RECOMMENDED SCHEDULE OF ACTIVITIES FOR TARC 2008 TEAMS

Week 1-11 below refers to the elapsed time since team entry forms and payment were received and accepted by AIA.

WEEK 1

- Ensure all team data (names, e-mail, etc.) on file with AIA is correct
- Join TARC electronic forum (Yahoo group http://groups.yahoo.com/group/NARTARC/)

WEEK 2

- Assign team responsibilities (such as project manager, airframe, propulsion & ignition, launch system, fundraising etc.)
- Get a mentor (see the list of available NAR mentors at www.nar.org)
- Watch the instructional DVD "How to Build and Fly a Model Rocket" that is provided to new teams.
- Download the Team Handbook & Rules and the Frequently Asked Questions from www.rocketcontest.org, and have all team members read both
- Begin research on rocket parts supply sources (starting with the three "official parts suppliers" listed in the TARC Handbook)
- Order one of the two available flight-simulation and rocket-design computer programs, SpaceCAD or RockSIM, at the TARC Team discount price directly from the vendor.

WEEK 3

- Purchase an inexpensive one-stage rocket kit to familiarize team with rocket building & flying, and build it. A good basic kit specifically for TARC teams is available from Aerospace Specialty Products.
- Locate a place to fly rockets (or a nearby NAR launch to attend and fly at, see the "Launch Windows" calendar at www.nar.org or contact the nearest NAR club or "section" listed at this same website)
- Develop a plan to raise required funds for purchase of rocket supplies (and hopefully for later travel to the flyoffs), covering at least 2-3 rockets and motors for at least 10 test and qualification flights

WEEK 4

- Obtain a comprehensive book on model rocketry, such as G. Harry Stine's "Handbook of Model Rocketry" (available at a TARC Team discount from NAR Technical Services www.nar.org/NARTS), and have all team members read it.
- Load the rocket design and flight simulation computer program that you purchased, and have team members learn to use it
- If you require "site owner" insurance for the place where you will be flying, have the teacher and at least three team members join the NAR, and order NAR site owner insurance

WEEK 5

- Fly a basic one-stage model rocket

- Order your ALT 15K/WD Rev2 official altimeter from Perfectflite at the special TARC price.

WEEK 6

- Using the computer program and the knowledge gained from reading and from building basic rockets, develop a first design for TARC entry

WEEK 7

- Using the computer program, conduct flight simulations of your design with various rocket motors on the TARC approved motor list, to determine the best motor(s) to use
- Locate sources for the materials needed to build the TARC design (starting with the official vendors in the TARC Handbook) and purchase required parts and rocket motors

WEEK 8

- Design and build (or purchase) the electrical launch system and the launch pad (rod or rail) to be used with your TARC entry, if you do not have a local rocket club's system available for your use

WEEK 9

- Begin construction of your initial design for your TARC entry
- Locate a NAR Senior (adult) member who can serve as your official observer for your qualification flight(s), if you do not already have an NAR Mentor who will do this.

WEEK 10

- Develop a pre-flight checklist for your TARC flight and assign responsibility for each of the duties to a member of the flight team
- Test your launch system by test-firing igniters without installing them in rocket motors

WEEK 11

- Weigh your completed TARC rocket and re-run computer flight simulations with actual rocket weights
- If your rocket weighs over 1 pound, locate the appropriate FAA flight control office to notify of your planned launch (see Appendix 5), unless you are flying with an NAR club that already does this for their launches

By February 1 you should:

- Test-fly your initial TARC design (without altimeter), making sure that you leave time to redesign, rebuild, and re-fly by April 8 if this initial flight/design is not successful!
- If your first flight is fully successful, test-fly again with stopwatch timing and the altimeter installed. Repeat test flights until you hit the design targets.
- If your first flight is not successful, do post-flight failure analysis and re-design.

By March 15 you should:

- Make your first official qualification flight attempt in front of an NAR Senior member observer

NO LATER THAN April 7 you <u>must</u>:

- Make your final official qualification flight attempt in front of an NAR Senior member observer
- Submit (fax) your qualification flight report to AIA

April 13

- If notified of selection to attend the flyoffs, make reservations at one of the TARC motels identified by the organizers and conduct fund-raising to cover travel and lodging
- Continue test-flying to "tune" rocket design to target altitude
- If you plan to travel to the flyoff by airline, order rocket motors for flyoff to be shipped to TARC receiving point or delivered on-site by flyoff vendor (Hangar11 Hobbies)

NO LATER THAN May 1

- Complete and test-fly the actual rocket to be used in the flyoff. This flyoff rocket must have been test-flown before arrival at the flyoff, as there is no opportunity for test-flying at the flyoff site.