

# Iran reveals new Qaher 313 stealth fighter

*Flightglobal*

*Dave Majumdar*

US defence experts consulted by Flight International are united in their opinion that Iran's newly unveiled Qaher 313 "stealth fighter" is merely a mock-up designed for domestic propaganda purposes, rather than a flying prototype as claimed by Tehran.

"The advanced aircraft with an advanced appearance has a very small radar cross section and is capable of operating and flying in low-altitude," Iranian defence minister Brig Gen Ahmad Vahidi told the nation's FARS state news agency on 2 February. Designed and built by the defence ministry's Aviation Industries Organisation, the type was constructed using "high-tech" materials, and can be armed with indigenously designed weapons, he claims.

"The fighter jet is Iranian-made and all its parts have been manufactured domestically," Hassan Parvaneh, project manager for the Qaher 313, told Iranian state television, which also showed video footage of a subscale model being flown.

While the design shown to Iranian president Mahmoud Ahmadinejad bears a vague resemblance to Boeing's Bird of Prey prototype, its faceted appearance is reminiscent of earlier US low observables projects, such as Lockheed's 1970s-era Have Blue, which eventually evolved into the F-117 stealth fighter. Other notable features include fixed canards with moving control surfaces behind the cockpit, and a small non-afterburning engine which could be a reverse-engineered variant of the General Electric J85 turbojet, which powers Northrop F-5s still operated by Iran's air force.

"I suspect it's for domestic consumption, and then you may be able to influence a few people in the neighbourhood," says Dan Goure, an analyst at the Lexington Institute. "If you're going to build something like this, you have to have all of the analytical and sensor technologies. They don't have the engine technology, they don't have the materials technology, and they don't have the computer technology."

Air power analyst Mark Gunzinger, of the US Center for Strategic and Budgetary Assessments, agrees the aircraft is a crude mock-up but says its emergence highlights Tehran's greater geo-political ambitions. "It is another indication that Iran is continuing to pursue military capabilities, including weapons of mass destruction, to support their anti-access strategy." But, he notes: "Anyone can build a mock-up. Even if it does make it off the ground, I doubt that it will have stealth characteristics."

## UNINTENTIONAL CURVES

One aerospace engineer with experience on stealth aircraft says the Qaher 313's planform alignment is questionable, and its blend of faceting with non-compound curves may not even

be intentional. "I would bet the facets are really just structural vestiges showing through the outer mould line of the skin," he says.

The wing leading edges are also very rounded and the airfoil is thick, which the engineer says are "very non-low observable", as are the control surfaces shown on the fixed canards. The engine's small inlets would also cause aerodynamic issues at higher angles of attack.

The use of drooped winglets is also something of a mystery, the source continues. "With twin vertical stabilisers, there should be plenty of directional stability. All these do – other than look cool – is create interesting yaw/roll coupling issues with little perceivable benefit."

Small in size, the mock-up's surface finish appears likely to be painted fibreglass or fabric, while the design seems to lack the apertures needed to house communications equipment, sensors and internal weapons bays, or even access panels and to load fuel. Images of the cockpit, meanwhile, show the design is furnished with avionics from the home-built aircraft market, while its flimsy canopy has no visible latch mechanism around its edge. Retired US Air Force Lt Gen David Deptula is abrupt in his opinion, dismissing the Qaher 313 as "laughable".

Iran has a history of presenting new weapon systems which are, in fact, adapted versions of older equipment. These include its Saeqeh fighter unveiled in 2006, which equipped the F-5 with new features including a twin tail, plus indigenous helicopters which have been derived from the Bell AH-1 and UH-1.