



MAX-Q HARA

Newsletter of the Huntsville Area Rocketry Association

Volume 10, Number 3, Aug/Sep1996

CITY CLASSIC SCRUBBED FOR 1996

The Rocket City Classic launch set on October 5, 1996 is scrubbed for this year. HARA did not have enough manpower to properly plan and execute the annual model contest, so instead of doing a minimal operation, greater efforts will be directed at conducting the Classic for next year.

There will be no launch on the 5th. The next scheduled HARA launch is October 23, at the old airport. A high power field is still being sought.



New HARA Motor Record Set at "Balls" Launch

By Tim Bennett

My Aerobee Hi is scratch built on 7.675 tubing. It's scale works out to 1:1.954 although I can safely say it isn't quite that accurate. The model is just over twelve feet tall. I based it on the Navy's round no. 41 which is indicated by "NRL 41" on the fins. This is the same round that Harry Stine modeled the first ever model rocket kit after.

I turned the nosecone from green foam found in hobby shops. I glued the foam to a 1.25" wooden closet rod and went to work. After getting the general shape I glassed it using epoxy instead of polyester resin for strength. Two coats of glass and epoxy were used. I then went to work with bondo. If anyone decides to use bondo, go with the UV (sun) cure type. You can fool with it as long as you like where the standard type will start hardening in about 3 or 4 minutes.

The rocket weighed in empty at 26 pounds. The DPS "L" motor weighed in at eight pounds. My guess for total weight including all recovery systems would be 38 pounds.

The special effects motor was not as powerful as the standard fuel. James Mitchell estimates this formula at around 3000 newton/seconds, still comfortably over the 2560 n/s K range. I hit an altitude of 2,400 feet with the Yellow Jacket fuel, and James estimated a flight in the mid to upper 3,000 foot range with the standard or new blue flame propellant.

This is by far the largest model I've ever made, the closest being one made for I motors but flown on a J at LDRS.

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Editor: *Vince Huegele*

Contributors: *Tim Bennett
Neal Redmond, Brian Day,
Mark Tygielski*

Max-Q is the official newsletter of the Huntsville Area Rocketry Association (HARA), NAR Section 403. Subscriptions are included as part of membership dues, or available to non-members for \$10.00 per year (six issues.) The editor welcomes any material submitted for publication. Send all items or payments to 11108 Argent Dr., Huntsville, AL 35803.

HARA officers

President: Vince Huegele
Vice President: Joe Robertson
Secretary: Brian Day
Treasurer: Sharal Huegele

Junkiest Workbench Contest

What does the place you build rockets look like? If it's a rat's nest, but YOU know where everything is, you may want to compete for the title of HARA's Junkiest Workbench. Just send in a photo of it, and maybe yourself at work there. We'll post the pictures on the homepage, and in the next MAX-Q for everyone to admire. A winner will be declared at the end of the year.

From the President's Pad

It has been an interesting year so far. More members are getting into big rocketry in a big way, yet we are without a place to fly the big ones. The HARA calendar went askew, and things that used to be mapped out months in advance are now on a wait and see basis. The major casualty this year was the *Rocket City Classic*, which had to be foregone because so many people had other commitments and conflicts. The contest takes time and energy, which was just too much to do for 1996.

Maybe it's the election year, or the approach of the new millennium, but the air is different. Reloadable motors, fiberglass body tubes, web sites, and instant email are all common elements

now. But what I notice that's significant now is that more and more people are harder to catch up with. Time is at a premium. All the demands on our lives push against the opportunities of our enjoyment. A hobby is almost a luxury, if not a novelty anymore. And when we can get to do our favorite things, we're rushed to complete those so we can get on with more obligations.

How we schedule and conduct our pleasure events from here on will depend on what everyone can support and when. Keep us all informed of what you expect HARA to do, and we'll try to match everyone's energy and interest. Remember we're here to have fun.

<http://fly.hiwaay.net/~bday/hara/hara.htm>

QUEST APOLLO Kit Review

By Vince Huegele

The Quest *Apollo* is one of the few models on any scale that has three separate tube sizes connected by reducers. The long tapering shape make the model look more scale-like, more comparable toward an actual launch vehicle than most rockets. Although called 'Apollo,' the stylings are more along the line of a Minuteman.

The kit is a resurrection of the MPC Quasar from the 1960's. Old timer rocketeers remember than many of the Quest designs are re-releases of the extinct but exotic MPC kits. I had one then so I recognize the similarity. It takes the basic A-B-C motors for easy flying.

The parts are all the usual Quest materials with clear instructions. I still like the Quest kevlar line anchor to the motor mount with the elastic shock cord much better than any folded tab inside the tube. You get two 12" chutes in this kit for the respective upper and lower sections. The plastic fins fit smoothly into a ring assembly. CA glue works fine on the plastic and paper pieces.

The kit goes together easily in an evening, except that the fin assembly attaches to the tail after painting. The decal sheet helps decorate and authenticate the model. The launch lugs on the fin unit are probably too far aft from the CG, but still function.

I tried a new paint color on this bird. Testors make several "metal" paints ranging from light to dark. After you spray it on and let it dry awhile, you buff the surface to achieve the desired finish. I used this on the plastic fins and adaptors of the rocket, letting the body tubes be regular white. When it was done, I wasn't sure if the color was gray or silver, flat or gloss - which is exactly what sheet metal looks like! Try this on your scale projects for some impressive realistic results.

COUNTDOWN '96

HARA meetings are second Thursdays (except December) at the (HATS) office, Suite 32, Building 4900, University Square, Launches are 9:30 am Saturday mornings at the Old Huntsville Airport, Call for subsequent schedules.

SEP:

12 Thurs; HARA Meeting 7:30 pm HATS
21 Sat; Launch

OCT:

10 Thurs; HARA Meeting 7:30 pm HATS
26 Sat; Launch

NOV:

14 Thurs; HARA Meeting 7:30 pm HATS
23 Sat; Launch

DEC:

7 Sat; Rocket City Marathon Launch, 8:00am

For more details call Vince Huegele at 881-2904



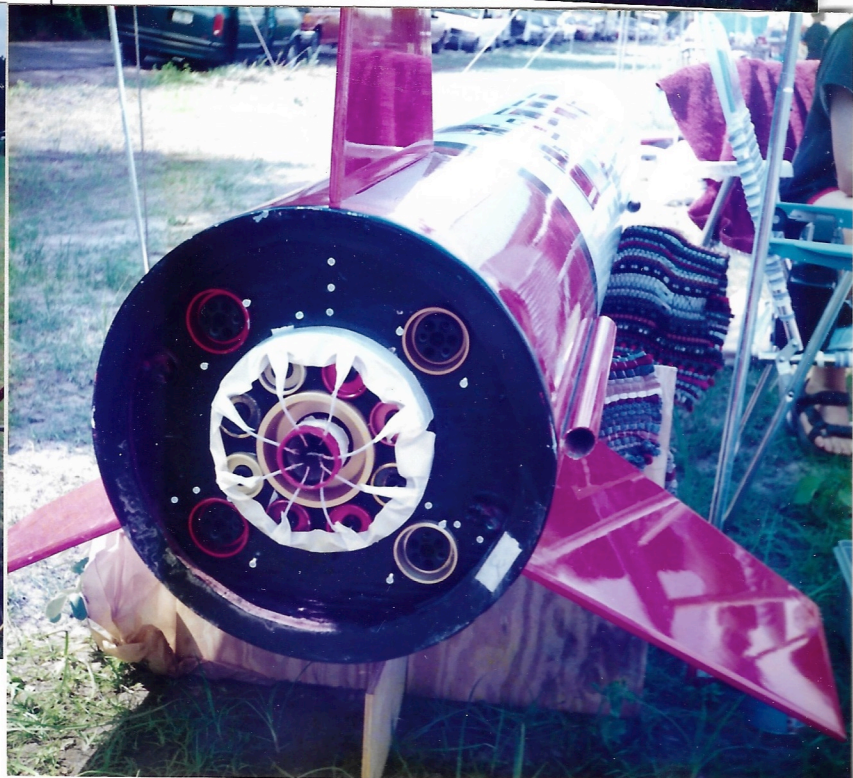
LDRS on Independence Day

Photos by Mark Tygeilski, Brian Day, and Tim Bennett.

This page: Brian Day and the Tygielskis pose by the launchers.

Neal Redmond is ready to rise. Is this motor cluster for real?

Next page: Tim's big Aerobee Hi. These rocketeers won't reveal themselves.



By Brian Day

HARA and had a really great time at LDRS-XV in Orangeburg, SC, represented by Brian Day, Cathy Hendrix (Brian's fiancée), the Tygielski family, Tim Bennett and Neal Redmond.

Thursday Brian and Cathy arrived at the site (the Super Sod farm) to find Mark Tygielski already set up in a tent and ready to fly. The heat was oppressive, and everyone just wanted to get their bearings, check out vendor row, etc. Brian only got one flight in (black and chrome 3" scratch-built on an H123) which suffered a premature ejection. Mark attempted to fly his Minnie Magg on an H97, which also suffered a premature ejection.

Friday started out a little better for HARA when Cathy flew her "White Lightning" rocket, a Cluster R Stratoblaster, on an F40 reload (due to the low cloud ceiling in the morning). But as the rain rolled in, LDRS was basically shut down for the day.

Saturday Neal Redmond flew his Maxi-Force. The day started out cloudy, but as people were anxious to burn propellant, some small stuff was launched up to the limits of the cloud ceiling. As the clouds finally

burned away, the rockets really started to fly. Neal resurrected Mark's Minnie Magg and flew it on another H motor for a nice flight. Mark flew his "Bama Booster" with the H97 and 6 air-started D12's. Brian flew his Skycam on a new booster, with an altimeter and dual parachute deployment on an I211, and his pink PML Io on an H120. (Needed Cathy's eyesight to get that one back). Unfortunately, Brian is now known as the "guy with the pink rocket".

Tim Bennett successfully flew a scratch build half scale Aerobee Hi. He set a HARA record for the largest motor flown by a club member: L1000.

Emily Tygielski flew her purple and green Loc Onyx for a good flight, and Mark also flew his Loc-IV for another good one. Brian again put up the slightly shorter 3" scratch-built on an H128 for a pretty flight. Mark and Brian both passed the TRA level 2 certification written exams with 100% scores. Go HARA!

Saturday evening was the big barbecue dinner, followed by the Tripoli members' meeting and raffle.

To enjoy more excellent images of the events described here of HARA at LDRS, see <http://fly.hiwaay.net/~bday/hara/ldrs.htm>.



Bogged in B'Ham

HARA hooked up with Tripoli Birmingham and other regional flyers from Memphis to Mobile for an enjoyable launch in middle Alabama. The prefect there has a wonderful sod farm which was mostly mud on September 21 from the passing storm front. As the sun came out the rockets went up.

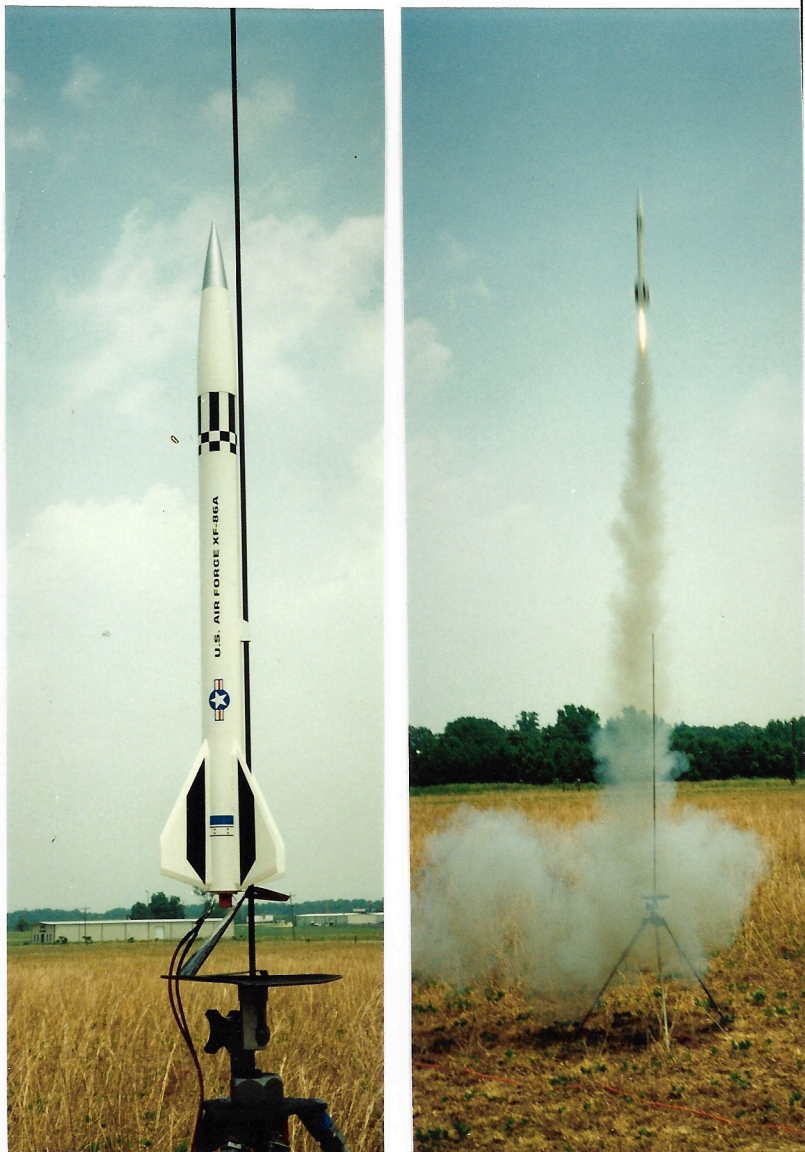
Kevin Cornelius flew the Bob Rocket on an H128, an ARCAS on a G64, and the EZ-I on an H97, all nominal flights. Mark Tygielski's "Bama Booster", the crimson & white 4" rocket with the central 29mm and 6 outboard 24mm's, crashed after one of the D11's catoed.

Neal Redmond's Patriot on an H reload crashed after a delay element blowby (again). The fiberglass bird survived the landing easily from Neal's 'hardening' construction.

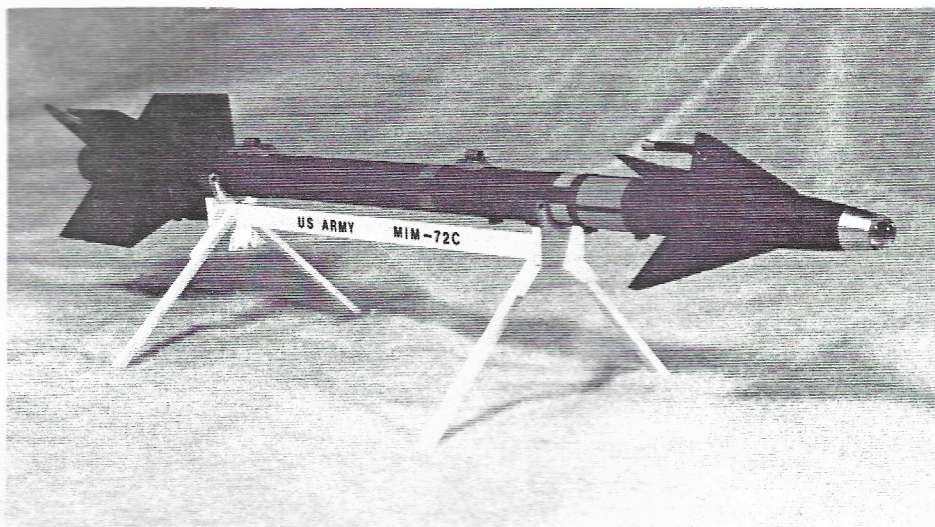
Vince Huegele lit a Vulcan H300-7 in the first flight of his Aerobee Hi. The bird then had an encore performance with an H123. Later Vince fired an Estes Phoenix on a D12-3 just to 'underbid' the flight line.

Brian Day flew his new scratch built 4" crayon rocket on an H97-MJ, for a nominal maiden flight. His THOY Falcon on an I161-MW, with an Adept altimeter and 2-stage deployment, flew beautifully to 1618' and opened its chute right on cue.

George Gassaway impressed everyone with his RC rocket glider performances. Gene Hornbuckle was also there and flew several rockets. Many HARA members won prizes at the raffle after the launch.



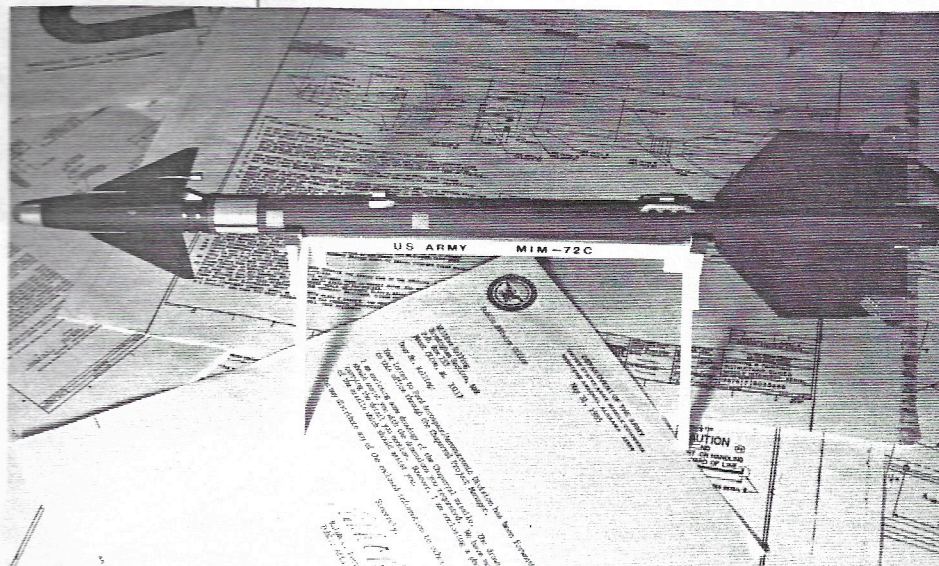
Vince's Aerotech Mustang goes through its paces during the June launch.



It's
Not
a Sidewinder,

Chaparral

An infrared heat-seeking missile system mounted on a tracked vehicle, Chaparral is a low-altitude, forward area air defense weapon system. The missile automatically homes on the target's heat source.



It's a Chaparral

Before Estes ever put out their Sidewinder kit, the paint was dry on Randy Kelling's scratch built Chaparral. The missile is the SAM version of the Sidewinder used by the Army and fired from a mobile ground launcher. Randy supplied these photos of his nicely detailed model. His scale data came from our own Redstone Arsenal and the Space and Rocket Center. Yes, it flies.

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<http://fly.hiwaay.net/~bday/hara/hara.htm>



Glenn Baeske/Huntsville Times

**Huntsville Area Rocketry Association
11108 Argent Drive
Huntsville, Alabama 35803**

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