

FC-1 Two-Seater For Combat And Training, Maker Says

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FC-1 two-seat prototype: Avic

BEIJING—The two-seat version of the Avic Chengdu FC-1 export fighter is a combat aircraft as well as a trainer, the state manufacturer says following the first flight.

Heavy redesign of the tail has been necessary to create the two-seater, presumably because, as Avic says, no such version was planned when the FC-1 was launched in 1999 as a joint project with Pakistan.

The FC-1 is called JF-17 Thunder by the Pakistan Air Force, which Avic says has taken delivery of more than 80 units. Avic gives no designation for the new version, but “FC-1B” can be assumed; Pakistan calls it the JF-17B. Pakistan Aeronautical Complex is the joint manufacturer.

The FC-1 is powered by the Klimov RD-93 of 18,300 lb. thrust, though the comparable WS-13 from the Guizhou works of Aero Engine Corp. of China has reportedly been tested in the airframe.

Avic says it developed the two-seat version in response to demand from Pakistan and the international market for a trainer.

Beyond training, the FC-1B “can exploit the ability of a two-person crew to handle complex combat conditions,” Avic says. “It has a stronger combat capability” than the single-seater, the state aeronautics conglomerate says in a statement published by various state media organizations.

As if to underline the claim of combat capability, the first flight was conducted with air-to-air missiles on the wing tips.

A fully combat capable two-seater would need its aft cockpit properly equipped for fighting, but Avic makes no mention of such a feature. It also does not refer to any contribution in the two-seat development by Pakistan Aeronautical Complex, which helped create the original version.

Design changes go beyond the necessarily major fuselage revision to accommodate a second seat and place it high enough for an instructor to see forward.

Since the canopy is higher than in the single-seat version, the dorsal spine behind it is much deeper and voluminous. The volume was evidently wanted, because the spine barely tapers; it is hardly shallower at the point where it reaches the tail fin. That volume will offset space occupied by the second seat, though repackaging must have been necessary.

With more area forward, the fin had to be enlarged and swept back to maintain aerodynamic balance. Chord at its root has been extended aft and the sweep of the leading edge has increased to more than 45 deg. The formerly slightly forward sweep of the trailing edge has been changed to a backward sweep.

Ventral stabilizers appear unchanged, possibly because their size was limited by the clearance needed for rotation.

The airframe has been strengthened and more composite material worked into the structure, says Sina, a web portal. Despite the addition of lighter material, the FC-1B is likely to be somewhat heavier than the single seater.

Flown by pilot Tu Jianchuan, the first FC-1B took off at Chengdu on March 27 before assembled Chinese and foreign dignitaries, the latter presumably including officers of the Pakistan Air Force.

Pakistan's aircraft have accumulated 30,000 flight hours, Avic says.