The Stealth Debate

While some experts say stealth no longer matters, nations continue to develop signature reduction technologies

Written by: Jan Tegler on June 5, 2012

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F-35A airframe Air Force-6 on its first night flight. While the F-35 program has stealth as one of its requirements, other aspects, such as the short takeoff/vertical landing requirement and airframe commonality, have also been major drivers of the design. Lockheed Martin photo by Tom Reynolds

"J-20 could be seen in some ways as an act of diplomatic sabre rattling," he said. "T-50 is quite another story, and for that matter, the Chengdu J-10 is another story. [The J-10 is China's fourth-generation multi-role fighter-bomber, reportedly based on the IAI Lavi and operational with the People's Liberation Army Air Force since 2003.] There's a real issue with numbers here. It's one thing if you're equipped with large numbers of MiG-29s, but if you have something like those large numbers and something a generation or generation-and-a-half more advanced, that's a major problem for the U.S.' military presence globally."

> *Sweetman sees the situation differently. He thinks that Russia and China, like the United States, view stealth as a premium capability, but maintains that they don't wish to transform their air forces in the pursuit of stealth as America is doing.*

"China is continuing development of the J-10, with the J-10B, and continuing to produce the [Shenyang] J-11, their bootleg version of the Sukhoi [the Russian Sukhoi Su-27 license-built and operated by the Chinese since 1998]," he said. "Simultaneously, Russia is producing the Su-35S and beginning to bring the Su-34 [fighter-bomber] into service. It's fairly clear that at the very least, they intend to operate conventional aircraft alongside their new stealth aircraft. I think their stealthy aircraft will come into service in smaller quantities simply because they are more expensive, complex, and not as flexible as the conventional aircraft."

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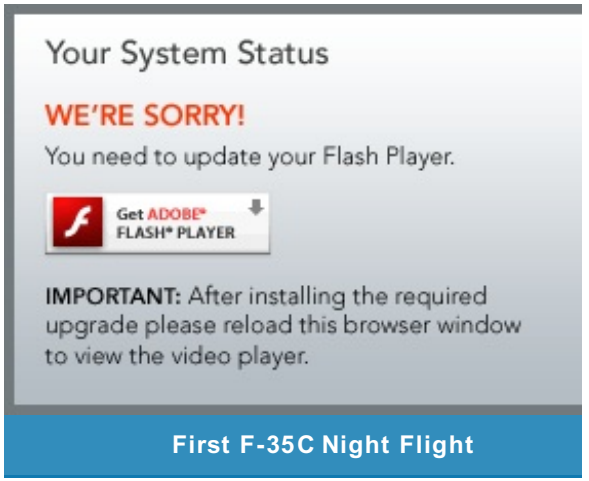

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A B-2 Spirit soars over the Pacific Ocean in 2006. The B-2, from the 509th Bomb Wing at Whiteman Air Force Base, Mo., is part of a continuous bomber presence in the Asia-Pacific region. The B-2's second generation stealth came at a hefty price, averaging out at $2 billion per aircraft, and only 20 were acquired. Bombers, however, might be the best candidates for stealth technology. U.S. Air Force photo by Staff Sgt. Bennie J. Davis III

America's stealthy aircraft programs aren't limited to fighters of course. The B-2 is to be succeeded by a next-generation bomber known as the Long-Range Strike-Bomber (LRS-B). The classified program remains in the USAF budget despite defense spending cutbacks, and the service's chief of staff, Gen. Norton A. Schwartz, recently said the Air Force would not "over-design the aircraft" or order a capability that is "extravagant." The 20 very stealthy, flying-wing design B-2s that were procured ended up costing more than $2 billion per copy, but Sweetman reasons that stealth technology is actually more worthwhile for a bomber than a fighter.

"Things start getting really complicated and expensive when you try to build an agile stealth fighter," he said. "You've got structural issues because you're cutting holes in a 9g airframe to put weapons bays in. Fighters are tremendously sensitive to weight, and you need things like large control surfaces to give you that agility. Dealing with those things and stealth at the same time is very difficult. When you're talking about something like LRS-B, most likely that's not primarily a maneuverable aircraft. It's probably a 2.5g airplane and will likely be a flying-wing design. Stealth is much more compatible with an aircraft like that. As an airplane gets bigger, it's easier to integrate things like a weapons bay. Some people suggest it should be supersonic, but I don't think it will be, so its cross-section isn't as critical. It's really a much more stealth-compatible mission than a fighter is."

The USAF seems to be aiming for a more affordable stealth bomber this time around. The service has proposed a buy of 80 to 100 LRS-Bs, to be operational by the mid-2020s. Far exceeding the number of B-2s, this still seems a relatively small number. Then again, those modest figures are comparable to the quantities of stealthy combat aircraft America has

fielded to date. The JSF, as conceived and planned, is supposed to be the exception. Given the high cost, technical complexity, and resultant program delays associated with stealth technology, we asked whether it has harmed the readiness of the nation's air forces.

"If you look at the numbers behind the great stealth experiment beginning in the early 1980s, the numbers of aircraft planned for production, when they were supposed to arrive, and how much they were supposed to cost, you realize that we're far, far behind where we were supposed to be," Sweetman said. "As far as we know, we have 20 operational stealth bombers and 140 F-22s that are combat capable. Of those 140, perhaps 60-some have the latest radar and are fully capable of all the things the aircraft will someday be developed for. But it's still costing an enormous amount of money to implement fairly straightforward capabilities that the F-22 was supposed to have when it entered service. So I think you ascribe enormous operational value to those 160 aircraft [B-2s/F-22s] or you say, quite frankly, that we would have been better off with a more evolutionary approach.

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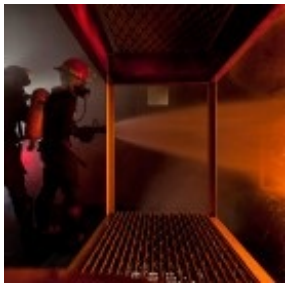

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Boyd H.
5:44 PM June 11, 2012

We just can't sit idly by and let the nation's legislators turn our missiles into plowshares… we need what we have and then some to provide a deterence to those that wish to decimate us. We are almost a third world nation the way them and the President are depleting our military budget and scrapping parts of our fleet and airpower…

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