present a risk of fire. Check that you have sufficient area for your rocket. For example, a "D" size rocket motor requires a 1000-foot clear launch and recovery site.
- Recovery System:** A recovery system such as a streamer or parachute shall be used to ensure that the rocket returns safely and undamaged to the ground. Use only flame-resistant or fireproof recovery system wadding in the rocket.
- Recovery Safety:** Do not attempt to recover rockets from power lines, tall trees, or other dangerous places.
- Always follow the instructions included with the model rocket and rocket motors.**