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B-2 BOMBER ROLLS OUT

"The whole idea behind this aircraft is to hold [mobile and hard] targets at risk in the Soviet Union. That's what deterrence is all about"

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Exclusive Aviation Week & Space Technology overhead view of the B-2 bomber shows that the complex trailing edge of the aircraft is used for lift augmentation and directional control. Reduction of infrared signature shows the design of each twin-engine exhaust duct.

some with guard dogs—stood between the attendees and the bomber throughout the ceremony.

Brief ceremonial remarks preceding the rollout emphasized the vital role the aircraft will perform in the U.S. strategic triad by leaping ahead of today's technology to counter tomorrow's threat. Gen. Larry D. Welch, USAF chief of staff, said the B-2 bomber has all the best attributes of a deep-penetration, long-range, nuclear-capable, heavy payload, all-altitude penetration capability, accurate delivery and reliability and maintainability. Added to that is the greatly enhanced effectiveness and survivability provided by its stealth characteristics.

The aircraft will fly at only subsonic speeds, have a range exceeding 6,000 naut. mi. and operate at altitudes up to 30,000 ft., according to a senior Air Force official. With a redesigned, strengthened wing, the bomber also will be capable of sustained flight at low altitudes, employing an all-weather, terrain-following system (AWST Nov. 7, p. 20). The terrain-following signature is very limited and difficult to detect, according to USAF officials.

Aldridge confirmed that the aircraft will be able to eliminate contrails at high altitude, substantially reducing its visual signature as well. This could be accomplished by using a COF additive, such as dibutyltinuro-sulfonic acid, that minimizes the size of exhaust particles and makes the contrail invisible in normal, white light. The chemical supposedly is very corrosive to storage tanks and engine exhausts, though. The contrail still would be visible in the ultraviolet region.

The B-2 has an inflight refueling capability, although it can perform its intended mission without having to refuel, according to a senior Defense Dept. official.

SINISTER LOOK

To minimize drag and radar cross section, it will carry an all-internal payload roughly equivalent to that of the B-1, consisting of short-range attack missiles, advanced cruise missiles and gravity-drop bombs. The weapon bays—located aft of the cockpit—will be fitted with Boeing-built Advanced Applications Rotary Launchers.

Head on, the bomber has a sinister, low profile that gives the impression the aircraft is smaller than the physical dimensions indicate. It stands 17 ft. high, is 69 ft. long and has a 172-ft. wingspan. The B-2 is slightly longer than the McDonnell Douglas F-15 fighter, but has a wingspan approaching that of a Boeing B-52 bomber (AWST Aug. 8, p. 16).

A bulbous cockpit with wide, wrap-around windscreens rises from the smooth wing's upper surface. It is flanked by two, low-profile engine nacelles with scalloped, forward-tilted leading edges. Three triangular plates appear to be mounted a few inches above the wing surface at the inlet openings, pointed directly forward. The interior of each inlet also appears scalloped at the aft end, and is believed to be relatively delicate, requiring special care to prevent damage to the interior surfaces during production and maintenance. Each inlet sweeps aft and downward, directing incoming air to the four General Electric F118-GE-100 powerplants without exposing their compressor faces, which are highly visible on radar.

Buried in the aircraft body on each side of the bomb bay area, these engines are non-afterburning derivatives of the GE F110, and are rated in the 19,000-lb.-thrust class. Engine exhaust nozzles to be

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