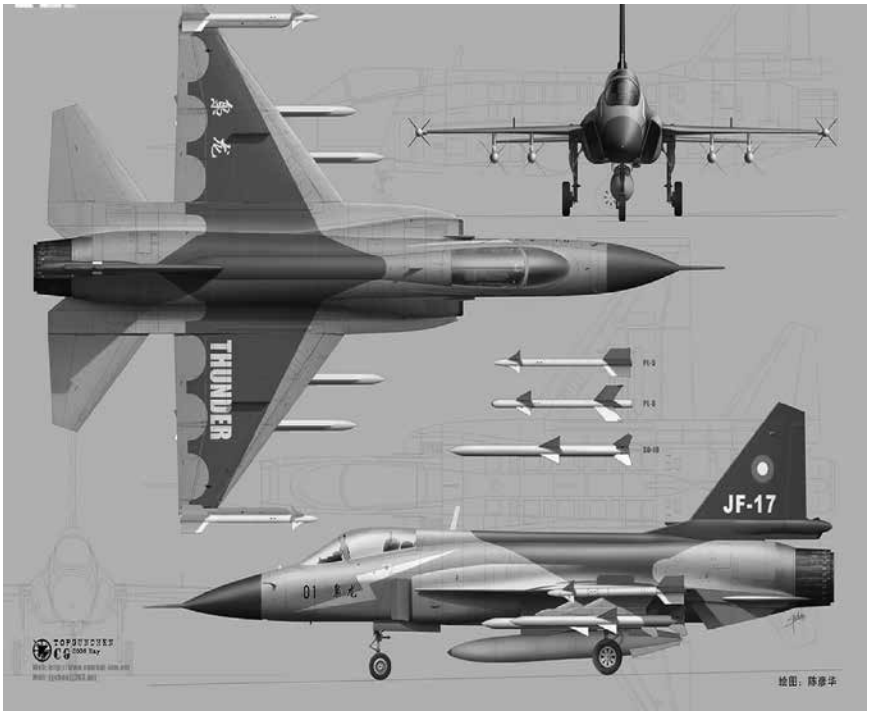
China to Provide 50 JF 17s to Pakistan

CLAWS RESEARCH TEAM



The PAF officially inducted its first JF-17 squadron on 18 February 2010. This multi-role, third generation aircraft has the capability to perform air defence, interdiction, airfield strike, precision strike, close support, armed reconnaissance and escort missions. They first saw service in the anti-terrorist operation in

South Waziristan, during which they were evaluated with weaponry of different types. The aircraft then took part in the PAF's *'High Mark 2010'* exercise, where their air to surface weaponry was tested. PAF has since stated that the JF-17 has "revolutionised its operational concepts".

While the aircraft does boast of a lot of advanced technology making it viable in future hostile battles, a balanced analysis of its capability has shown that a plethora of up gradations on the basic model would be required to match up to the fourth and 4.5 generation fighters that would soon be in IAF's inventory. The airframe is made completely from metal and some alloys, with no use of composite material at all. This has increased the weight as well as the Radar Cross Section (RCS) of the aircraft; making them an easy pick for the Indian radars. The later versions are expected to have a higher percentage of composite material. The aircraft's glass cockpit does incorporate Electronic Instrumentation and a Head-Up Display (HUD). The initial aircraft, however, do not have a composite advanced Fly by Wire system, which is expected to be incorporated in the later versions. This limits the aircraft's maneuverability in relation to the advanced fighters. The JF-17 is powered by a single Russian turbofan engine, which is a variant of the engine used on the twin engine Mig-29 fighter. This is a relatively old engine which does not match up to the current advances made in the field and also has had its share of problems. The Chinese meanwhile are developing a new turbofan engine, as a replacement.

Its embedded data link capability with ground control centres, AWACS/ AEW aircraft and other compatible combat aircraft would enable JF-17 to become part of a larger network for better situational awareness of the pilot as well as other entities in the network. This makes it potent in the highly complex battlefield of today, by constant updating of the picture. The automated self-protection system of the aircraft affords it a high survivability rate. It comprises of a composite EW protection suite linked to a Radar Warning Receiver (RWR) and also to a Missile Approach Warning (MAW) system with 360 deg coverage. The Counter-Measures Dispensing System (CMDS) is capable of releasing decoy flares and chaff to help the aircraft evade enemy radars and missiles.

Up to 8,000 lb of ordnance, equipment and fuel can be mounted on the seven hard points; two on the wing-tips, four under the wings and one under the fuselage. Internally the aircraft carries one 23/ 30 mm twin-barrel cannon on the left side. On the other hard points, the aircraft is capable of carrying many combinations of rockets, Air to Air missiles (including Beyond Visual Range missiles), Air to Surface Missiles (including Anti Ship, Anti Radiation and cruise

missiles) and Precision Guided Munitions besides conventional bombs. The armament which is presently being carried on the JF 17 is not the latest. PAF is negotiating with the West for acquiring state of the art weapons. Fuel Drop Tanks may also be included to increase range or endurance but at the cost of ordnance. All JF-17s of the PAF would be In-Flight Refueling (IFR) compatible. Thus, they do have the capability to deliver reasonable amount of armament over long ranges which can be further expanded with mid air refueling. They can also maintain stations for a longer period of time for defence of their assets.

The field in which the aircraft needs major up gradation is avionics. The Chinese radar has limitations which PAF is once again trying to overcome by negotiating with European states for an avionics upgrade. Without advanced seeking and targeting systems and weapons, the total potency of the platform is largely compromised. In the future, the remaining production aircraft may be equipped with better Chinese or European avionics, radars and weaponry. There has been enough comparison of JF-17 with various Indian aircraft especially with the LCA. However, these cannot be comprehensive as both aircraft are still far from reaching their envisaged potential. Also, while the JF-17 is expected to be the mainstay of the future PAF, with a total strength of almost 250 aircraft, the LCA is going to be only a small component of IAF's future force.

A telling feature on the discussion is that China itself has yet to induct the JF-17 into its own fleet! It is giving more emphasis to development of its more advanced J-10 and J-11 fighters. However, some advanced technology from these fighters may find its way into future JF-17s. Meanwhile, its induction into PAF would beef up the numbers, replacing the present aged fleet and provide PAF with decent Beyond Visual Range combat capability, which it lacked. During the visit of Pakistani PM Yousuf Raza Gilani to China in May, China agreed for 'immediate provision' of 50 JF-17 fighter aircraft. These are fully funded by China and it is expected that these aircraft will be equipped with more advanced Chinese electronic equipment.

Note: Also see the earlier article on Induction of First Squadron of JF 17s by PAF in the Scholar Warrior issue of Spring 2011.