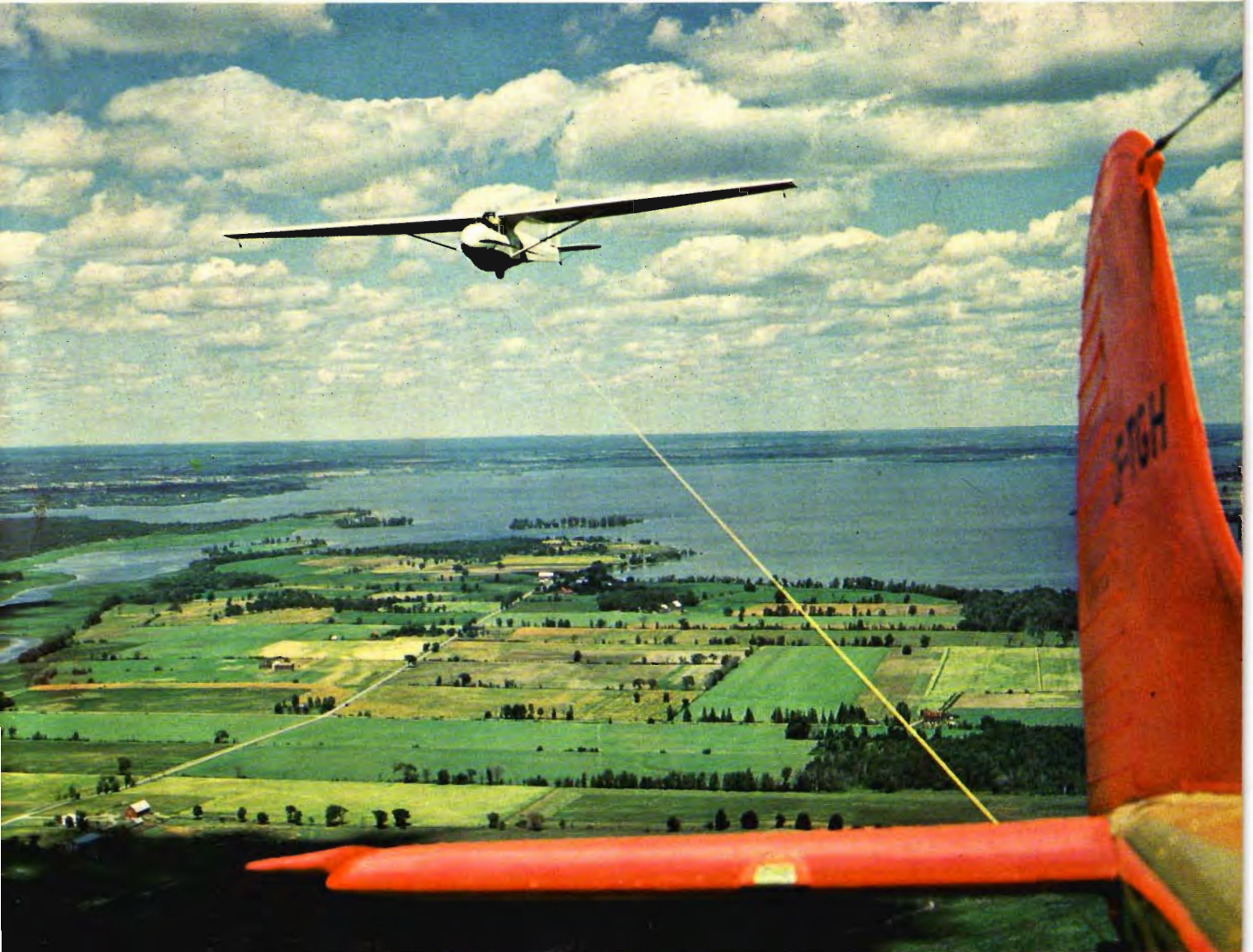


canadian

Flight

the pilot's magazine



may-june 1974

*Innovative aviation projects generate excitement among
Canada's teen-aged Air Cadets . . .*

air cadets fly high

By **ARTHUR MACDONALD**

In recent years, the Air Cadet organization in Canada has been going flat out on a number of projects and programs designed to "put the air back in Air Cadets". Behind this slogan lies the fact that those responsible for supervising the program have felt that Air Cadets were simply not being provided with a sufficient number of opportunities to actually experience the thrill of flight.

For many years, the Air Cadet program had functioned very successfully on the basis of a partnership between a military organization — the Royal Canadian Air Force, and a civilian sponsoring agency — the Air Cadet League of Canada. In the early years, the RCAF operated an impressive number of bases scattered all across the country and there was no shortage of small aircraft — especially those in the Expeditor-Dakota category which were well suited to providing familiarization flying opportunities for Air Cadets. However, with the coming of Service unification, the closing of many bases and amalgamation of others, and with the trend to large, long-range aircraft, the situation changed rather drastically.

Faced with the problem of maintaining cadet interest, the Air Cadet League decided in the early 1960s that special efforts were

needed to "put the air back in Air Cadets". The result was an all-out effort to develop a countrywide gliding program for Air Cadets.

This was not the first time that the Air Cadet League had displayed an interest in gliding. In 1945, the Central Gliding School operated at Carp, Ontario under sponsorship of the League and the Soaring Association of Canada. Its purpose was to train instructors and supervisory personnel for what it was hoped would become a national Air Cadet gliding program.

The equipment used in those days included the famous DH Sparrow and Kirby Cadet gliders from England. Launching was done by a means of modified barrage balloon winches from Britain. However, because of high costs and equipment problems, this program was short-lived. Nevertheless, the groundwork was laid for an interest in gliding for Air Cadets which was to re-emerge a number of years later.

In the summer of 1965, the Alberta Provincial Committee of the League, with the cooperation of the Alberta Soaring Council, set up a gliding familiarization program which operated at Cooking Lake, near Edmonton, in conjunction with the Air Cadet summer camp at Namao. The following year, the summer camp moved to CFB

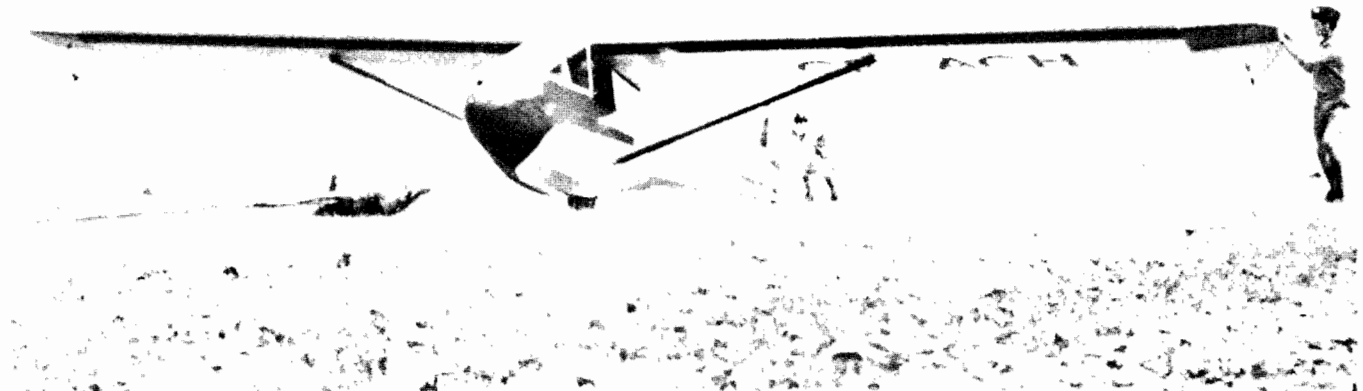
Penhold where once again a glider familiarization program was carried out.

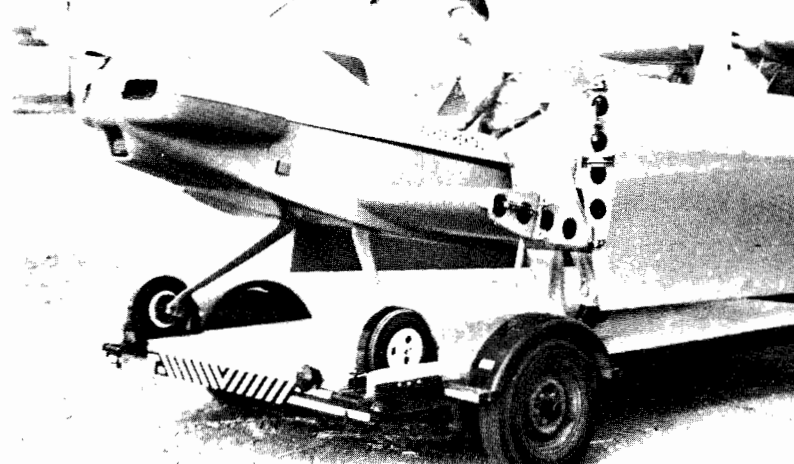
In the early years, gliders were loaned or leased to the League by soaring clubs in Alberta which also supplied the qualified glider pilots who were taken on the camp staffs as instructors. The Canadian Forces cooperated in the effort by providing supporting staff and equipment, including two L-19 tow aircraft.

The enthusiastic response of cadets to gliding at Penhold led to the adoption of gliding as a major activity by the Air Cadet League, with essential support and assistance from the Canadian Forces. In 1967, a glider procurement program was launched with the goal of building up a fleet of League-owned gliders for use not only at the summer camps, but during the fall and spring gliding seasons as well.

This project has now reached the stage where the Air Cadet League owns and operates no less than 38 Schweizer 2-22 and 2-33 gliders, the majority of which have been purchased by Provincial Committees of the League utilizing funds raised mainly by the cadets themselves through such activities as sale of lottery tickets, march-athons, etc. The support equipment owned by the League includes glider winches and trailers and, in some cases, vehicles to transport them.

At No. 1 Gliding Centre, Mountain View, Ont., two "huffin' puffin" Air Cadets manoeuvre a 2-22 glider into position for the next launch.





Pazmany PL-4A, shown here both fully rigged, and with wings folded for towing, will be on display at Air Cadet camps this summer.

The Canadian Forces cooperates fully in the gliding program by providing essential maintenance support for the gliders, supervisory personnel during the summer months especially, and by laying down safety regulations and approved operating procedures.

All of this adds up to a tremendous cooperative effort involving the Air element of the Canadian Forces, working hand in hand with the Air Cadet League of Canada, to produce an extremely worthwhile training activity for many thousands of young men in the Air Cadet age bracket — 13 to 18 years.

The overall aim of the program is a highly altruistic one — to produce better and more responsible Canadian citizens by encouraging young people to invest their leisure time in worthwhile pursuits; to stimulate their interest in aviation and in the air element of the Canadian Forces; and, hopefully, to have them develop a more pronounced sense of leadership and responsibility as a result of their exposure to the art of flying.

The Air Cadet flying and gliding program was given a terrific shot in the arm in late 1972 when the League was authorized to purchase at a nominal price the surplus L-19 aircraft being released by the Canadian Forces. These were obtained through Crown Assets Disposal Corporation on the understanding that if the League was unable to make use of the aircraft in the manner intended — that is, to provide a meaningful flying and gliding program for Canadian youth — the aircraft would subsequently be returned to CADC for disposal on the open market, in the usual way. While significant expenses were encountered by the League and its Provincial Committees in obtaining civilian registration and airworth-

ness certificates for the aircraft, they are practically all in service at the present time and are playing an effective role in what is probably the largest gliding training program being carried out in North America.

There are several facets to the Air Cadet gliding program, as follows:

(a) Gliding familiarization flights are carried out at each of the four Air Cadet summer camps located in Greenwood, NS, Bagotville, PQ, Trenton, Ont. and Penhold, Alta. Utilizing 2-22 gliders and winch launch, this program is intended to ensure that each and every Air Cadet who attends summer camp receives at least one familiarization flight in a glider. Of necessity, the flights are of very short duration but the aim is simply to expose the cadet to the unique and wonderfully satisfying experience of silent, motorless flight and, if possible, to whet his appetite for further experience and training as a glider pilot.

(b) This summer, the Canadian Forces will conduct special Glider Pilot Courses for Air Cadets at Greenwood, NS, St. Honore, PQ, Mountain View, Ont., Rivers, Man., and Nanaimo, BC. Utilizing the League-owned gliders and tow aircraft, these courses are targeted to turn out up to 300 licenced glider pilots by the end of the summer. In subsequent years, the most promising of these will receive both power flying training and continuation glider training, with a view to having them fill the very real need for qualified gliding instructors in the Air Cadet program of the future.

(c) At the close of the summer camp season, the gliders, winches and tow aircraft are returned to their home provinces where they are used on a weekend basis to provide familiarization gliding and flying opportunities for Air Cadets in their

home localities. This operation normally has to be discontinued during the winter months but it starts up again in the spring and continues until summer camp time arrives.

The glider pilot training program is being carried on as an extension of the well established Air Cadet flying scholarship program which has been operating since it was first introduced in 1946. Under this scheme, the Canadian Forces supply up to 250 scholarships annually to cadets chosen from squadrons in all parts of the country. Additional scholarships are usually provided by League Committees, with the result that well over 300 Air Cadets each year have qualified for MoT Private Pilot Licences and the right to wear the coveted Air Cadet flying badge on their uniform.

The training of Air Cadets on flying scholarships is provided by member clubs of the Royal Canadian Flying Clubs Association and by the schools affiliated with the Air Transport Association of Canada. The classes are usually organized in groups of ten or more and the courses are normally of six-seven weeks duration.

A major problem with the flying scholarship program is that official funds are not available to provide graduates with advanced or continuation flying training leading toward a Commercial Pilot Licence. As many licence-holding cadets have learned, the rental cost of suitable training aircraft can be extremely high, and the result is that very few Air Cadets are financially able to continue their training beyond the private licence level. Some of the more promising lads will of course be utilized in the year-round gliding program but for many others, the simple fact of high cost has represented an almost insurmountable obstacle. However, this situa-

tion could also change quite dramatically in the not-too-distant future, if Lt. Col. Roy Windover has his way.

Lt. Col. Windover, a well-known Canadian pilot who won the Bleriot Medal last year for establishing two world lightplane altitude records, is the Senior Staff Officer for Air Cadets at National Defence Headquarters. With the idea of making low-cost flying and gliding available to licence-holding Air Cadets, and with the active assistance and support of the Air Cadet League and the Canadian Penitentiary Services, he has initiated two decidedly unique aircraft construction projects.

The first involves the Pazmany PL 4A, a well-known homebuilt aircraft designed by Ladislao Pazmany of San Diego, California. This all-metal aircraft has a wing span of 26' 8", and features folding wings so that the aircraft may be stored in a normal car garage. Powered by a modified Volkswagen engine, the aircraft is expected to cruise at 105 mph and, best of all, is expected to operate at a cost of \$3 - \$4 per flying hour.

Before making a selection, the Directorate of Cadets at National Defence Headquarters surveyed the "homebuilt" light aircraft market in an endeavour to locate an airplane which could be built at the squadron level, would be suitable for continuation flying training, and could be safely flown by cadets who have reached private licence standard. A process of selection followed by flight testing indicated that the Pazmany PL-4A was a suitable aircraft for construction at squadron level, with expected operating costs well within the reach of local squadrons and sponsoring groups.



Another Air Cadet construction project is the Pacific D-8 glider, shown with canopy and nose cone removed.

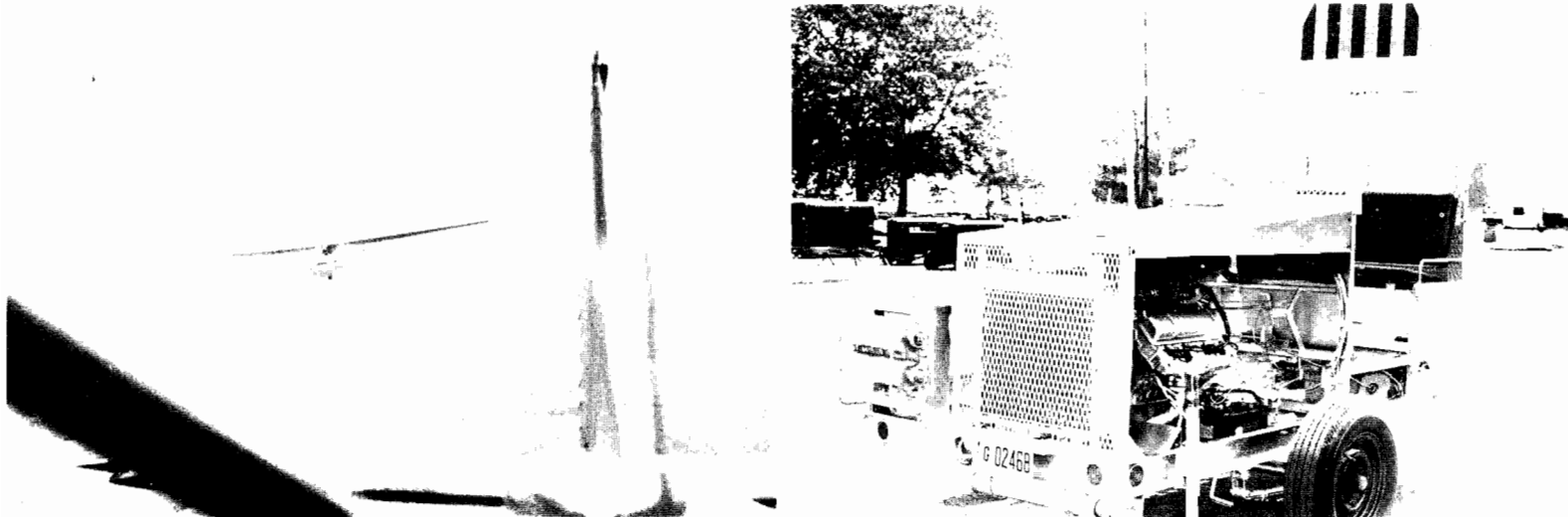
With the approval of the Ministry of Transport, arrangements have been made for the first two of these aircraft to be constructed at Warkworth Institution in 1974 and it is hoped that they will be available for trials this fall. Several engines will be tested in the airframe before a final decision is reached as to the most satisfactory type of power plant. Assuming that these evaluations are satisfactory, Warkworth Institution will undertake the construction of pre-fabricated "kits" to be sold to Air Cadet squadrons at low cost for assembly at the squadron level. The construction will, of course, have to be carried out in accordance with the approved regulations and inspection procedures of MoT.

So the day may not be too far off when Air Cadet squadrons across Canada can actually aspire to building and flying their own single-seat aircraft.

With regard to PL-4A, it is conceded that the single-seat feature does leave something to be desired, especially when it is considered that the aircraft may be flown by low-time pilots. Some preliminary work had been done by the designer on a two-seat version; however, the pressure of other work has prevented him from proceeding along these lines. A small group of Canadian aeronautical engineers associated with MoT are therefore working in Ottawa on the necessary engineering studies and drawings which, it is hoped, will lead to a successful two-seat version of this aircraft.

A companion project being undertaken at Cowansville Institution in Quebec, is based on the Pacific D-8 sailplane and is intended to provide gliding enthusiasts with an opportunity of building their own lightweight soaring craft. The D-8 is an all-metal aircraft having a wing area of 100 sq. ft. and an empty

Both air tow and winch launch are used in Air Cadet gliding program. Winch on right was built for the League in a Canadian Forces workshop; similar models are now under construction at Stoney Mountain Penitentiary, near Winnipeg.



weight of 270 lbs. The original design calls for slab wings, either 31'6" or 36' in span; however, design work is being done in Canada on an optional 45' tapered wing. Length of the fuselage is 16'8" and height to the top of the tail is 3'7½".

As with the Pazmany project, MoT has authorized the construction at Cowansville of two completed D-8 sailplanes which will be thoroughly tested in order to establish their suitability. Assuming that these tests are successful, Cowansville will undertake the production of kits which, once again, will be sold to Air Cadet squadrons at low cost for completion and assembly as squadron training projects — all, of course, under the approved procedures laid down by MoT.

The aim of this project is not only to produce a satisfactory glider at low cost, but also to provide Air Cadet squadrons with a safe, light-weight machine which can be successfully launched by such a readily available method as auto tow. This would enable licenced Air Cadet glider pilots to obtain added gliding experience and also to enjoy a taste of that wonderful world which lies beyond mere gliding and which is known as soaring. This will add a completely new dimension to the Air Cadet gliding program which has developed from its rather modest beginning of a few years ago into what now has to be described as a major aviation activity.

In 1974, the Air Cadet movement in Canada plans to train up to 300 cadets to private licence standard, up to 300 more to glider pilot licence standard, and to provide familiarization gliding and aircraft flights to possibly 20,000 cadets — altogether a rather ambitious program and one which truly adds up to "putting the air back in Air Cadets".

An interesting sidelight to these developments is the fact that the



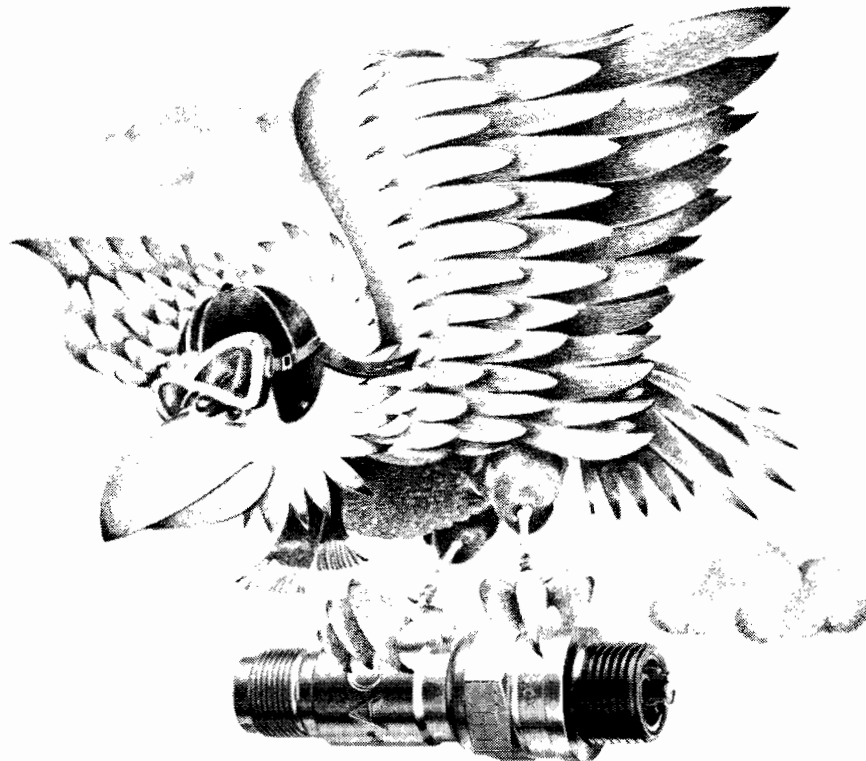
Pazmany PL4A on display at Air Cadet League Annual Meeting, held recently at Montebello, P.Q.

federal government has announced its intention of amending the National Defence Act so that girls can officially participate in the cadet programs, along with the boys, and it is expected that the necessary legislation will soon be approved, regardless of the outcome of the federal election.

The Air Cadet authorities have already made it plain that all of the opportunities made available to boys in the program — including flying and gliding — will also be open to girls. Meanwhile, the Air Cadet League has authorized the formation of Girl Cadet "flights" to operate in conjunction with established

Air Cadet squadrons, with all of the necessary training and other expenses being looked after by the local sponsoring committee. At the latest count, there were 115 such "flights" authorized, with a total enrolment of approximately 2500 Girl Cadets — all, presumably, potential pilots.

Readers interested in obtaining additional information about the Air Cadet program generally — or about the aircraft and glider construction projects mentioned in this article — should write to Air Cadet League Headquarters, 424 Metcalfe St., Ottawa, Ontario K2P 2C3. ♣



Experienced flyers rely on AC Spark Plugs

There is an AC Spark Plug designed for your specific needs and flying conditions. For some applications, AC's fine-wire spark plugs are recommended. Why? Because AC Spark Plugs with fine-wire electrodes of platinum or iridium are designed to resist fouling . . . throughout their service life.

AC's platinum or iridium spark plug electrodes are highly resistant to corrosion and erosion . . . the electrode gap is maintained for longer periods.

Check with your mechanic . . . he knows the recommended AC Spark Plug for your requirements.

Rely on AC quality and reliability . . . ask for AC Aircraft Spark Plugs.



Flying *Starts* with... AC