

April 6, 2019 CAHS Toronto Chapter Meeting

Topic: The Arrow: Test Flights & Test Models
Speaker: Jack Hurst,
Avro Canada Photography Dept., Ret'd
Reporter: Gord McNulty

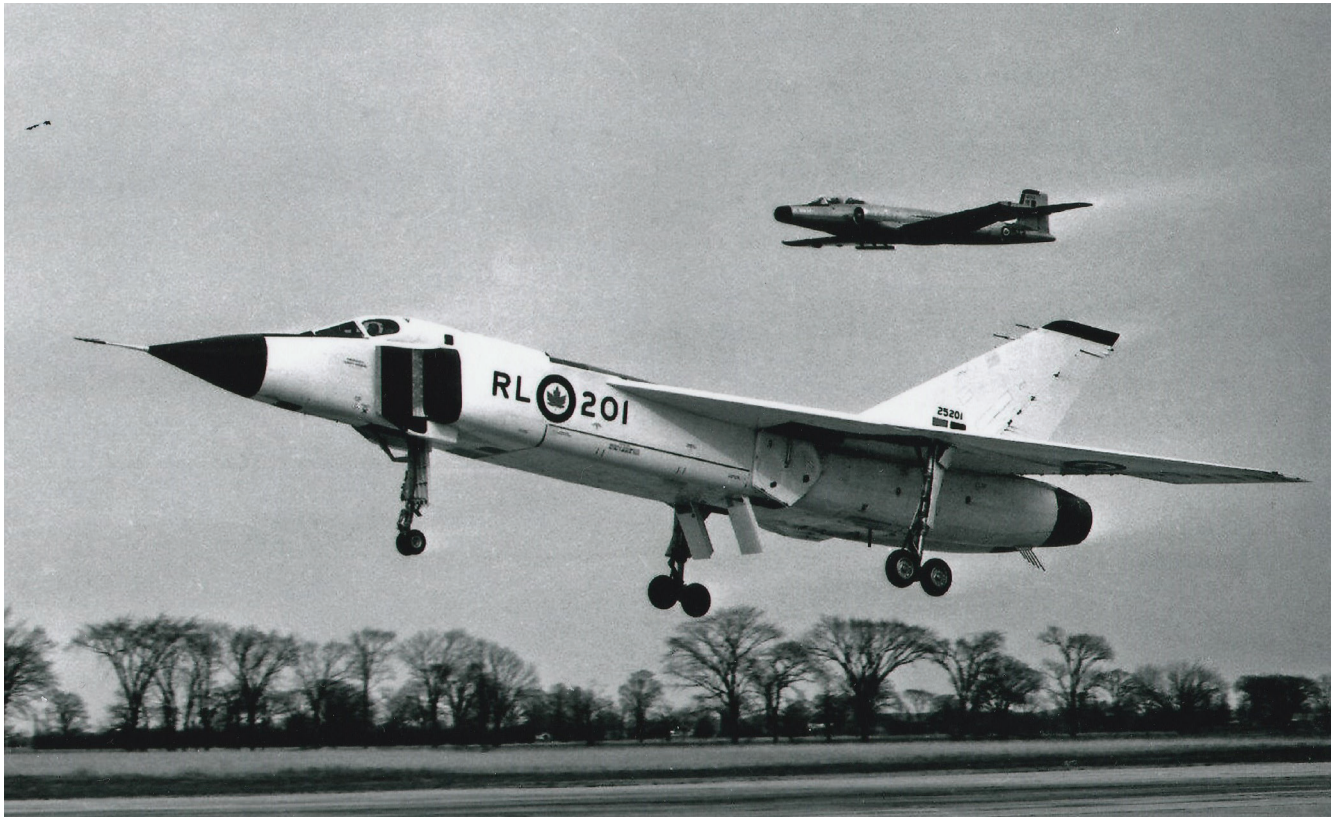


Photo Credit: www.gusair.com.

Presentations about the history of the Avro Canada CF-105 Arrow are virtually guaranteed to attract aviation fans. This is especially true in a year that marks the 60th anniversary of “Black Friday” on February 20, 1959 and at a time when the “Raise the Arrow” model recovery project in Lake Ontario is generating keen interest. It wasn’t surprising that our April meeting drew the largest audience of the season. Excellent pictures of the meeting, posted by Gus and Clara Corujo on the popular Gusair website, www.gusair.com/ are well worth seeing. We thank Gus and Clara for their outstanding coverage.

After a last-minute shift in the venue from the Canadian Forces College Auditorium to the Officers’ Mess, proceedings began with the Annual Business and Elections Meeting. Returning Directors for the second year of their two-year term are Sheldon Benner; Paul Hayes; Gord McNulty and Kenneth Swartz. Returning Directors elected to a two-year term were John Bertram, Neil McGavock and Geoff Pyne. We welcomed a new Director, Eric Roscoe, to the Executive. Chapter President Sheldon Benner provided an update on a very active and successful year. Membership stood at 85 for 2018. Treasurer Paul Hayes outlined the Chapter’s relatively healthy and stable finances. Volunteer Bob Winson updated progress on the Arrow Replica project proposed for Wildwood Park in Mississauga, as described in the April Flypast. Gord McNulty promoted the 56th National CAHS Convention and AGM to be held at John Abbott College in picturesque Sainte-Anne-de-Bellevue, on the western tip of Montreal, May 22-25. In addition to impressive speakers, the extensive program will include a tour of the Montreal Aviation Museum; the Ecole Nationale d’Aeronautique aerospace training college; and the Musee de l’Aerospatiale du Quebec, a new venture involving restoration of a CF-100 Mk 5 currently in storage. We thank our sponsors to date: The RCAF Heritage Fund; Innotech-Exeaire Aviation Group; Top Aces; CAE. Find details and registration at the CAHS website, www.cahs.ca.

A warm welcome was then extended to guest speaker Jack Hurst, of London, ON, by John Bertram, 1st Vice-President. John assisted Jack with the visuals and acted as host for a fascinating discussion. Jack was a colleague of our friend Lou Wise, manager of the Film and Photography Department at Avro Canada from 1951 until 1961, who spoke to the Toronto Chapter about his career in May 2006. (*Flypast* Vol. 40, Number 9.) Jack worked his way through the photography department, becoming an air-to-air photographer. He spent more than 400 hours in the back seat of a CF-100, beginning with many shots of the CF-100, the Jetliner and finally the Arrow. He did most of the Arrow flights, which he described as “the thrill of a lifetime” for an enthusiastic young man. Starting out, Jack had to learn how to “stay alive in the back seat and not be sick.” He became good friends with company test pilots, who “would get a little crazy at times” to make sure that Jack could manage the challenges. One picture of a CF-100, taken by another photographer, showed the aircraft going straight up. “Only one guy would do that and it was Jan Zurakowski,” Jack said. Zurakowski exceeded Mach 1 in a CF-100 on Dec. 18, 1952 --- making it the first straight wing aircraft to break the sound barrier without rocket power --- and made the first flight of the Arrow on March 25, 1958. Jack had his own flying suit, his own helmet and his own locker in their station. As Jack recalled, it was “really cool.” He smiled in recalling how he received danger pay for every hour he was in the air. \$5 an hour! He periodically practiced how to eject, learned to use the radar, interact with other aircraft, and generally enjoyed having “a lot of fun up there.”



Avro Arrow landing at Malton in first test flight, March 25, 1958, with CF-100 chase plane.
(Hawker Siddleley Canada photo)

The busy department employed up to 35 people, taking many publicity shots, technical shots for the research department, and covering VIPs who toured the Malton plant. They took still photography, motion picture photography, worked with offset printing, and more. They used huge processing trays that were six by 12 feet long and did all kinds of work with murals, aluminum sheets, drawings and more. Photos were required to examine, for example, a damaged fin from an engine or a structural weakness. Everything was done in-house, with people such as Verne Morse, senior photographer, and Lou Wise playing key roles. It's believed that Lou and Jack are the only living members of the photo team. The Jetliner, flown by chief test pilot and longtime Toronto Chapter member Don Rogers, was flown extensively by Avro as an air-to-air photographic platform. Jack recalled as many as eight or 10 photographers would be in the Jetliner to take pictures, with the doors removed to facilitate optimum photos.

Jack watched construction of the Arrow progress in the hangar before the official rollout of the delta-winged interceptor on Oct. 4, 1957. "Compared to the CF-100, it was a giant coming out of the doors. The crowd and the music they were playing made it pretty special." Jack succeeded Hugh Mackechnie, the first Arrow flight photographer. They used a special camera, as the cockpit of the CF-100 was too restricted to use a Speed Graphic. One of Jack's favourite pictures depicts the first Arrow, RL201, from underneath. The photo was taken from that angle to determine if there had been an oil leak, which fortunately didn't happen. Niagara Falls, naturally, presented a spectacular backdrop for the Arrow and they would circle overhead two or three times to ensure the right photograph. Jack's photos included RL205, the last Arrow to fly. John Bertram cited website statistics about the Arrow flights over an 11-month period from the first flight to the project cancellation on Feb. 20, 1959. It shows 66 flights in total and 70 hours in time. Jack wasn't at Malton on "Black Friday." No one was allowed into the plant the next day and it took four months before he could be recalled. He chose not to return to short-term work at Avro, as he needed a long-term job.

Jack then described his involvement in the “Raise the Arrow” project to recover the one-eighth scale free-flight Arrow models, launched over Lake Ontario from Point Petre in Prince Edward County on a Nike rocket booster, as part of the Arrow development program. The models were about 10 feet long. Nine were fired into the lake and never recovered. Jack attended two of the launches. No one obtained permission to recover the models at the time. Jack wore the uniform of Osisko Mining for his presentation. In 2017, Osisko announced it had permission to recover the models, repair and refurbish them, and donate them to various aviation museums. So far, one artifact has been found: a Delta Test Vehicle (DTV), a precursor of the Arrow model launches. The remarkable discovery was first confirmed in the summer of 2017 with new sonar imagery and underwater video footage. The technology was instrumental in the discovery of the wreck of Franklin’s HMS Erebus in the Arctic in 2014. Osisko Mining is headed by CEO John Burzynski, Raise the Arrow expedition leader. He is adamant about saving the history and heritage of the Arrow. Jack met Burzynski through a good friend and when he learned of Jack’s background, he asked Jack to join the team. Jack has participated in several meetings and fundraisers to show artifacts of what they’ve found. “It brings back 60 years for me,” Jack said. “I had forgotten I was even in photography any more. It has restored my love of what I was doing and given me an exciting life,” he said. The audience enjoyed a brief video posted on Facebook by the Raise the Arrow team. Participants outlined the difficulty of trying to find a very small target in a very large area and distinguishing a potential model from a rock, a log or something else. Velvet Glove and Sparrow missiles were fired from Point Petre before the models. There are literally a thousand pieces of gear on the bottom of the lake, and the team is looking for only four models out of that thousand.



Jack Hurst at 22 Years in full flight gear.

During two summers on the lake, the team covered about 60 square kilometres of grid. It was like searching for a needle in a liquid haystack, in depths of anywhere from 60 to 90 metres, but the effort was rewarded with the discovery of the DTV. The DTV was so heavily covered in zebra mussels that the recovery team didn’t know what they had until it was brought out of the lake last summer. The video showed how the DTV was very carefully brought to the surface with the assistance of a commercial dive team. The DTVs were intended to help operators learn better targeting efficiency as they followed the model flights and tried to determine what the wing of the Arrow would do when pushed to a rate of Mach 1.5 or 2. Three DTVs were fired before the one-eighth scale models were launched. While the DTV showed significant damage from entering the lake at high speed, it was in remarkably good shape after more than 60 years. The discovery and recovery were really exciting and represented a once-in-a-lifetime opportunity to see history brought to the surface. The DTV was delivered safely to CFB Trenton on August 13, 2018, with the RCAF fully supporting the recovery effort. The objective now is to find at least one of the elusive, long-lost free-flight models. In May, the team will return to the search in hopes of finding three or four more artifacts. They’ll bring up whatever they discover and restore them for display.



Arrow Rollout Photo - signed by Spud Potocki.



Special Avro Camera.

After his time at Avro Canada, Jack tried to stay in air-to-air photography, but jobs were few. He was fortunate to be hired by a company that did portions of the Eaton's catalogue. He left the company when he was moved to the unexciting area of furniture. Jack then joined the Toronto Telegram as a photo journalist. He lived in the Newmarket area and recalled stories such as the previous flooding caused by Hurricane Hazel. He photographed weddings and anything else to make a dollar. Then he resumed activity in the catalogue business with a man who specialized in marine catalogues. At that time, as many as 16 to 18 companies in Canada built boats and the business did all of the catalogues. Meeting dealers and learning about many products, Jack formed his

own business to distribute marine products, EZ Loader Custom and Adjustable Boat Trailers. It was more profitable than photography. In fact, Jack expanded the business from Ontario to Quebec and the Maritimes and he continued for a remarkable 45 years. He sold the business and retired at the tender age of 80. Answering questions, Jack noted that Avro Canada once built large, classic boats that had been constructed by the old Richardson Boat Company of Tonawanda, NY, until 1962. Avro decided to build the beautiful, 36-to-40-foot long cruisers out of aluminum. However, they were so expensive that Avro quickly ended the idea.

Jack closed by emphasizing how thrilled he is to participate in the Raise the Arrow project and to share John Burzynski's passion for this venture. "It makes me truly proud of the days I had at Arrow," he said. His colourful presentation was enjoyed by everyone, especially members of the audience who worked at Avro Canada. A group photo with speaker Jack Hurst and the Ex-Avro / Orenda employees was taken at the end of the meeting by Gus Curujo. Our thanks to Jack and to John Bertram, who was instrumental in arranging a special presentation on another chapter in the history and heritage of the never forgotten Arrow.



Oil Leak Check on Arrow RL201.



Ex- Avro and Orenda Employees with Speaker Jack Hurst
Left to Right Jack Phipps, Unknown, Claude Sherwood, Jack Hurst, Keith McLaren,
Bill Tee, Tom Nettleton, Neil Macdougall



Arrow Model on Launch Pad at CARDE Missile Range Point Petre.



Prince Edward County showing Point Petre at centre low.