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26 April, 2010

A.V. Roe Canada Aviation Museum  
A - 7012 Ogden Road SE  
Calgary, Alberta, T2C 1B4, CANADA

Dear Sirs:

Enclosed are my dues for 2010.

Also enclosed is a copy of something I wrote for the 60th anniversary reunion of the Jetliner's first flight. I was to give a short presentation, but couldn't attend because of a severe bout of arthritis - which has now thankfully abated. I had hoped that someone would read it at the reunion - but apparently no one did.

I thought you might like to have a copy.

All the best in your endeavors.

Regards:

A handwritten signature in cursive script, appearing to read "Fred", followed by a period.

C. Fred Matthews

## **Some comments about the *Jetliner* - my favorite aircraft and project: Fred Matthews, *Jetliner* Flight Test Engineer**

The Avro Canada Jetliner was a pioneer with many firsts:

- o **It was the first jet transport in North America.** It initially flew on August 10, 1949, - **8 years** before the first American jet transport - Boeing 707-120
- o **It was the first of what is now called a regional airliner.** it flew **16 years** before its first US counterpart, the McDonnell Douglas DC9, first entered airline service.
- o **It was the first jet transport to land at over twenty airports in Canada and the USA**
- o It introduced a number of **advanced technologies** for transport aircraft including anti-skid brakes, 75ST hi-strength aluminum alloy, electrically heated windscreens, and a full de-icing system developed by Canada's National Research Council, in Ottawa. It used the vented cabin window design of Cornell University to prevent catastrophic explosive decompression as experienced by the de Havilland Comet.
- o At that period of time, military jet pilots were used to juggling throttles to avoid hot starts. They were amazed that you just pushed the *start button* to start a Jetliner engine.

The prototype, CF-EJDX, was highly successful in its many test flights and demonstrations. Recognizing the excellence of its design and its revolutionary potential, National Airlines, the USAF and Howard Hughes (who owned TWA) all intended to purchase the Jetliner - and other major US airlines expressed interest - including United, American and Eastern.

This was in stark contrast to the lack of foresight of Canada's own airline, TCA who backed out of a golden opportunity to lead the field, and of Canadian politicians who shelved the project to focus on producing the CF-100 to support US Korean War policies (although over 600 CF-100s were built, none ever saw service in Korea).

After Government funding ceased in 1952, the Jetliner was used to support the CF-100 program and was flown to Hughes Aircraft facility in Culver City California to support development of the Hughes MG 2 fire control system for the CF-100.

However, Hughes fell in love with the Jetliner and wanted it for TWA, so the fire control people never got to use the aircraft.

I was there for several weeks with the Jetliner and flew with Howard Hughes, and several times I accompanied Don Rogers to meet with Hughes in his offices in Hollywood to discuss modifications to the aircraft for his TWA airline.

In the end, Hughes offered to fund production, but the Canadian Government wouldn't allow it. His initiative to produce it in the US was similarly rebuffed by the US Government - purportedly citing emphasis on supporting the Korean War - some suspect it was really to protect the American transport industry.

One incident highlighting just how far the Jetliner was ahead of the competition was when it was planned to land at New York City's Idlewild airport. This was the first flight of a commercial jet transport in the U.S. and it carried the first jet airmail in North America. When it arrived, the crew and VIP passengers were given a police-siren escort to the Waldorf Astoria.

However, before the New York Port Authority would let the Jetliner land at Idlewild, I had to make a color movie showing a mechanic dipping a big rag on the end of a long pole into a can of aviation gasoline and then holding it directly into the engine jet stream with the engines idling then shoving the pole up into the jet nozzle. They were afraid that the hot jets would ignite any spilled gas on the tarmac or even melt it. Even after they saw the film, they made the aircraft park out on the grass away from all of the other aircraft.

On another historical flight, we took the Jetliner on a round trip from Toronto to Chicago, then to New York's La Guardia Field, then back to Toronto. We were the first jet transport to land in Chicago. From Chicago to New York, we carried the first U.S. inter-city jet airmail.

In those days, airliners were all piston-engined and never got over 20,000 feet. or faster than about 300 miles per hour. Part way to New York, Don Rogers called Air Traffic Control to report our position:

***This is CF-EJD-X, altitude: 35,000, ground speed: 525, ETA New York: 45 minutes.***

The air traffic controller dutifully repeated it all back, and then there was a very long pause - until he blurted out:

***What!***

He thought Don was spoofing him. He didn't realize we were a jet.



When the Jetliner flew from Toronto to Cleveland for engine thrust measurements at NACA's (now NASA's) Lewis Labs., the flight plan was submitted for 30,000 feet. Air traffic control assumed that the altitude was a mistake and filed it at 3,000 feet. When the aircraft was picked up by defense radars as an unidentified bogie, USAF interceptors were scrambled - **but couldn't catch it.**

Of all the Avro projects that I have worked on (Jetliner, CF-100, and Arrow), and subsequent NASA and US military projects, the Jetliner was my favorite by far.

If the Jetliner had gone into production, it would have become the DC-3 of the jet transports. Sadly, the only major portion of the Jetliner to be preserved was the nose and cockpit area which now reside in Canada's National Aviation Museum in Ottawa.

In Jim Floyd's book, *The Avro Canada C102*, he quotes Dr. J.J. Brown, Professor of Entrepreneurial History at McGill University in Montreal:

***The Jetliner is without a doubt the major fiasco in the whole sweep of the history of Canadian technology. The decision to abandon the aircraft cost us billions of dollars in export earnings as well as incalculable world prestige.***

Two major ingredients fueled the pioneering excellence of the Jetliner:

- o **First: Jim Floyd** - whose flair for aircraft design and his philosophy to keep things simple were combined with his leadership ability
- o **Second: The young crew of designers and engineering staff** who implemented Jim's basic design and concepts, and who were backed up by a dedicated manufacturing organization.

To Jim and all of those, I thank you and salute you for the opportunity to have participated with you in such a pioneering project.

Fred Matthews  
Lexington, Massachusetts, USA  
July 27, 2009