The F-35 Lightning: A Case for the Defence

By Tim Dunne

Replacing Canada's aging CF-188 *Hornet* with Lockheed Martin's F-35 *Lightning* joint strike fighter (JSF) has sparked accusations that there was no competitive process, the F-35 is too expensive, and Canada does not need a fifth-generation combat aircraft.

The JSF is the largest fighter aircraft program in history, costing US$383 billion for up to 5,000 aircraft. There are three variants: conventional take-off and landing, aircraft carrier, and short take-off and vertical landing.

Canada joined the JSF program in 1997 with an investment of (US) $10 million, and in 2002, a further $150 million. Australia, Denmark, Italy, Netherlands, Norway, Turkey and the United Kingdom joined the multinational JSF purchase.

The competitive selection process was among three bidding teams: Lockheed Martin, Boeing and MacDonnell Douglas. McDonnell Douglas' designs were rejected in 1996, and Boeing and Lockheed Martin prototypes were flight tested and reviewed until 2001. Canada was consulted throughout the US-led competitive process.

If Canada conducted its own competition, competing aircraft could include:

Lockheed Martin F-35 (US);

Boeing F-18F/A (US);

Saab Gripen (Sweden);

Desault Mirage (France);

Desault RAFALE (France);

British Aerospace Eurofighter.

DND's retired air force chief, Lieutenant-General (retired) Ken Pennie, believes the F-35 would still be quickly selected. The remaining aircraft do not meet mandatory minimum performance or cost requirements.

Theoretically, China's J-20 and Russia's PAK-FA could be considered. But if either nation disagreed with Canada over issues such as Chinese relations with Taiwan or India, or Russian challenges to our Arctic ownership, they could easily terminate access to vital spare parts and would know the countermeasures to use against our air force in operational deployments.

And, there would be unintended consequences of a purely Canadian competition:

- Canada's removal from the F-35 queue would add years to the CF-188 replacement, and cost its $160 million investment;

- The F-35 purchase through the U.S. Foreign Military Sales program would increase by $850 to $900 million;
- Canadian industrial involvement could be eliminated for the life of the program;
- The regional industrial benefits negotiated for only 65 aircraft would dramatically diminish compared to the JSF program of 3,000 to 5,000 aircraft, and royalties from sales to non-partner nations would disappear;
- Canadian industry would lose its privileged position for contracts for the entire aircraft fleet, already sitting at $350 million.

This complex aircraft uses new technologies, and the U.S. is funding most research and development.

Defence analyst David Perry notes that DND's figures cannot be meaningfully compared to the U.S. GAO's $133 million estimate. That is an *average procurement unit cost* and includes spare parts, logistics and other cost figures, and is an average cost for all three variants. Canada is purchasing the conventional take-off and landing version – the cheapest.

DND accounts for other costs separately, much like a car purchase wouldn't include the cost of winter tires, a ski rack and a tire pump in the basic price.

A more accurate figure would be the cost of the aircraft as it sits on a Canadian airbase, which DND stipulates will be approximately $75 million per airplane, or $4.55 to $4.88 billion. The remaining funds will be for weapons, supporting infrastructure, initial spares and training simulators.

Canadian agreements with the manufacturer have already provided our aerospace industry with long-term, high technology industrial opportunities. To date, Canada has invested about $200 million in the JSF and received more than $350 million in contracts for about 65 Canadian companies, laboratories and universities. Over the 40-year life of the program, industrial opportunities could exceed $12 billion.

Canada has deployed CF-188s to the Persian Gulf War (1990-1991), Kosovo (1999) and Libya. As military technology develops and becomes less expensive, older and less sophisticated aircraft will be into flying increasingly dangerous situations. Our CF-188 will be 40 years old when it is finally retired.

Some "analysts" scoff at the suggestion that the F-35 can contribute to Arctic sovereignty. However, Canada's claim that the Northwest Passage lies within the Canadian Arctic archipelago is being challenged, and if the Passage is *internationalized*, the airspace above it becomes *internationalized*.

The five nations competing for increased ownership of the Arctic have agreed to pursue their claims amicably and cooperatively. However, Russian actions belie their words.

In March 2009, Russia announced a special military unit exclusively for Arctic operations. In March, 2010, Russian president Dmitry Medvedev announced his commitment to Russian access to Arctic-based mineral resources and that competition for these resources could spark conflicts between Arctic states.

Many arguments against the F-35 are seriously misinformed. To purchase a lesser aircraft would jeopardize mission success, and reduce the potential for pilot survivability. In aerial combat you are the best or you die; you win or you die; you meet your mission objectives or you die trying -- there is no second place.

We purchase the best aircraft, or we purchase flying coffins.

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