

# 2021 High Power & Mid-power Rocket Information Form

This document supersedes and replaces all previous revisions of this form.  
*Place this document **inside** your rocketry information envelope AND complete the Rocket Exhibit Information form that is to be attached to the **front** of the Envelope*

4-Her's Name: \_\_\_\_\_ 4-H Age: \_\_\_\_\_  
(14 & Older)

Date of Launch: \_\_\_\_\_ 4-Her's NAR/Tripoli  
Power Class:  High Power  Mid-Power Membership #: \_\_\_\_\_  
Adult Supervision 4-Her's Certification  
Provided By: \_\_\_\_\_ Level:  1/TMP  N/A

**Supervisor:** I am not the individual launching this rocket. Furthermore I have read, understood, and to the best of my knowledge the youth I am supervising has followed the guidelines set forth by the NAR governing High Powered and Mid-power Rocketry. (Kansas 4-H is aligned with NAR Safety Codes and expect that they will be followed by those 4-Hers regardless of membership.) Safety codes can be found at <http://www.nar.org/> or <http://www.KansasSpaceTech.com>

Supervisors Signature: \_\_\_\_\_

**4-Her:** I am the individual launching this rocket. Furthermore I have read, understood, and to the best of my ability followed the guidelines set forth by the NAR governing High Powered and Mid-Powered Rocketry. Found at <http://www.nar.org/> or <http://www.KansasSpaceTech.com/>

4-Hers Signature: \_\_\_\_\_

← \_\_\_\_\_ Must be completed for rockets flown on an "H" engine or larger \_\_\_\_\_ →

Supervisors NAR/Tripoli Certification  
Membership Number: \_\_\_\_\_ Level:  1  2  3

Describe the process you used to obtain an FAA Flight Waiver or the name and date of the event or the person who obtained the waiver for you (Please attach a copy if available):

# NAR High Power Rocket Safety Code

Effective August 2012

1. Certification. I will only fly high power rockets or possess high power rocket motors that are within the scope of my user certification and required licensing.
2. Materials. I will use only lightweight materials such as paper, wood, rubber, plastic, fiberglass, or when necessary ductile metal, for the construction of my rocket.
3. Motors. I will use only certified, commercially made rocket motors, and will not tamper with these motors or use them for any purposes except those recommended by the manufacturer. I will not allow smoking, open flames, nor heat sources within 25 feet of these motors.
4. Ignition System. I will launch my rockets with an electrical launch system, and with electrical motor igniters that are installed in the motor only after my rocket is at the launch pad or in a designated prepping area. My launch system will have a safety interlock that is in series with the launch switch that is not installed until my rocket is ready for launch, and will use a launch switch that returns to the "off" position when released. The function of onboard energetics and firing circuits will be inhibited except when my rocket is in the launching position.
5. Misfires. If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.
6. Launch Safety. I will use a 5-second countdown before launch. I will ensure that a means is available to warn participants and spectators in the event of a problem. I will ensure that no person is closer to the launch pad than allowed by the accompanying Minimum Distance Table. When arming onboard energetics and firing circuits I will ensure that no person is at the pad except safety personnel and those required for arming and disarming operations. I will check the stability of my rocket before flight and will not fly it if it cannot be determined to be stable. When conducting a simultaneous launch of more than one high power rocket I will observe the additional requirements of NFPA 1127.
7. Launcher. I will launch my rocket from a stable device that provides rigid guidance until the rocket has attained a speed that ensures a stable flight, and that is pointed to within 20 degrees of vertical. If the wind speed exceeds 5 miles per hour I will use a launcher length that permits the rocket to attain a safe velocity before separation from the launcher. I will use a blast deflector to prevent the motor's exhaust from hitting the ground. I will ensure that dry grass is cleared around each launch pad in accordance with the accompanying Minimum Distance table, and will increase this distance by a factor of 1.5 and clear that area of all combustible material if the rocket motor being launched uses titanium sponge in the propellant.
8. Size. My rocket will not contain any combination of motors that total more than 40,960 N-sec (9208 pound-seconds) of total impulse. My rocket will not weigh more at liftoff than one-third of the certified average thrust of the high power rocket motor(s) intended to be ignited at launch.
9. Flight Safety. I will not launch my rocket at targets, into clouds, near airplanes, nor on trajectories that take it directly over the heads of spectators or beyond the boundaries of the launch site, and will not put any flammable or explosive payload in my rocket. I will not launch my rockets if wind speeds exceed 20 miles per hour. I will comply with Federal Aviation Administration airspace regulations when flying, and will ensure that my rocket will not exceed any applicable altitude limit in effect at that launch site.

10. Launch Site. I will launch my rocket outdoors, in an open area where trees, power lines, occupied buildings, and persons not involved in the launch do not present a hazard, and that is at least as large on its smallest dimension as one-half of the maximum altitude to which rockets are allowed to be flown at that site or 1500 feet, whichever is greater, or 1000 feet for rockets with a combined total impulse of less than 160 N-sec, a total liftoff weight of less than 1500 grams, and a maximum expected altitude of less than 610 meters (2000 feet).
11. Launcher Location. My launcher will be 1500 feet from any occupied building or from any public highway on which traffic flow exceeds 10 vehicles per hour, not including traffic flow related to the launch. It will also be no closer than the appropriate Minimum Personnel Distance from the accompanying table from any boundary of the launch site.
12. Recovery System. I will use a recovery system such as a parachute in my rocket so that all parts of my rocket return safely and undamaged and can be flown again, and I will use only flame-resistant or fireproof recovery system wadding in my rocket.
13. Recovery Safety. I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places, fly it under conditions where it is likely to recover in spectator areas or outside the launch site, nor attempt to catch it as it approaches the ground.

MINIMUM DISTANCE TABLE				
<b>Installed Total Impulse (Newton-Seconds)</b>	<b>Equivalent High Power Motor Type</b>	<b>Minimum Diameter of Cleared Area (ft.)</b>	<b>Minimum Personnel Distance (ft.)</b>	<b>Minimum Personnel Distance (Complex Rocket) (ft.)</b>
0 — 320.00	H or smaller	50	100	200
320.01 — 640.00	I	50	100	200
640.01 — 1,280.00	J	50	100	200
1,280.01 — 2,560.00	K	75	200	300
2,560.01 — 5,120.00	L	100	300	500
5,120.01 — 10,240.00	M	125	500	1000
10,240.01 — 20,480.00	N	125	1000	1500
20,480.01 — 40,960.00	O	125	1500	2000

Note: A Complex rocket is one that is multi-staged or that is propelled by two or more rocket motors  
Revision of July 2012