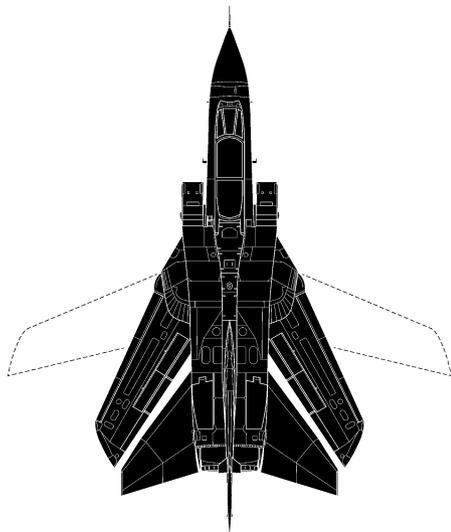


Tornado



The Tornado stands as a top all-weather, day-night, supersonic fighter-attack aircraft. It was developed and built by the tri-nation Panavia consortium created by Britain, Germany, and Italy. It was, at its outset, one of the few tactical aircraft able to attack at very low level, at any time, in any kind of weather. However, this fighter has done more than strike alone. Tornado variants also have been optimized for electronic combat and air interception, plus maritime missions.

The Tornado has two engines. Its variable-sweep wings offer great operational flexibility—maneuverability and efficient cruise in the spread configuration, high speed in the swept configuration. It was built in three main variants: the IDS (interdiction-strike) fighter bomber, the ECR (electronic combat/reconnaissance) defense suppressor, and the ADV (air defense variant)

interceptor. It has advanced navigation and flight computers, fly-by-wire controls, a sophisticated cockpit, and a retractable refueling probe. Designed to excel at low-level air attack against Warsaw Pact forces, the Tornado has been extensively modified by the RAF to perform medium-level strike and other missions.

The fighter first saw combat in the 1991 Gulf War, when RAF and Italian air force Tornados were heavily engaged, especially in the earliest days. Since the early 1990s, the Tornados of all four owning nations—Britain, Italy, Germany, and Saudi Arabia—have seen action in many conflicts, from Bosnia to Serbia, from Iraq to Afghanistan and Libya. Tornado operators have carried out various upgrades and life extensions that will keep the fighter in frontline service for years.

—Robert S. Dudley with Walter J. Boyne

This aircraft: Royal Air Force Tornado GR1—#ZA447, *MiG Eater*—as it looked in January 1991 when deployed to Tabuk, Saudi Arabia.



In Brief

Designed, built by Panavia Aircraft GmbH ★ first flight Aug. 14, 1974 ★ number built 992 ★ crew of two (pilot, nav/weapons officer) **Specific to RAF GR4:** two Turbo-Union RB199-34R turbofan engines ★ defensive armament AIM-9 or AIM-132 air-to-air missiles ★ guns two 27 mm Mauser BK-27 cannon ★ load up to 19,800 lb of bombs and other munitions, including Maverick, Brimstone, Paveway, Storm Shadow, ALARM, BL755 cluster bombs, WE.177 nuclear weapon ★ max speed 1,490 mph ★ max sea level speed 921 mph ★ max range 870 mi ★ weight (loaded) 44,620 lb ★ span 45 ft 7 in spread, 28 ft 3 in swept ★ length 54 ft 10 in ★ height 19 ft 6 in ★ ceiling 50,000 ft.

Famous Fliers

Notables: RAF officers R. M. Collier, T. N. C. Elsdon, S. M. Hicks, G. K. S. Lennox, Adrian “Kev” Weeks (all KIA in Gulf War). **Other Notables:** Ulrike Flender, first female German air force jet fighter pilot; Prince Khaled bin Salman, son of Saudi crown prince; Nikki Thomas, first woman commander of RAF jet squadron; John Nichol, RAF, author of *Tornado Down*. **Test Pilots:** Paul Millett, David Eagles, Pietro Trevisan, Tim Ferguson.

Interesting Facts

Named, in beginning, Panavia 200 and Panavia Panther ★ flown in Luftwaffe’s first combat operation since World War II (Bosnian War, 1995) ★ nicknamed “Tonka” by RAF crews ★ shot down, accidentally, by US Patriot missile, in 2003 Iraq War, with both aircrew killed ★ can fly automatically at low level using terrain-following radar ★ cleared to carry most air-launched weapons in NATO service ★ features cannon later adopted by Dassault/Dornier Alpha Jet, Saab Gripen, Eurofighter Typhoon.

USN Photographer's Mate 2nd Class Michael Sandberg



A German Panavia Tornado IDS during the annual maritime exercise Baltic Operations 2003 (BALTOPS).