Redstone Fin Patterns

Make Your Estes Redstone Useable in Scale Competition!

by Peter Alway from *T minus 5*

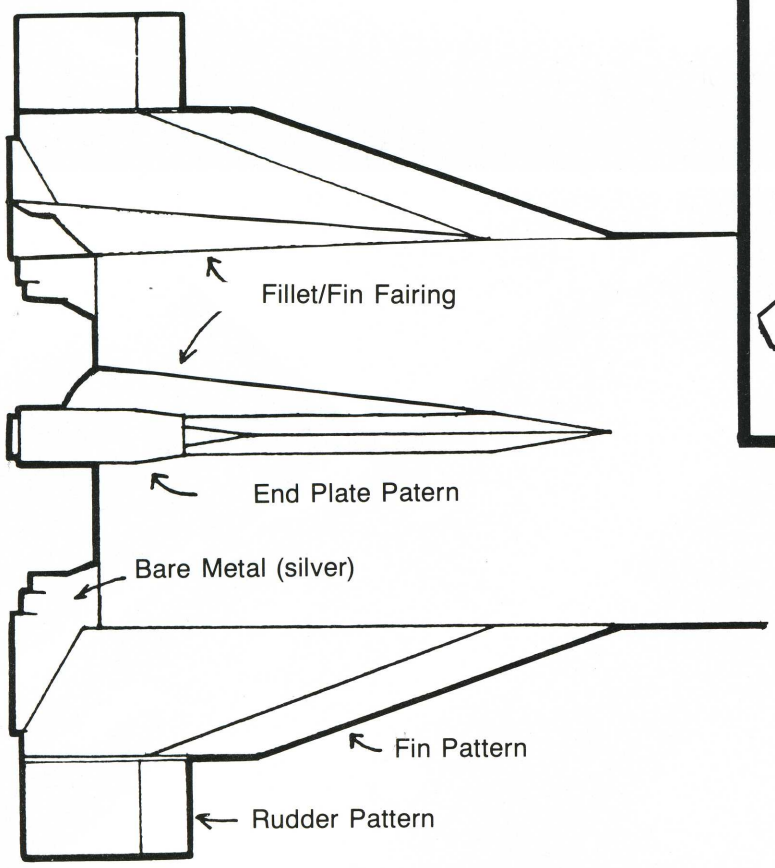
Most model rocket kits are designed with an extra margin of stability to insure safety in the hands of less experienced modelers or under extreme flight conditions. However, in many cases, this insurance comes in the form of extra fin area rather than extra nose weight. This compromises accuracy and makes the use of such kits in Scale competition a proposition of minor redesign. Examples include the V-2 kit, with 1" added to the fin span, the Nike-Apache, with ¼" clipped from the Apache fins, and even classic models such as the Estes Saturn IB with oversized fins and an overextended tail section and the Centuri Saturn V with its oversized fins.

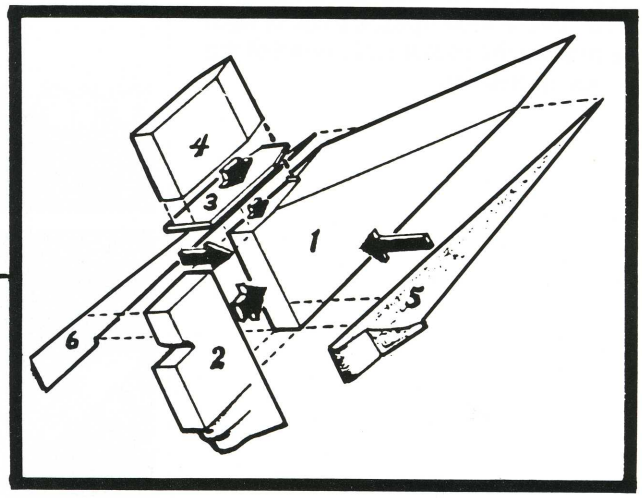
The Redstone seems to be a particularly odd case. Centuri Engineering sold virtually the same Mercury-Redstone kit until 1983 but it had fins which were not 20-30% oversize as are the Estes items. Now, the Estes Jupiter-C exhibits the very same oversized fins. The difference may not be obvious to most modelers until it's pointed out, but it is visible. It seems approprate to offer a more accurate alternative to this problem.

The accompanying drawings are based on measurements of the Redstone at the Michigan Space Center, the accurate fins of the old Centuri kit, patterns from the old Estes 1/43 scale kit (which were accurate), drawings in *Space Frontiers,* and photos of the Jupiter C/Juno 1 in the National Air and Space Museum.

Note the presence of large fillets at the base of the fins. The old Estes Mercury-Redstone instructions suggest adding a balsa "fin-fairing" part for this.

Actual size fin patterns for current kit.





Exploded view of parts as they were used in the old Estes Mercury-Redstone kit.