Estes Model Rocketry & Engine Information

From a February 19, 1979 letter from Canada's Chief Inspector of Explosives, concerning the reason for deregulation of model rocketry in that country, "Throughout the years, not one disabling accident has been reported in approved activities. It has long been realized that the engines and igniters themselves present no significant hazard in themselves even if abused or involved in an external fire". More than three decades later this statement still holds true. Consider the following facts about Estes model rocketry and Estes engines:

Estes Model Rocketry Facts:

Estes model rocket engines are responsible for a 50-plus year history of more than 325,000,000 successful model rocket launches.

More than one million children and adults safely participate in and enjoy Estes model rocketry annually. It is a wholesome, educational and fun activity, which is often enjoyed by the entire family.

Estes model rockets and engines are used as motivational teaching aids in more than 25,000 school and youth group settings each year. The Boy Scouts, Girl Scouts, Webelos, Civil Air Patrol, 4-H, Young Astronaut Program, U.S. Space Camp and the United States Space Foundation have and endorse model rocketry programs for young people, educators and youth group leaders. Other major organizations utilizing and endorsing model rocketry include the U.S. Air Force, NASA, Starbases and the Challenger Centers.

And for the 2011-2012 contest year the US Department of Defense has once again joined NASA, the Aerospace Industries Association, the American Association of Physics Teachers and the National Association of Rocketry to sponsor the 8th TEAM AMERICA ROCKETRY CHALLENGE, the world's largest model rocket contest. For more information concerning this contest with over $60,000.00 in prizes for students, instructors and schools, visit the Aerospace Industries Association web site at: http://www.aia-aerospace.org .

The safety record of Estes model rocketry is superior to many sports and hobby activities. *In fact, model rocketry has a better record of safety than kite flying.*

In the 50-plus year history of Estes Industries there has never been a shipping or storage incident created by Estes model rocket engines resulting in injury or property damage.

Estes Model Rocketry & Engine Information Continued

U. S. Regulatory Facts:

The outstanding success record of Estes model rocketry in combination with the tested and proven qualities of Estes model rocket engines have been mainly responsible for the following policy actions by US regulatory and standards organizations:

The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATFE), a division of the Homeland Security Department, has exempted the Estes brand-name type of model rocket engines from their regulation. (27 CFR §555.141 (10)) http://www.atf.gov

The U. S. Department of Transportation (DOT) has classified Estes model rocket engines as Model rocket motors (1.4S and 1.4C) and allows them to be commercially transported throughout the U.S. as Flammable solids (4.1)**.** (49 CFR §172.101, §172.102 Code 51 and Special Permit - 7887) http://hazmat.dot.gov/sp_app/special_permits/docs/07000/SP07887.pdf

The U. S. Postal Service (USPS) has determined that packages containing the Estes-brand name type of model rocket engines classed as 1.4S are acceptable in the U.S. surface mail subject to certain provisions. This "Mailability" decision was based on tests showing "that model rocket engines subjected to fires do not create a hazard to postal personnel or equipment, or other mail…" (DMM §601.10.11.2) www.usps.gov

The U. S. Consumer Product Safety Commission (CPSC) has exempted the Estes brand-name type of model rocket engines from their listing of banned hazardous substances. (16 CFR §1500.85**)** www.cpsc.gov

The Federal Aviation Administration (FAA) regulations for Estes-type model rockets provide for minimal operating limitations so long as launches do not create a hazard to persons, property and other aircraft. (14 CFR §§101.1-101.7 and §§101.22-101.27) http://www.faa.gov/

Codes and Standards:

The National Fire Protection Association (NFPA) initially developed and promulgated *NFPA 1122, Code for Model Rocketry*, which provides guidelines assuring safety for those participating in model rocketry. *NFPA 1122, Code for Model Rocketry* is also a standard of and approved by the American National Standards Institute (ANSI). http://www.nfpa.org/ http://www.ansi.org/

The National Fire Protection Association (NFPA) has also developed and promulgated *NFPA 1125, Code for the Manufacture of Model Rocket and High Power Rocket Motors*, which provides requirements to maximize safety during

manufacturing process as well as to set specific standards for model and high power rocket motors, their packaging and instructions. http://www.nfpa.org/

The National Association of Rocketry (NAR) has developed and promulgated the *Model Rocketry Safety Code*, which provides rules of conduct assuring a high level of safety for the consumer and all others. A copy of the *Model Rocketry Safety Code* is enclosed in nearly every Estes product and publication. http://nar.org/NARmrsc.html

State Specific Regulations:

Model rocketry is a legally permitted activity in every state in the U.S. However, four states have laws and regulations that specify certain age and permission requirements.

- In California one must be at least 14 years of age to purchase model rocket engines through size "D" and must be 18 years of age to purchase larger model rocket engines. Children as young as 12 years of age may receive and use model rocket engines under adult supervision while participating in a *bona fide* educational program. Permission of the landowner or local fire marshal may be required before launching. Many areas have pre-approved launch sites and times. It is also important to remember that a small number of counties and municipalities in California have ordinances that are more restrictive than state laws and regulations. Due to the sheer volume we are unable to track local ordinances.

- In New Jersey one must be at least 14 years of age to purchase model rocket engines through size "C" and must be 18 years of age to purchase larger model rocket engines. Children as young as 12 years of age may launch model rocket engines under adult supervision while participating in a *bona fide* educational program. (This is a fairly recent relaxation of prior law and regulation requiring consumers to be 21 years of age or older.)

- In Rhode Island one must be at least 16 years of age to purchase model rocket engines. (This is a recent relaxation of prior law and regulation requiring consumers to be 21 years of age or older and acquire a permit.)

- In North Dakota one must be at least 10 years of age to purchase model rocket engines through size "D" and must be 14 years of age to purchase larger model rocket engines. Verbal or written authorizations of the local fire marshal and landowner are required before launching. Launching and recovery areas may not be located within 5 miles of any airport without permission from the appropriate authority.