HARA on ASCENT

With 1987 barely a month old, HARA is in full operation. Our first meeting was held in January and plans have been made for the entire year. The initiation of this newsletter adds to the momentum.

The first monthly meeting greeted 16 in attendance. Matt Steele gave a fine presentation on the development and status of high power rocketry. HARA plans to have meetings every third Thursday at 7:30 p.m. at the Alabama Space and Rocket Center Auditorium. Dave Dooling, affiliated with Space Camp and a new HARA member, has generously arranged for this facility. Each time, a special presentation will be given on some aspect of rocketry. February's meeting will discuss boost-gliders. Everyone can participate in the "Show and Tell" portion of every meeting to display their latest handiwork or favorite model. There is much to be learned at our meetings, so come get in on it.

As for launches, at least three NAR (National Association of Rocketry) sanctioned competitions are scheduled. The first will be April 18th followed by events in June and July. The big public HARA-AIAA contest will be October 3rd. More on all this later. Sports launches, where you just bring 'em and shoot 'em, will be each third Saturday starting March 21st. The launching site is the Old Airport.

HARA membership now stands at 15. We're hoping to enlist many more rocketeers in the area as well as other NAR members. If you're in NAR, why not go all the way and join HARA too? We are the only local official section tied directly to the NAR. NAR membership gives you the American Spacemodeling subscription and competition qualification, but it is HARA who will hold the competitions. Don't be a lone modeler!!

If you are in HARA but not a NAR member, think seriously about joining the NAR. As mentioned, it will give you an American Spacemodeling subscription, but it will also let you be part of an organization of rocketeers that spans the country. The NAR provides liability insurance for members and as you participate in club contest, both you the modeler, and HARA the club, accumulate points on a national level, competing, not only with
local club members, but also with clubs and modelers across the country. This usually culminates in a National Meet (NARAM) once a year, where modelers from all over get together in a week long competition to vie for trophies in individual events as well as the National Championship. NAR membership is $11.00 per year and the benefits are many. Ask any of the officers about how to join. You'll be glad you did!!

Join HARA! $3.00 will get your name on the list, a subscription to the MAX-Q, and the esteem of other modelers.

In the Interest of Equal Time

When his photograph won honorable mention in Estes' MRN cover contest, Vince Huegele was surprised to see his age listed by his name in the credits. "I guess the editors were disappointed I was not in school so they could put my grade down as well," Vince said. "I thought they would have given the information I furnished on my camera technique. But why give my age? To show kids old people do rockets too?"

In the interest of equal time, the ages of MRN editors, Bob Cannon and Mary Roberts will be announced here as soon as the information is available. Although Matt Steele knows them both, he couldn't give numbers on their ages. "The only way to know their age for sure," Matt said, "is to cut them in half and count their rings."
## Countdown
### 1987 Hara Calendar

<table>
<thead>
<tr>
<th>MONTH</th>
<th>DATE</th>
<th>EVENT</th>
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<tbody>
<tr>
<td>FEBRUARY:</td>
<td>19 February</td>
<td>Meeting 7:30 P.M.</td>
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<tr>
<td>MARCH:</td>
<td>19 March</td>
<td>Meeting 7:30 P.M.</td>
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<tr>
<td></td>
<td>21 March</td>
<td>Sport Launch Predicted Duration - unofficial event</td>
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<tr>
<td>APRIL:</td>
<td>16 April</td>
<td>Meeting 7:30 P.M.</td>
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<tr>
<td></td>
<td>18 April</td>
<td>Spring Fling '87 NAR Competition (See Events below)</td>
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<tr>
<td>MAY:</td>
<td>21 May</td>
<td>Meeting 7:30</td>
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<tr>
<td></td>
<td>23 May</td>
<td>Sport Launch Open Spot Landing - unofficial event</td>
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<tr>
<td>JUNE:</td>
<td>6 June</td>
<td>June Jam '87 NAR Competition (See Events below)</td>
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<tr>
<td></td>
<td>18 June</td>
<td>Meeting 7:30 P.M.</td>
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<tr>
<td>JULY:</td>
<td>11 July</td>
<td>Rocket City Roundup NAR Competition (See Events below)</td>
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<tr>
<td></td>
<td>16 July</td>
<td>Meeting 7:30 P.M.</td>
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<tr>
<td>AUGUST:</td>
<td>2-7 August</td>
<td>NARAM 29 Anaheim, California</td>
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<td></td>
<td>20 August</td>
<td>Meeting 7:30 P.M.</td>
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<td></td>
<td>22 August</td>
<td>Sport Launch</td>
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<tr>
<td>SEPTEMBER:</td>
<td>7-14 Sept.</td>
<td>7th World Spacemodeling Championships Belgrade, Yugoslavia</td>
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<td></td>
<td>17 Sept.</td>
<td>Meeting 7:30 P.M.</td>
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<tr>
<td></td>
<td>19 Sept.</td>
<td>Sport Launch</td>
</tr>
<tr>
<td>OCTOBER:</td>
<td>3 October</td>
<td>HARA-AIAA Rocket City Classic #6 7:30 P.M.</td>
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<td></td>
<td>15 October</td>
<td>Meeting 7:30 P.M.</td>
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<td></td>
<td>17 October</td>
<td>Sport Launch</td>
</tr>
<tr>
<td>NOVEMBER:</td>
<td>19 Nov.</td>
<td>Meeting 7:30 P.M.</td>
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### April Spring Fling (18 April) Events
1. Predicted Duration
2. B Streamer Duration
3. Parachute Spot Landing
4. 1/2A Parachute Duration
5. 1/2A Boost Glide
6. International D Boost Glide (no Flexies)
7. Open Spot Landing
8. Streamer Spot Landing

### June Jam (6 June) Events
1. Predicted Duration
2. 1/2A Boost Glide
3. Sport Scale
4. 1/2A Parachute Duration
5. International D Boost Glide (no Flexies)
6. B International Streamer Duration

### July Rocket City Roundup (11 July) Events
1. Predicted Altitude
2. C Eggloft Altitude
3. Drag Race
4. International E Boost Glide
5. Predicted Duration
6. 1/2A International Parachute Duration
7. B Streamer Duration
8. 1/2A Boost Glide

*All Meetings will be at the Alabama Space and Rocket Center Auditorium

**Launch Dates subject to change, however advance notice will be given. Probable launch site-Old Airport*
HARA Members as of January 1987

Dooling, Dave
Alabama Space and Rocket Center, 35807
837-3400

Halbritter, Markus
9016 Cannstatt Dr., 35802
883-5299

*Hall, Chuck
3120 Andros Dr., 35805
883-6369

Hitt, Bill and David
1115 Hermitage Ave, 35801
536-4135

*Hendricks, Wayne
Box 4922, 35815
881-4634

*Heugele, Vince
1028 Antietam Rd., 35803
881-2904

Johnson, Chris
RT 1 Box 519, Lacey Springs, 35754
n/a

*McCain, Wayne, Dana, John and Scott
4209 Nolen Ave., 35801
536-2241

Rabb, David
2123 Gladstone Dr., 35811
536-9195

Reasoner, Colin
3103 Holly Hill, 35802
n/a

Shulz, Eric
1013 Riviera Ave., 35802
n/a

*Steele, Matt and Robyn
13011 Branscomb Rd., 35803
883-6020

*Street, Troy and Jonathan
10127 Dunbarton Dr., 35803
883-8318

* Indicates NAR membership
Know Your Officers

The November election brought these people to power. They will direct HARA for 1987.

President Vince Huegele is a physicist at NASA MSFC. He got his first Estes catalog in 1967, which he still has, and has been flying ever since. To complement rocketry, Vince is also into photography and astronomy, which is good to know when you're trying to take pictures of a comet from the shuttle.

Vice President Matt Steele does rockets professionally at Morton Thiokol. A former national champion in NAR rocketry, he is getting ready to represent the U.S. in the 7th World Spacemodeling Championships in Yugoslavia next fall. Ask him about "Mac", his computer. (There is much more to say about Matt, but we're saving it for blackmail.)

Treasurer Wayne McCain is also employed at Morton Thiokol and has been one of the driving forces in organizing model rocketry in Huntsville. Wayne is into models, computers, ham radio and no telling what else.

Secretary Troy Street works at the Army Strategic Defense Command and fortunately launches only models. He was one of the earliest members in HARA and likes hamming on his radio.

Racketspeak

New club members may hear in conversations, certain unfamiliar terms. So that everyone can speak the same language, a few bits of common NAR jargon are given here.

Apogee: peak altitude; highest point in flight.
Auger in: diving into the ground (see prang).
Cato: short for "catastrophic failure"; breaking up in flight.
Centuri: rocket company comparable to Estes; now extinct.
Composite: high performance engine made of mixed propellants.
Dope: kind of paint used in modeling.
Flexie: boost glider with flexible wings made of plastic or mylar.
LDRS: large and dangerous rocket ships (see NCR).
MAX-Q: maximum dynamic pressure; greatest forces in flight.
NAR: National Association of Rocketry
NARAM: National Association of Rocketry Annual Meet
NCR: North Coast Rocketry; distributors of composites and LDRS kits; (see Matt Steele).
Prang: crash.
Zunofark: A mythical boost glider
We Believe in Clubs for Modelers

HARA
1028 Antietam
Huntsville, Alabama 35803

TO:

V-2..Redstone..Saturn..STS.....