



Aircraft Modeling

For Royal Canadian Air Cadets



The Air Cadet League of Canada has joined forces with the Model Aeronautics Association of Canada (MAAC) to provide aircraft modeling instruction for Royal Canadian Air Cadets.

Cadets learn to build, fly and compete with their models. Guidance and assistance is provided by dedicated MAAC volunteers.

Over the past several years, Model Aeronautics Association of Canada members have been working with Air Cadet Squadrons across Canada to develop an interest in aviation through the building of model aircraft and rockets. Some Squadrons have developed their own internal programs to the extent that individual cadets have been able to achieve assistant instructor level requirements.

MAAC, in conjunction with the Aero Club of Canada (formerly the Royal Canadian Flying Clubs Association), have made funds available for any Air Cadet Squadron interested in establishing a MAAC model building program. The MAAC program consists of four steps beginning with hand launched gliders and rubber band powered models through U-control and eventually radio-controlled models. The selection of kits and materials for the model-building course reflect a thorough analysis of the need for cadets to advance from basic gliders through to advanced radio-controlled modelling. As Cadets advance and develop expertise they are expected to assist entry-level model builders in the Squadron. This ideally maintains a preferred 6:1 student/instructor ratio.

A squadron wishing to present this program should contact:

MGen (Ret'd.) William G. Paisley
Air Cadet League of Canada
Ontario Provincial Committee
E-mail: wpaisley@cogeco.ca
Phone (613) 384-2116

Or

The Model Aeronautics Association of Canada
5100 South Services Road, Unit 9,
Burlington, Ontario L7L 6A5
E-mail: linda_maachq@on.aibn.com
Tel: 905-632-9808 Fax: 905-632-3304

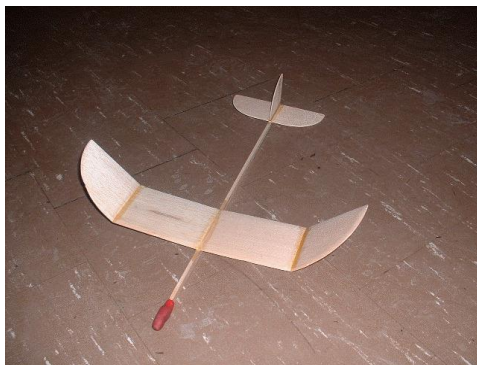
Model Aeronautics Association of Canada website <http://www.maac.ca/>

NOTE: A special web site containing detailed information, drawings etc. has been set up for the program at: <http://www.cpi-hamilton.ca/cadets/>



Learn About:

- Basic Aerodynamics
- Trimming and Control Surfaces
- Fuselage and Wing Design
- Power and Control Options



We encourage Cadets from across Canada to participate!

To assist Squadrons wishing to introduce a model building program for their cadets, the Air Cadet League of Canada will reimburse Squadrons for up to \$300.00 for initial program start-up supplies.

The Model Aeronautics Association of Canada (MAAC) will assist Squadrons by, where possible, providing qualified instructors.

MAAC also offers a reduced membership fee for Air Cadets of \$21.00 which includes a subscription to the MAAC magazine or \$10.00 without the magazine.

An annual \$1,500.00 bursary program for continuing education in an aviation-related field is also available!

Air Cadet Modelling

Are you interested in your cadets gaining a wealth of practical experience in the fundamentals of flight?

As an aviation youth leader I'm sure you want to do anything that motivates your cadets to take an interest in aviation. Then the answer is to get your squadron involved in an aircraft modeling program. It's really easy.

Some squadrons across the country have taken advantage of the model aircraft program developed as a joint venture between the League and the MAAC. These squadrons have found this activity to be an affordable and interesting method of getting more "Air into Air Cadets". MAAC has developed a graduated modeling program for cadets. Where possible MAAC members may assist with the instruction. The details of the program follow. Your next step is to register your squadron with MAAC (Linda Patrick [linda_maachq@on.aibn.com]) and get started with the program. Receipts for purchases of modeling materiel up to \$300.00 will be reimbursed when sent to the Air Cadet League of Canada, Ontario Provincial Committee, 4900 Yonge Street, Suite 600, North York, Ontario M2N 6B7.

Starting a Model Aircraft Club with Cadets

By Captain Don Brooks, 690 Lakeshore Squadron, Beaconsfield, Quebec

The 2009-2010 training year marked my return to the Cadet Instructor Cadre, at the squadron where I was a Cadet as a teenager and originally enrolled as a CIC Officer in the early 90s. In 2009, while chairing the committee for 690 Lakeshore Squadron's 50th Anniversary I had the chance to work with the squadron staff. More importantly, however, I got to know some of the Cadets. I went out to visit the squadron on their spring survival exercise, and while there I was reminded how much fun it can be to get out and play with the teens that a CIC Officer spends so much time and effort training. I was just visiting, yet after a six year absence from the program it took me no more than an hour before I found myself getting involved with the activities and interacting directly with the Cadets. And so, after a few weeks of deliberation and a talk with the incoming CO of what role I would fill and which activities I would be willing to take on, I looked for something that allowed me the opportunity to lead, to teach, and yes, *to play*.

690 Squadron already had a model club for going on 10 years, last year being led quite well by F/Cpl Antoine Carrière, building scale plastic models. There was already one trainer aircraft hanging from the ceiling in our office, built back in the days when I was a cadet. And so, having had some limited experience in the past with radio controlled (RC) helicopters, I suggested the possibility of expanding this, and seeing how much interest the Cadets might show in RC flight. I put up a few posters during our first two training nights, brought in my copy of the Realfight RC simulator, and let the cadets try it. The first night we ran our optional training activities, I had a dozen cadets – triple the number of cadets who participated in the model club the previous year. Every optional training night from that point was spent coaching Cadets on the simulator and planning what I hoped would be some successful flying outside. And of course, making a little time for myself to demonstrate some manoeuvres, so that I too had the chance to play.

Based on the Model Aviation Association of Canada's (MAAC) wings program, I set up a training plan for the simulator, complete with log books for the cadets to log their time. Then I had to figure out a way to raise some funds to expand the budget beyond plastic scale models and paint. In its existing format, funds were provided by the local wing of the Air Force Association of Canada, No. 394. But we now also needed supplies and equipment to teach the cadets how to work with balsa wood, so that they not only could learn to fly an RC plane, but to repair and build them. We were lucky enough to have one aircraft that was ready to fly, but for several cadets, and in the inevitable event of a crash, one plane would not be enough in the long term. The CO mentioned that she recalled seeing something mentioned about funds for model clubs on the Air Cadet League's web site, so off I went to investigate.

Sure enough, I was surprised to learn that the Air Cadet League and MAAC had partnered to develop a 4 stage program, complete with recommended projects and an instructor's guide and to provide squadrons \$300 in start up funds. \$300 is plenty to get started with their level 1 and 2 projects, and still have enough to buy a kit to build a trainer aircraft for the level 3 part of the program.

The level 1 project, building balsa sport gliders, got going in January, and we managed to hold a small indoor competition in the gym at the school we operate from. The level 2 project was next, building a rubber band powered airplane made up of a frame of balsa strips and then covered in tissue paper. While some practiced on the simulator, and the others finished up their gliders I watched one of the newest members of 690, a 12 year old cadet named Matthew Doughty, working on his level 2 plane. I was impressed with the patience and attention he put into gently cutting apart the strips of wood and pinning them down to the included plans. His partner, LAC Haddad, then went to work gluing each joint in place. It wasn't long before they'd finished the first sections of the wings.

Then we discovered electric micro aircraft. I bought one for myself to fly in the gym that we use, and within weeks, two of the cadets showed up with one of their own. This started getting people's attention during our 15 minute break when the band, drill team and sports teams weren't using the gym. We would go in to fly, and would have all of the other cadets and staff watching us through the windows.

Come fall, we'll start anew with the level 1 and 2 projects for Cadets who will have just joined the squadron, and several whose interest we caught after they saw us working and flying. For those who participated this year, they will start building our 2nd plane to complement the one we already have, and I suspect at least one of them will be bringing in his own kit to start building, hopefully to be ready in time for spring.

For our Annual Review, we put on a short demonstration as well to give some of the participants a chance to show off how much fun we've been having this last year. To the delight of parents and invited guests, we had three small electric aircraft flying around the arena, and at the same time our larger fuel powered aircraft taxiing the around the outside edges of the arena floor. All in all, a short display of some 2 to 3 minutes, adding something a little different to the regular ceremony, which was met by very enthusiastic comments afterwards.

Can any of this be used to enhance other optional or regular training?

I had noticed one night that one of our senior cadets had brought in a small model plane to use in our ground school class. I brought him up to our office, and pointed out the almost 6' wingspan of the aircraft suspended from the ceiling. What better training aid for scholarship ground school and principles of flight, than an actual aircraft that can fly, yet is small enough to sit on a desk? In minutes, we had it down, and headed to the classroom for his lesson on control surfaces. The week after, it was used to demonstrate propellers. And the week after that, to show how an airfoil creates lifts. It's big, and it's bright yellow. It *definitely* gets the Cadets' attention.

But what if we don't have any experience building and flying model planes?

That's where the MAAC comes in. They sanction, support and insure RC flying clubs all across Canada, which opens the possibility of finding experienced local volunteers who can help out squadrons who have the interest, but may not have a staff member or volunteer with the necessary experience. I looked around on my own, and contacted the West Island Model Aeronautic Club (WIMAC), which meets in the suburbs at the western end of Montreal, where 690 Squadron operates. Wanting the cadets to see some of these planes in action, and build up some anticipation, I asked if they would be willing to have a group of cadets visit them once spring came.

Not only were they willing to have us visit, but in March the club president, Andrew Fernie came with another of the club's directors, Mick Forey for a visit at the squadron to show us some of their aircraft. They also spent a bit of time assessing our plane and gave us some helpful tips on how to get it ready to fly. Spring was right around the corner, so I decided to join the club's online discussion forum in order to introduce myself. The members have been very supportive, some offering to "buddy box" with our cadets. (A buddy box is a dummy radio wired to the instructor's radio, allowing the student pilot to fly, while having the safety of an experienced RC pilot ready to take control should anything happen). It doesn't stop there! Come spring we spent a day helping them with the spring clean up of their field, and a few weeks later I packed up our trainer aircraft, and went back with 5 Cadets for their first taste of actual RC flight. Other members have kicked in a few things to help the program along as well. Michael Jenkins donated an engine to replace our somewhat unreliable old one that was on our existing plane, and James Steger gave us a kit for an electric powered plane.

The training year has just ended, and I can say that with the support of the people at the Air Cadet League, MAAC and WIMAC, the result of my efforts in getting 690 Squadron's RC club started has paid off. Two of the cadets are considering joining the club on their own as junior members and I have had one parent email me to say thank you for getting her normally reserved son quite excited. I have a dozen eager cadets and more on the way, plenty of building and practice activities to keep them busy next winter, and one aircraft that has already seen a few hours of flying, and which will be shared over the summer months by myself as well as some of our eager young RC pilots.

And one excited Captain who wants to go out and play.

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--Downloads--

[Course Outline](#)

[Introductory Letter](#)

[Instructors Guide](#)

Projects

[MAAC Sport Glider - Level 1 - Project 1](#)

[Sig Tiger - Level 2 - Project 1](#)

[Larger Projects - Level 3](#)

[1/2 A Texaco Scale Aircraft - Level 4](#)

Right click on the above links and save them to your hard drive before printing.