Aviation Troop Speciality Badge

by Christopher Singleton

Oh! I have slipped the surly bonds of earth And danced the skies on laughter-silvered wings

A passage from the poem High Flight, BY PILOT OFFICER GILLESPIE MAGEE, NO. 412 SQUADRON, RCAF

Last year, 20th Cambridge Scouts ran an Aviation Program for our Troop Specialty Badge and for many of our members it was a great chance to "dance the skies on laughter-silvered wings . . .".

In order to fire up our Scouts about aviation and model aviation specifically, we arranged for a field trip to the local radio control club's annual scale rally. This event took place on the weekend before our first meeting in September, so it also functioned as a reunion for those Scouts who had not seen each other over the summer. The show put on by the local club and the visiting fliers was nothing short of fantastic and it gave our Scouts their first opportunity to see models that were for the most part, outstanding examples of scale biplanes, warplanes, helicopters and jets. All of the Scouts came away from the event enthused about model airplanes and raring to get started on some of their own.

Our next task as leaders was to solicit suggestions from our Scouts as to possible troop specialties. It didn't come as too much of a surprise that hot on the heels of their visit to the model airplane show, aviation was one of the suggestions and the ultimate choice for the troop.

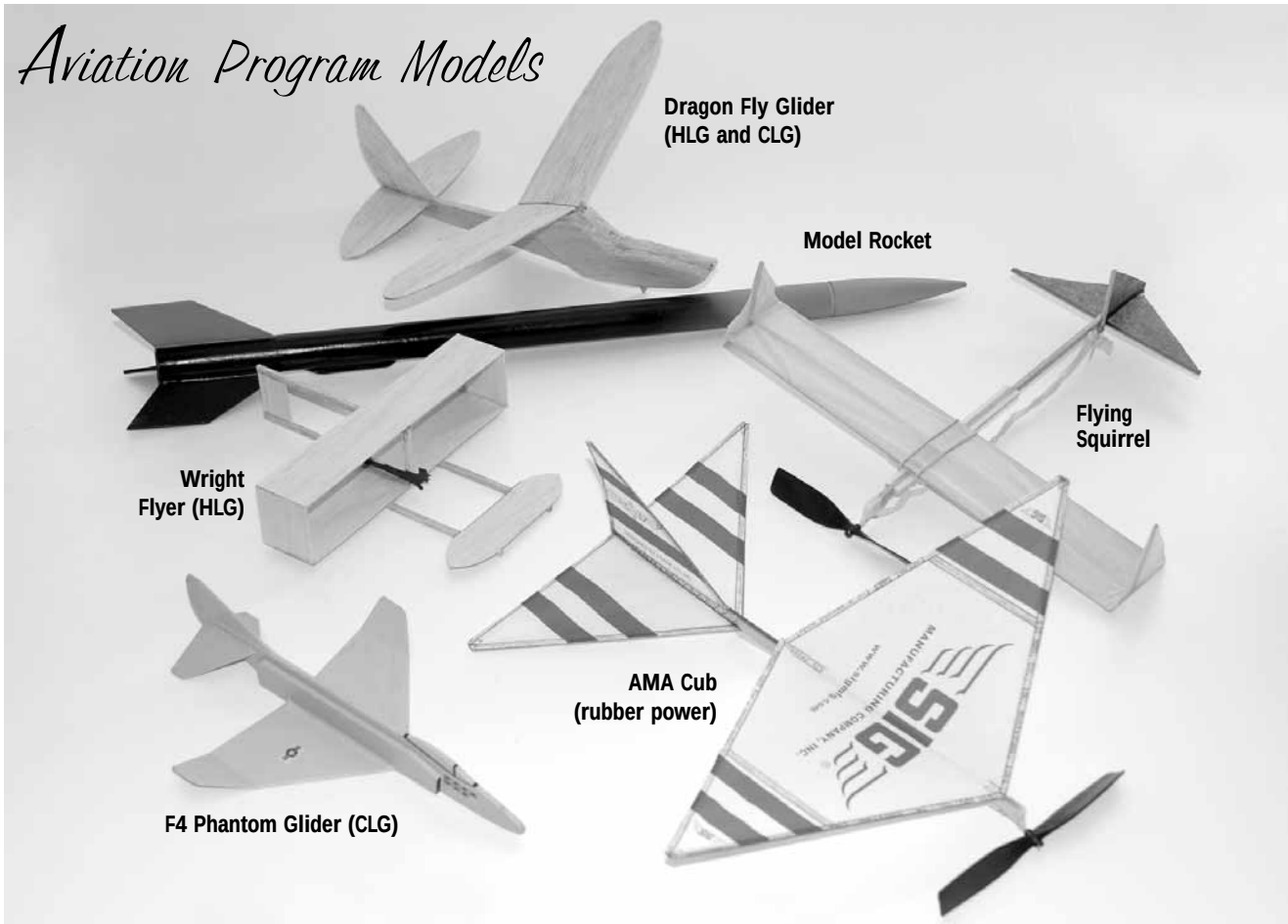
As a long term modeler, it was not too difficult for me to come up with a series of suitable beginner projects, and working with our Troop Counselor who is a private pilot and a couple of our senior Scouts we came up with the following requirements for our Aviation Program – Troop Specialty Badge:

- ✈ Visit two aviation related museums
- ✈ Basic theory of flight for aircraft and model rockets
- ✈ Build and fly a balsa HLG (Hand Launched Glider)
- ✈ Build and fly a balsa CLG (Catapult Launched Glider)
- ✈ Build and fly a rubber powered model airplane
- ✈ Build and fly a model rocket.

Optional projects and activities:

- ✈ Visit a model aircraft or model rocket contest
- ✈ Build and fly a kite
- ✈ Build and fly a control-line (CL) model airplane.

Aviation Program Models



Photos: Christopher Singleton

Next up was the development of a financial budget and a calendar for all the projects and museum visits.

We started the program by assembling a simple tool kit for each Scout comprised of a cardboard Bankers File Box, a modeling knife, a pair of scissors, a metal ruler and a cutting board. The large box provided the Scouts a place to store their tools and their partially completed models and reduced the risk of leaving the models and tools in a Scout room accessed by Beavers and Cubs.

The tools were purchased at a local dollar store; the cutting board was a sheet of Masonite (much better then a rubber cutting mat) that was cut into 12x12 inch squares at the local big box hardware store and the file boxes were donated by one of our members. All in all, we managed to get our tool kits assembled for about $6 per Scout.

Although most of the supplies you need such as balsa and glue can be purchased a large chain craft store, I would recommend you contact a local hobby store if you can. Not only are their prices and quality of balsa likely to be better, they will be able to supply you with a few items that the chain store will not. Additionally, they might be able to connect you to some local area resource people at flying model clubs, rocket clubs or kite clubs.


First things first. Jacob holds a Wright Flyer.

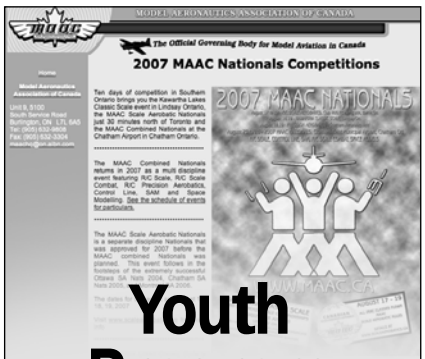
Ultimately each of the airplane building projects cost our troop approximately $3-7 each and the model rocket project was approximately $15-20 per Scout.

Dragon Flies, Squirrels and Phantoms

The first project we built was a simple Hand Launched Glider (HLG) called the Dragon Fly. This gave most of the Scouts their first exposure to working with balsa wood and allowed them to gain some basic building skills with a robust little model they could be proud of. It was a great first project, but if my troop was to build them again in the future, I would modify the plans slightly to speed and ease the building process for beginners.

Our second project was a fantastic little plane called a Squirrel. This little flying rodent can be built in less than one hour. Darcy Whyte designed it specifically for youth groups; it's a superb indoor flyer even in small gyms. The project is so simple; rather than using actual plans, it is built directly from a set of instructions. Although it involves tissue paper covered wing surfaces, it is a virtually foolproof design that even most Cubs could build. It really is quite a sight to see a mass flight of 10-15 flying Squirrels in a small church gym!

The Flying Squirrel project was followed by a F4 Phantom (CAT) Cata-

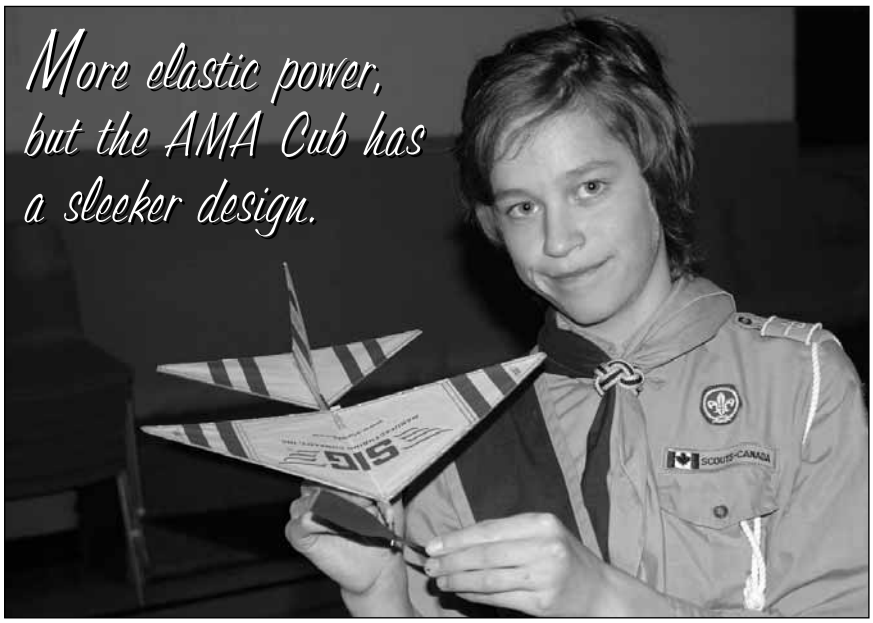


Youth Program Information

MAAC (the Model Aeronautics Association of Canada) has developed two age-appropriate Youth Programs for Cubs and Scouts. These programs contain age-appropriate aviation theory, building and flying content within a series of modules. Designed as a progressive series, a leader may choose to use just one or two modules, or the complete series.

Programs and additional information are available free of charge by contacting Christopher Singleton at CaptainBalsa@execulink.com.

With these plans and instructions, you'll be flying high in no time.


More elastic power, but the AMA Cub has a sleeker design.


Too Cool!

This F4 Phantom is too fast to fly indoors.

pult Launched Glider that proved to be too much of a flier for our small gym. This jet is fast when launched using a 5-6 inch long elastic band and would be best flown outside on a calm day. Again the design of the Phantom, while more challenging than the previous models, is virtually foolproof. Every one of our Scouts had successful flights with his creation.

Fly High at Aviation Museums

One of the highlights of the building projects was of course the model rocket. These were built and painted over a couple of building sessions, then flown with the assistance of our local model rocket club (Cambridge Rocket Club) who provided technical expertise, a flying site and some advanced launch equipment. While the assistance of a local rocket club helped ensure two very smoothly run flight sessions, basic launch equipment is only about $50-60. Complete rules and instructions for launching model rockets are included with the kits, so it is not beyond any interested group that does not have a local rocket club.

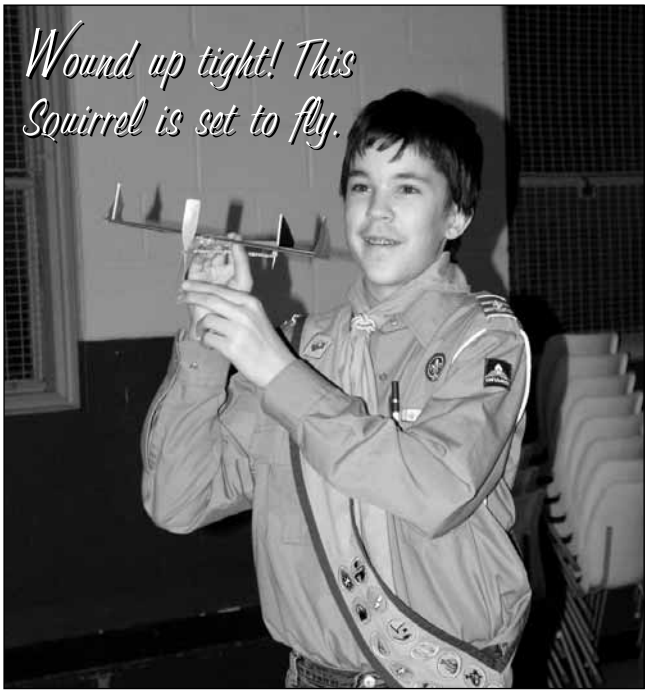
As great as it was to build and fly all the models and pass on my love of model aviation to my Scouts... the high-point of our year long program really was the visit to the two aviation museums. In our case we actually sandwiched the two visits into a one airplane extravaganza weekend, by visiting the Canadian Warplane Heritage Museum (CWH) in Hamilton, Ontario on a Friday night and the Toronto Aerospace Museum (TAM) on Saturday.

Both museums offer great youth programs and workshops; however the one at the CWH is outstanding as it includes some aviation theory, lots of aviation history, the chance to build some great foam gliders and a working paper hot-air balloon. The high-point of the CWH program is a late night pizza party and a giant sleepover

on the museum floor... right underneath the wings of the airplanes! Our group slept beneath a Canadair CT-114 Tutor (a Snowbird jet) and a Grumman Tracker... NOW THAT'S COOL!

Our visit to TAM was significant as we were lucky enough to arrive on the day their Avro Arrow replica was assembled. This special project is a fantastic tribute to a Canadian aviation icon.

Even outside of a formal aviation program, I strongly recommend visits to both CWH and TAM museums to any Cub and Scout groups within reasonable driving distance. There are many aviation related museums across Canada (see sidebar information) which offer interesting, age-appropriate youth programs and a rare opportunity to see, learn and experience Canadian aviation history up close and personal. ⅄ *– Scouter Christopher Singleton is a long time airplane modeler and the co-chair of the Youth/Beginner Committee of the Model Aeronautics Association of Canada (MAAC).*



Aviation Museums

A web links list to 27 aviation museums in Canada is available at:
http://www.canadianflight.org/links/canada.htm