



## Centre for Air Power Studies

### CHINA'S STEALTH BOMBER

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The Online domain is abuzz with reports about the new stealth bomber aircraft that China is developing. It has been reported that the Chinese have christened their creation as - H-8/H-18. The latest information on this aircraft in the Internet is a computer sketch of what could be the structural outline of the stealth bomber with its dimensions and payload capacity.<sup>1</sup> Reports indicate that the stealth bomber is being developed by the First Aircraft Institute of the Aviation Industry Corporation of China (AVIC).<sup>2</sup> However, the Xian Aircraft Industrial Corporation and the Shenyang Aircraft Corporation began conceptualisation of the programme a decade ago.<sup>3</sup> The fruition of some of the projects under China's ambitious hi-tech cutting edge technology weapon development programmes bear testimony to China's resolve to translate its aspiration into realisation; however the level of sophistication is contentious.

Currently, China operates the H-6 long range bomber aircraft which is based on the vintage Soviet bomber airframe. However, it underwent several upgrades to meet current operational requirements of the PLAAF. In the era of highly integrated modern air defence environment, H-6 can hardly perform intended role of a successful bomber. The concept of a bomber aircraft itself has become obsolete in the present scenario and not many air forces operate bomber aircrafts. The reason being that a bomber is huge, lumbering and hence will be highly vulnerable to the modern Surface to Air Missiles (SAM). The US operates the B-52 heavy bombers, but these bomber sorties are flown only after the airspace is cleared of significant threats and hostile enemy air activity. Hence, issues of penetrability and survivability may be construed as primary weakness of bomber aircraft.

Nonetheless, a bomber has its advantages: it can deliver huge tonnage of ordnance in a single sortie and with Precision Guided Munitions (PGMs) the number of targets that could be struck per sortie increases considerably. The advent of stealth technology in the eighties has given a new lease of life to the heavy bomber concept. At present, the US is the only country that operates stealth bomber aircraft such as B-2 and the B-1. Stealth technology enables the bomber to operate even in a hostile and well defended airspace. It is usually used as a first strike platform to 'kick the door open' by blinding the enemy to degrading his war fighting potential.

The Chinese's endeavour to develop a stealth bomber does not come as a surprise as China has already demonstrated the ability to develop stealth aircrafts. For the past few months several Chinese websites and blogs are talking about the new stealth bomber. There are several graphic model image of the bomber doing rounds on the internet for some time. The images show two models, one is a flying wing design which resembles the US B-2 stealth bomber with engine located above the wing and tucked inside while the other model appears to be a mix of the flying wing model and YF-23 design. However, the authenticity and veracity of these images cannot be confirmed and hence cannot be taken seriously. But what is apparent is that China is designing a long range stealth bomber.

Chinese espionage activity might be contributing significantly to the design of the stealth plane. In October 2005, Noshir Gowadia who worked for Northrop for 18 years was accused of disclosing B-2 stealth secrets to several clients including China. He is reported to have made six trips to China from 2003 to 2005 where he visited Chengdu, the city where

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the Chengdu Aircraft industry Group is located. Noshir Gowadia is said to have been involved in the development of the B-2 Stealth aircraft as a sub-contractor.<sup>4</sup> Apart from this, in 2012, it was reported that Chinese hackers stole stealth secrets of the F-35 Joint Strike Fighter (JSF),<sup>5</sup> which was later admitted by US officials.

All the Chinese stealth fighters under development appear to be similar to the US F-22 Raptor and the F-35 with several aspects matching, particularly the stealth shaping. Although, China has managed to develop stealth aircraft, the quality of the low observable aspect is not yet known. Stealth isn't only about stealth shaping to deflect radar pulses, it also includes electronic signature masking, Infra-red and acoustic signature suppression. Looking at the images of the J-20 and J-31 it can be observed that in both the aircrafts the engine exhausts are exposed which indicate that the IR signatures are not suppressed which increases the aircraft's vulnerability to IR detection and heat seeking missiles. But whatever expertise has been achieved so far in developing the J-20 and J-31, it surely would have a positive impact on the stealth bomber development.

### **Implications of PLAAF acquiring a stealth bomber fleet**

A long range stealth bomber fleet in the PLAAF could severely affect the US military operations against China in the event of a conflict. The stealth bomber could primarily be used against hostile forward operating bases from where adversaries could launch attack sorties against mainland China. As a bomber which is capable of carrying heavy tonnage of ordnance, fewer sorties would be required for pre-emptive counter-air operations. On the eastern side, strikes can be expected to be directed at bases in Japan, Taiwan and Guam which would lower the USAF sortie generation rates reducing the tempo of its air operations forcing it to rely only on its long range bombers. The stealth bombers could also be employed for anti-ship role. In addition, depending on its stealth capability it could be assigned a nuclear attack role against the US mainland.

This long range stealth bomber could also nullify PLAAF's current limitations against India. With its long range capability the aircraft could be launched from the Plains of Chengdu Military Region (MR) and its stealth capability would aid in the penetration of Indian air space.

## Prognosis

Even if China manages to develop a stealth bomber in the near future, the quality of the stealth features cannot be expected to be on par with the US stealth planes. Nevertheless, any amount of Stealth would help in reducing the burn through distance of the enemy sensors which would reduce the depth in defence. China would continue to strive further to improve its stealth design capability by aggressively pursuing all methods and means including espionage, primarily cyber industrial espionage. As far as reducing IR and acoustic suppression is concerned, it would take a long time for China to achieve this as it still has not managed to indigenously develop a reliable power plant for its aircrafts. IR and acoustic suppression would require a considerable level of expertise in jet engine development as the power plant is the major source of these two signatures. However, going by the aircraft development history of Chinese aviation industries in the past two decades the first prototype can be expected much earlier than speculated.

*(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])*

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## End Notes

<sup>1</sup> China's future stealth bomber program released, Lzmmil.cn, 04 August 2014.

<sup>2</sup> <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20140119000025&cid=1101> , accessed on 10 October 2014.

<sup>3</sup> ibid

<sup>4</sup> <http://www.defenceaviation.com/2012/03/noshir-gowadia-father-of-chinese-stealth-technology.html> , 11 October 2014

<sup>5</sup> <http://cnsnews.com/news/article/chinese-hackers-stole-plans-americas-new-joint-strike-fighter-plane-says-investigations> , 11 October 2014

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