

HI-POWER ROCKETRY CERTIFICATION CHECKLIST

<p>Is the nosecone or payload shoulder sufficiently tight to prevent drag separation? The nosecone or payload should not wobble side to side or separate from its own weight. Is a vent hole needed to relieve pressure for high altitude flight? Do stage couplers fit snugly to prevent bending or separation during flight? Is the body tube thickness adequate to withstand high power flight (typically .050 inch walls or thicker)? Is there pre-existing damage which may weaken the model structure (e.g. tube crimps)? Are screws and fasteners tight, if used?</p>	
<p>Are the launch lugs securely fastened to the model?. Verify no cracking of adhesive joints. Is the launch lug(s) appropriately sized for the model, typically 1/4 inch or larger diameter? Will the launch lugs bind on the launch rod? Taped on launch lugs are not permitted.</p>	
<p>On cluster models are the spaces between the motor tubes filled to prevent ejection pressure leakage? If mixing black powder and composite motors does the modeler assure composite motor ignition before black powder motor ignition (composite motors ignite more slowly than black powder motors)? If the cluster model is not using all of its motors are the unused motor tubes plugged to prevent ejection blowby?</p>	
<p>Is (are) the motor(s) sufficient to safely fly the model? Use motor manufacturer's recommendations or recommended motor lists for similarly sized models as a starting point (Also consider model weight, configuration, and finish when evaluating motor capabilities). Is (are) the rocket motor(s) either NAR or Tripoli certified? Motors must be currently certified to be used.</p>	<p>Low current ignitor? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>Is (are)the rocket motor(s) firmly restrained in the model? Check for engine mount integrity to prevent a "fly through" (Is a thrust ring used?). Check for a motor hook or similar motor restraint. Carefully check taped or friction fit motors for tightness. Ask the modeler what adhesives were used during assembly. Are clusters wired in parallel?</p>	
<p>If electronics are used, is the battery secured against "g" loads? Will electrical connections fail or loosen from acceleration forces? Will ignitors stay fully inserted in rocket motors during boost? Is the user protected against inadvertant operation, e.g is the circuit remotely armed, are safety switches present, is an armed status indicator used (visual or audible)? Does the modeler have a checklist or reminder to arm or operate the system prior to flight?</p>	
<p>If radio control is used, is for flight functions (e.g. recovery) the operating frequency in the 27, 50, 53, or 72 megahertz bands? Use of 75 megahertz for flight functions is not permitted. Is the antenna protected from breakage (not flopping freely)? Did the operator range check his equipment?</p>	
<p>Are the fins fully secured to the model? Check for looseness or cracking at the fin to body tube junction. "Thru the wall" construction is recommended for high power models. Is the fin material compatible with the motor thrust range (1/8 inch minimum plywood is recommended for high power models)? Ask the modeler how his fins are mounted, what adhesives were used (epoxy is preferred), and what fin material was used. Are the fins mounted parallel to the roll axis of the model? Are any warps present which may cause erratic flight?</p>	
<p>Is the model stable? If stability is in doubt require proof of the CG and CP locations (remember CG should be forward of the CP by approximately 1.0 body tube diameters). Ask the modeler to show the CG and CP locations and how they were determined. Verify that the modeler shows the CG with the motor(s) intended for flight and not a smaller motor or fewer motors (clusters). Ask the modeler to show CG and CP for the complete model and less each stage for a staged model. Require evidence of CP calculations if further doubt exists.</p>	
<p>Will the model "bust" the FAA waiver? Verify compliance by comparing model weight and power with charts/tables (if available) or by calculation. Ask the modeler what the expected performance is and how he made his determination(e.g. computer simulation, similar models)</p>	
<p>Inspect the recovery system. Verify that the shock cord is not cut or frayed and free of burns. Are the shock cord mounts securely mounted to the model? Are sharp edges present which may cut shock cords, parachute risers, and suspension lines? Is hardware, e.g. swivels, screw eyes, sufficiently strong to withstand recovery loads. If required, perform a pull test on the recovery system. Is parachute protection (e.g. wadding) adequate? Check for parachute damage, e.g. tears, burns, which may spread during recovery.</p>	