



NEW AERIAL REFUELLING AIRCRAFT FOR PLAAF

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Satellite imagery of PLAAF IL-78 tanker aircraft parked at Wuhan-Paozhuwan airfield in Hebei province. Note the three refueling pods, one on each outer wing and one in the rear fuselage. Photo: IHS Jane's Defence Weekly, November 3, 2014, <http://www.janes.com/article/45319/first-chinese-il-78-tanker-seen-at-plaaf-base>

China's People's liberation Army Air Force (PLAAF) has started receiving new IL-78 aerial refuelling tankers from Ukraine. PLAAF had ordered for three tankers from Ukraine in 2011/2012 and it seems that the first one of these was received some months ago. Jane's Defence Weekly reported that satellite images taken in October 2014 by Digital Globe has shown one tanker parked at PLAAF's Wuhan-Paozhuwan airfield in Hebei province¹. The tankers were originally planned for delivery by end 2013 but were delayed to March 2014. The delay in deliveries is probably due to the ongoing internal crisis in Ukraine. In addition to these three tankers, China has also placed an order for 10 IL-78 tankers from Russia about eight to ten years ago, but these have not yet been delivered due to production delays in Russia. These were expected to be

delivered by December 2014 but there has been no news about them till nowⁱⁱ. This article briefly discusses the implications for India of additional new tankers in PLAAF.

PLAAF Tanker Fleet

IL-78 tanker is the first advanced aerial refueller to be included in PLAAF's small inventory of ten old H-6U tankersⁱⁱⁱ. The H-6U tanker is a modified TU-16 bomber of the Soviet era. These tankers are capable of refuelling only indigenous Chinese fighters like the JH-7, J-8 and J-10. H-6U tankers cannot refuel the J-11/ SU-27/ SU-30 due to compatibility problems but these aircraft can be refuelled by IL-78. The H-6U has two refuelling points, one on each wing and carries about 18.5 tonnes of fuel for refuelling whereas the IL-78 has three refuelling points, one on each wing and one in the rear fuselage. The IL-78 can carry more than three times the transferable fuel carried by H-6U. With a radius of action of 1000 km the IL-78 can carry 60 to 65 tonnes of transferable fuel for refuelling^{iv}. By way of comparison IAF (Indian Air Force) has a tanker force of six IL-78MKI aircraft. The IL-78MKI is a tailor-made variant of IL-78M and is equipped with Israeli fuel-transferring systems. The Pakistan Air Force also has four IL-78 refuelling aircraft procured from Ukraine from 2009-2011^v. PAF and PLAAF tankers are equipped with Russian designed UPAZ refuelling pods. The US Air Force (USAF) has the largest tanker fleet in the world with 473 aircraft^{vi}. The large fleet of tankers in USAF is required to meet their global commitments as an expeditionary force.

China is also developing a new heavy transport aircraft, Y-20, which was first flight tested in January 2013. The Y-20 can carry a payload of 60 to 66 tonnes and is likely to enter PLAAF service in the coming years^{vii}. Once the Y-20 enters service it is likely to be the basis for future aerial refuelling platforms. This will greatly enhance PLAAF combat aircraft reach.

Analysis

Aerial refuelling has been a major shortcoming in PLAAF's capabilities. In the India–China context, PLAAF at present has severe limitations in carrying out sustained air campaign against IAF due to various factors like high altitude of airfields in Tibet, limited number of airfields in Tibet, and inadequate infrastructure in these airfields. These limitations can, to a large extent, be overcome by aerial refuelling and will be discussed below.

In Tibet the main airfields are Gonggar/ Kongka Dzong (South of Lhasa at an elevation of 3570 m), and Hoping (airfield for Shigatse, 250 km west of Lhasa). There is one civil airfield in south Xinjiang Military District of Lanzhou Military Region, Gar Gunsu (elevation 4240 m). The airfields opposite the North Eastern part of India are Bangda/Pangta (elevation 4334 m, runway length 4200 m) which is about 130 km from the Indian border and Linzhi in Nyingchi prefecture. Linzhi is a civil airfield at an elevation of 2949 m, which was opened in 2006; it is just 30 km from the Indian border in Arunachal Pradesh. The airfields in Tibet are mostly at heights of more than 3000 m. At these high altitudes aircraft operations suffer from load penalties due to the reduced density of air. This is a serious limitation without adequate number of tankers.

Another limitation in these airfields in Tibet is lack of adequate infrastructure for sustained operations. From available open source imagery it can be seen that these airfields do not have blast pens for parking of fighters in hardened concrete shelters. This means the aircraft will have to be parked in the open thus exposing them to IAF counter air strikes.

To counter these limitations PLAAF fighter aircraft can operate from rear bases which are at lower heights and have adequate infra structure, and use their tanker fleet to enhance their radius of action. Almost 30 percent of PLAAF's combat aircraft fleet consists of older aircraft like the J-7 and Q-5 which do not have aerial refuelling capability. But these aircraft are being phased out and being replaced with new aircraft. Induction of just one IL-78 tanker will not make any significant increase in PLAAF capabilities but as more tankers are inducted they will greatly enhance the reach of PLAAF's combat force. If PLAAF relies more on their rear bases to launch attacks on India then IAF will need to develop adequate capability to penetrate strong PLAAF air defences and carry out long range precision strikes on these fighter bases and the tanker bases. IAF also needs to have persistent long range ISR (Intelligence, Surveillance, Reconnaissance) capability to provide targeting information for our retaliatory strikes.

Conclusion

The induction of new tankers will significantly increase the reach of PLAAF combat aircraft but at present PLAAF does not have them in enough numbers. In the coming years PLAAF tanker fleet is likely to increase and this will enable them to operate from rear bases against India. This is a

development which India will have to take note of. To counter PLAAF operations from rear bases, IAF will need to develop adequate long range precision strike and persistent ISR capability.

(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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ⁱ Mike Yeo "First Chinese Il-78 tanker seen at PLAAF base", in - *IHS Jane's 360*, November 03, 2014, <http://www.janes.com/article/45319/first-chinese-il-78-tanker-seen-at-plaaf-base>, accessed on December 13, 2014.

ⁱⁱ Michael Pilger "First modern Tanker Observed at Chinese Airbase", US-China Economic and Security Review Commission Staff Bulletin, November 18, 2014.

ⁱⁱⁱ Military Balance 2014.

^{iv} Jane's All the Worlds Aircraft: In Service 2013-14

^v GlobalSecurity.org <http://www.globalsecurity.org/military/world/ukraine/il-78.htm>, accessed on December 13, 2014.

^{vi} N2 *ibid*.

^{vii} XAC Y-20 Heavy Transport Aircraft, <http://www.military-today.com/aircraft/y20.htm>, accessed on December 13, 2014.