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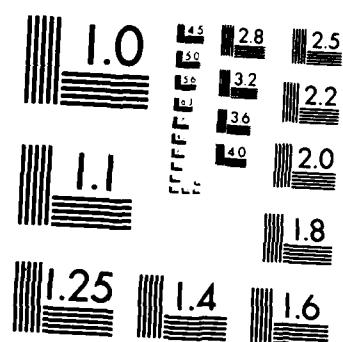
CHINA'S 'QIANG 5' ATTACK AIRCRAFT(U) FOREIGN TECHNOLOGY 1/1
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FOREIGN TECHNOLOGY DIVISION



CHINA'S "QIANG 5" ATTACK AIRCRAFT

by

A. Ba



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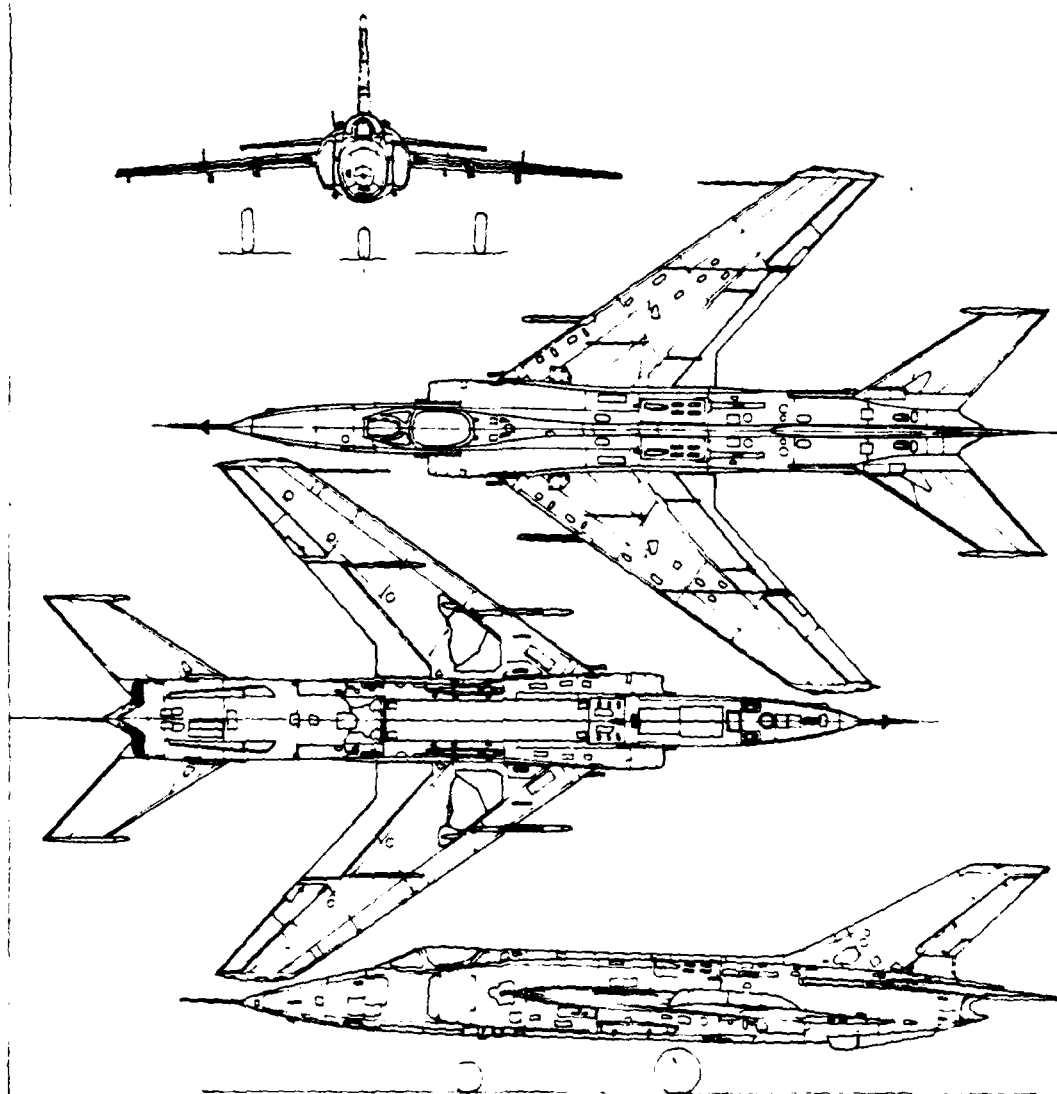
China's "Qiang 5" Attack Aircraft

by A Ba

Twenty-four years ago, in January of 1958, when the Soviet Union was still the faithful advisor for setting up China's new aviation industry and differences in their ideologies were beginning to surface, the Soviet Union signed and issued a permit to China for the production of the supersonic "MiG 19". Although the Soviet experts soon departed before leaving behind sufficient experience and before finishing the training of technicians from China's aviation industry, China kept up its plans and continued production of the "MiG 19". At the very beginning, production was carried out in Shenyang but later it was also simultaneously carried out in Tianjin. Although there was no assistance by experts, ^{in mid 1964} the aviation industry of China was still able to deliver several hundred "MiG 19" aircraft to the Chinese airforce. The Chinese called it the "Jian 6" fighter aircraft.

After many years, they gained valuable experience wherein the production of chassis and the quality of the Tumansky RD-9B jet engine were greatly raised. It was later called the "Turbojet 6" by the manufacturers in Shenyang. Its maintenance period was doubled as compared to original plans and reached 200 hours. They were installed in "Jian 6 Class C" and limited all-weather "Jian 6 Class A" and "Jian 6 Class B". The latter two are equivalent to the "MiG 19" PF and PM. Aside from these, China also developed a two seater trainer aircraft which is completely different from the Soviet made "MiG 19" UTI. During the 1960's and 1970's, China developed a series of "Jian 6" aircraft and at the same time, the Chinese airforce responding to requirements obtained a relatively optimal performance ground attack aircraft. This is because when China was using the "Jian 5" type "MiG 17" aircraft as an attack aircraft (this is because the low altitude performance of the "Jian 5" is relatively good), they felt that

the loading weight and range of the "Jian 5" was very inferior by today's standards. Having these feelings, China then used the "Jian 6" with reliable performance as the basis for development.



The Qiang 5 attack aircraft.

The Chinese airforce clearly needed an aircraft model with high speed and low altitude breakthrough capabilities which could simultaneously carry a limited load (for example, four 250,000 kilogram bombs or another weapons system with additional load (for example, the cluster rocket launch tube) and that also possessed very good low altitude, low speed performance. When

designing the "MiG 19", a simple head front position air inlet was selected and it reached a speed of 1.3 mach. This is because the MiG lacked a designed lateral air inlet, they overlooked that this aircraft has two motors and its engines are very appropriately placed on the rear section of the fuselage. Usually, the design of the head front position air inlet matches the early fighters which have middle position motors. Therefore, the design of the lateral air inlet is worth recommending and thus it was installed on the fuselage of the original "Jian 6".

We can find many precedents for the design of the lateral air inlet yet the related aircraft models are all aircraft with middle positions engines. This type of design enables them to install their radar survey systems in the air. However, the "Jian 6" is totally different. The two "Turbojet 6" engines are very short and small and only occupy a very small depth of the fuselage. Moreover, they are installed on the rear section of the fuselage which provides beneficial conditions for the weapon's compartment inside the body of the aircraft and matches the partial requirements of the Chinese airforce. Only if there is a lateral air inlet can the various devices such as the radio, batteries, air control system and radar etc. be installed in the aircraft nose.

The final adoption of the lateral air inlet not only matches the two engine design but at the same time it also retains a large part of the original design of the "MiG 19". Thus, the positions of the wings, wheels, artillery etc. could be maintained unchanged. This greatly reduced the difficulty of the new design and saved on design time. The new pointed and cone shaped nose was installed on the fuselage of the original "Jian 6" and on the two sides are fitted two lateral air inlets. The fuselage behind it is made slightly narrower so as to adapt to high speed flight and two separating plates are installed in front of the air inlets.

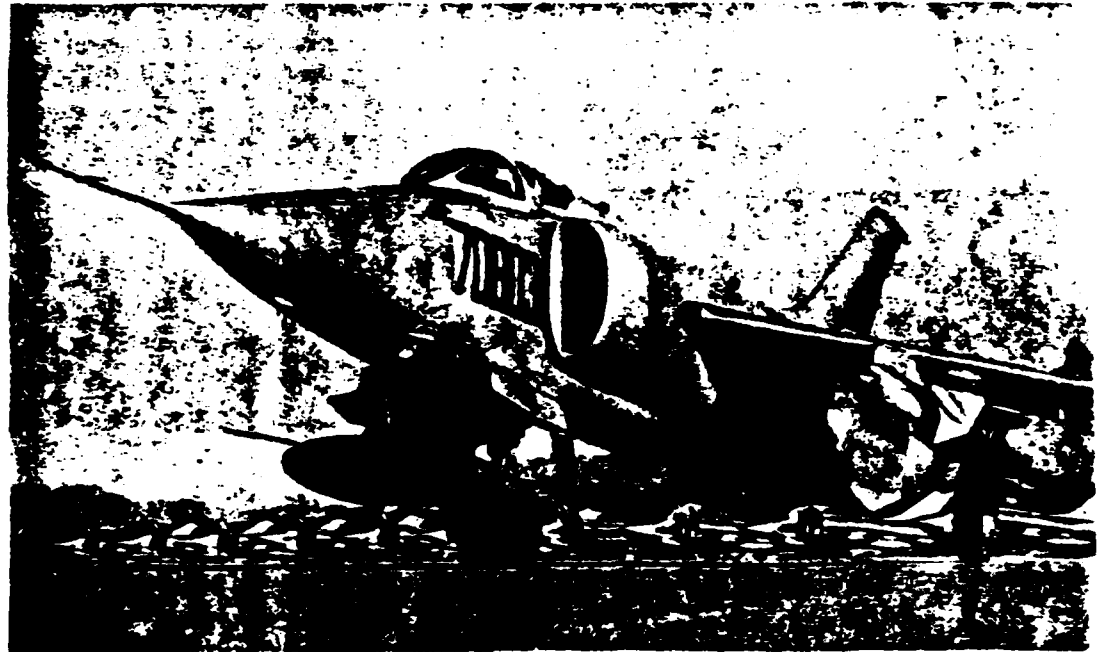
The position of the front wheels is moved back a little so as to make more head space in order to install more equipment. The position of the cockpit is shifted forward so as to gain a better field of vision. The new design of the directional rudder lowers the air resistance. Moreover, it is made higher so as to supplement the changed design and lost steering stability. To prevent the rear elongation of the fuselage from producing tail spinning, the stable fins of the original "Jian 6" were removed and replaced by two very large stable plates which were installed on the two sides under the tail. A more secondary change was changing cabin cover from the back sliding type of the "Jian 6" to the upward lifting type.

The wings which include one major vortex plate and three auxiliary plates were both retained. The 30 millimeter gun on the front part of the wing root was also retained. Only slight changes were made on the elevator plate in order to increase the area of the wing a little as well as prevent the occurrence of rear vortex flow on the wing root when in low altitude flight and avoid affecting stability in low altitude flight.

Above we gave the differences and similarities of the "Jean 6" and "Qiang 5". The West regards them as attack fighters similar to the British "Buccaneer". They carry four internally installed 250 kilogram bombs and they can be used for low altitude, low speed breakthroughs. When Western tourists first discovered this type of attack aircraft in commercial airfields, Chinese officials said that the design of this type of aircraft already had a ten year history. We can determine from this that this was a test aircraft of the late 1960's which began to be produced in Nanchang from 1972 to 1973. Although present production is not known, we need not doubt the aircraft manufacturing capabilities of Nanchang.



RAF "Buccaneer" attack aircraft.



"Qiang 5" attack aircraft of the PRC.

At present, there is no evidence to prove statements by

Western analysts that the wing area of the "Qiang 5" is 30 percent larger than than of the "Jian 6" and that its weight was increased 44 percent. However, it is relatively believable that the "Qiang 5" is 135 to 180 kilograms heavier than the "Jian 6" and that its fuel capacity was increased 15 to 20 percent. When the internal bomb bay is fully loaded and the aircraft is carrying a reserve fuel tank of 760 liters, the combat radius of the "Qiang 5" is: 370 kilometers when low-low-low, 650 kilometers when high-low-high and it maintains full speed heating escape capabilities. The range of a single flight is about 1,850 kilometers. Its climb limit is 15,500 meters.



Soviet MiG 19F attack aircraft.



"Jian 6" fighter aircraft.

The thrust of the improved "Turbojet 6A" engine used by the "Qiang 5" increased from the 2,600 kilograms of potential thrust and 3,250 kilograms of heating thrust of the "Turbojet 6" to 3,000 kilograms of potential thrust and 3,750 kilograms of heating thrust. Moreover, the overhaul period was greatly lengthened. The highest speed of the "Qiang 5" is about 1.2 to 1.35 mach, the altitude is 10,000 meters and the highest level speed is 0.95 mach. Its climbing capability is 20,000 feet per minute. It is believed that the "Qiang 5" has high speed, low altitude breakthrough capabilities, yet it must discard its pylon. However, the method for ejecting the pylon is very expensive.

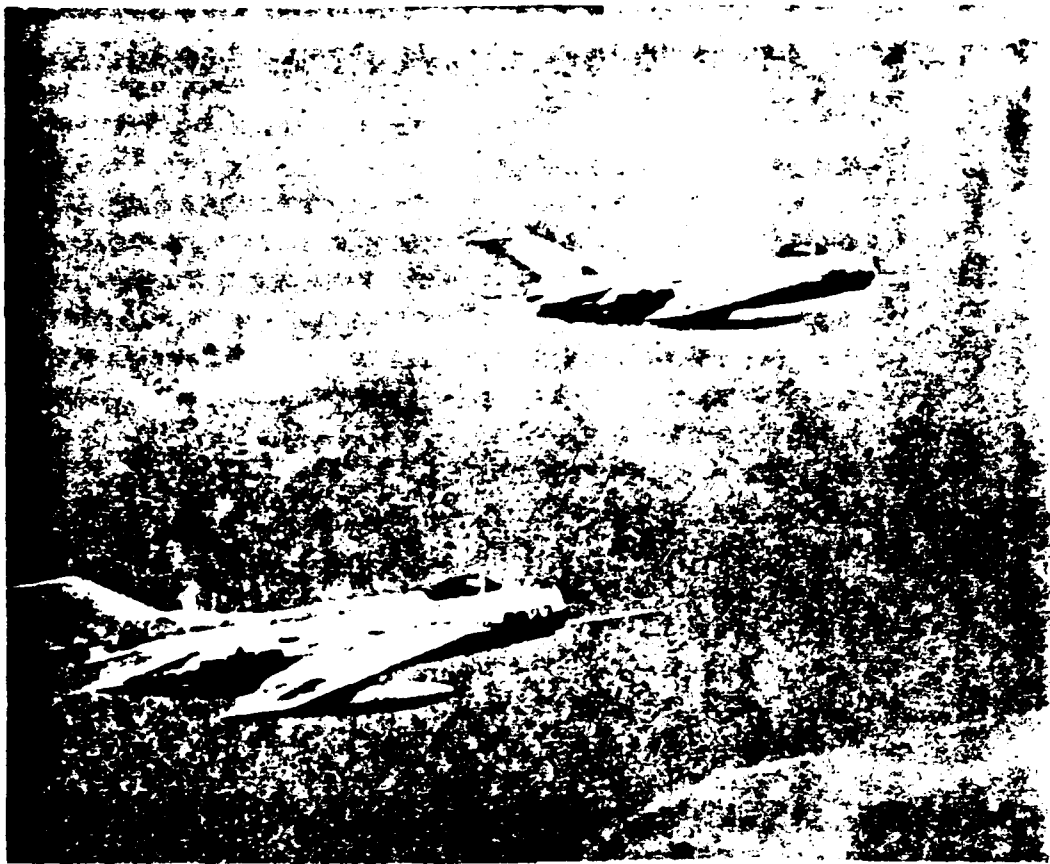
Aside from the internal bomb bay, outside the bomb bay door and below the wing there are also two weapon pylons. Each of them can carry one 250 kilogram bomb. There are also four wing pylons used to carry an auxiliary fuel tank, air to air missiles, 57 millimeter eight cluster rocket launchers and bombs etc. The

other interior equipment is estimated to be navigational and range-only radar, radar altimeters, enemy and self identifiers, aerial artillery cameras, the Chinese ARK-5 radio compass, RSIU-4VHF communication transmitters and MRP-48P dispatch signal receivers etc.

To sum up, this "Qiang 5" attack fighter made in Nanchang (it is called the "Fantan" in the West) can be taken by Western standards as an inadequate product which can be used through an interim period. Although its continuous flight distance and loading weight are better than those of the "Jian 5", "Jian 6" and "Jian 7", yet when compared to Western aircraft, for example the American's "Jaguar" ground attack aircraft, there is still a distance between them and it requires improvements.



Schematic drawing shows the differences between "Jian 6" (above) and "Qiang 5" (below).



"Jian 6" aircraft on its flying mission.

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