A-6E Intruder - 1981, TRAM

United States



Type: Attack
Min Speed: 300 kt
Max Speed: 570 kt
Commissioned: 1981
Length: 16.7 m
Wingspan: 16.2 m
Height: 4.8 m
Crew: 2
Empty Weight: 12070 kg
Max Weight: 27500 kg
Max Payload: 15870 kg
Propulsion: 2x J52-P-409

Sensors / EW: - AN/APQ-148 - (A-6E) Radar, Radar, Surface Search, Medium-Range, Max range: 277.8 km
- AN/ALQ-126A - (A-6E) ECM, DECM, Defensive ECM, Max range: 0 km
- AN/ALR-50 Charger Blue - (Navy) ESM, RWR, Radar Warning Receiver, Max range: 222.2 km
- AN/ALR-45 Compass Tie - (Navy) ESM, RWR, Radar Warning Receiver, Max range: 222.2 km
- Generic Laser Designator - (Surface Only) Laser Designator, Laser Target Designator & Ranger (LTD/R), Max range: 18.5 km
- AN/AAS-33 TRAM - (Surface Only) Infrared, Infrared, Navigation / Attack Camera, Max range: 55.6 km

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Weapons / Loadouts:
- Mk83 1000lb LDGP - (1954) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- 300 USG Drop Tank - Drop Tank.
- Mk82 500lb LDGP - (1954) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- Mk20 Rockeye II CB [247 x Mk118 Dual Purpose Bomblets] - (1969, Mk7 Dispenser) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- GBU-10E/B Paveway II LGB [Mk84] - (USAF) Guided Weapon. Surface Max: 7.4 km. Land Max: 7.4 km.
- GBU-12D/B Paveway II LGB [Mk82] - Guided Weapon. Surface Max: 7.4 km. Land Max: 7.4 km.
- GBU-16B/B Paveway II LGB [Mk83] - (USN) Guided Weapon. Surface Max: 7.4 km. Land Max: 7.4 km.
- AN/AWW-9 Datalink Pod - Sensor Pod.
- AGM-62B Walleye II ER/DL - (1976) Guided Weapon. Surface Max: 55.6 km. Land Max: 55.6 km.
- Mk84 2000lb LDGP - (1955) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- B61 Tactical/Strategic Bomb [340kT Nuclear] - (1968) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- B57 Multipurpose Surface Bomb [20kT Nuclear] - (1965) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- AGM-78D Standard [ARM] - (1975) Guided Weapon. Surface Max: 92.6 km. Land Max: 92.6 km.
- CBU-59/B APAM [717 x BLU-77/B Dual-Purpose Bomblets] - (Mk7 Dispenser) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.
- CBU-78/B GATOR [45 x BLU-91/B Bomblets + 15 x BLU-92/B Mines] - (Mk7 Dispenser) Bomb. Surface Max: 1.9

km. Land Max: 1.9 km.
- AGM-45B Shrike [ARM] - (1975-1992) Guided Weapon. Surface Max: 46.3 km. Land Max: 46.3 km.
- AGM-84A Harpoon IP - (1979) Guided Weapon. Surface Max: 120.4 km.
- Mine [Mk52 1000lb] - (1962) Bottom Mine.
- Mine [Mk55 2000lb] - (1962, 180m max depth) Bottom Mine.
- Generic Buddy Store - Buddy Store.
- Mk82 500lb Snake Eye - (USN: 1967, USAF: 1970, Retarded) Bomb. Surface Max: 1.9 km. Land Max: 1.9 km.

OVERVIEW: The Grumman A-6 Intruder was an American, twin jet-engine, mid-wing all-weather attack aircraft built by Grumman Aerospace. In service with the U.S. Navy and U.S. Marine Corps between 1963 and 1997, the Intruder was designed as an all-weather medium attack aircraft to replace the piston-engined Douglas A-1 Skyraider. As the A-6E was slated for retirement, its precision strike mission was taken over by the Grumman F-14 Tomcat equipped with a LANTIRN pod. From the A-6, a specialized electronic warfare derivative, the EA-6 was developed.

DETAILS: The A-6's design team was led by Lawrence Mead, Jr. He later played a lead role in the design of the Grumman F-14 Tomcat and the Lunar Excursion Module.

The jet nozzles were originally designed to swivel downwards for shorter takeoffs and landings. This feature was initially included on prototype aircraft, but was removed from the design during flight testing. The cockpit used an unusual double pane windscreen and side-by-side seating arrangement in which the pilot sat in the left seat, while the bombardier/navigator sat to the right and slightly below. The incorporation of an additional crew member with separate responsibilities, along with a unique cathode ray tube (CRT) display that provided a synthetic display of terrain ahead, enabled low-level attack in all weather conditions.

The A-6's wing was very efficient at subsonic speeds compared to supersonic fighters such as the McDonnell Douglas F-4 Phantom II, which are also limited to subsonic speeds when carrying a payload of bombs. The wing was also designed to provide good maneuverability with a sizable bomb load. A very similar wing would be put on pivots on Grumman's later supersonic swing-wing Grumman F-14 Tomcat, as well as similar landing gear. The Intruder was also equipped with the "Deceleron", a type of airbrake on the wings with two panels that opened in opposite directions.

For its day, the Intruder had surprisingly sophisticated avionics (electronics systems), with a high degree of integration.

The Intruder was equipped to carry and launch a nuclear bomb and Navy crews regularly planned for assigned nuclear missions. Because the A-6 was a low-flying attack aircraft, an unusual method was developed for launching an atomic bomb, should that ever be required. Known as LABS-IP (Low Altitude Bombing System - Inverted Position) it called for a high-speed low-level approach. Nearing the target point, the pilot would put the aircraft into a steep climb. At a computer-calculated point in the climb, the weapon would be released, with momentum carrying it upwards and forwards. The pilot would continue the climb even more steeply, until near a vertical position the aircraft would be rolled and turned, heading back in the direction from which it came. It would then depart from the area at maximum acceleration. During this time, the bomb would rise to an apex, still heading in its original direction, then begin to fall towards the target while traveling further forward. At a pre-programmed height, it would detonate. By that time, the Intruder would be several miles away, traveling at top speed, and thus able to stay ahead of the shock wave from the explosion. This unusual maneuver was known as an "over the shoulder" bomb launch.

SPECIFICATION: Crew: (2) || Length: 54 ft 7 in (16.64 m) || Wingspan: 53 ft (16.15 m) || Height: 15 ft 7 in (4.75 m) || Max. takeoff weight: 60,626 lb (27,500 kg) || Powerplant: (2) Pratt & Whitney J52-P8B turbojets || Thrust: 9,300 lbf (41.4 kN) each.

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PERFORMANCE: Max Speed: 563 knots (648 mph, 1,040 km/h) || Range: 2,819 nmi (3,245 mi, 5,222 km) || Service ceiling: 40,600 ft (12,400 m) Rate of climb: 7,620 ft/min (38.7 m/s).

SENSORS: DIANE (Digital Integrated Attack/Navigation Equipment) - Norden Systems AN/APQ-92 search radar, AN/APG-46 for tracking, AN/APN-141 radar altimeter, and AN/APN-122 Doppler navigational radar, Litton AN/ASN-31 inertial navigation system, AN/ASQ-61 ballistics computer || AN/APQ-103 radar || AN/APN-153 navigational radar || AN/APQ-127 radar || AN/APQ-112 radar || AN/APN-186 navigational radar || AN/APQ-148 multi-mode radar.

ARMAMENT: Hardpoints: (5) total, (4) wing and (1) fuselage with 18,000 lb (8,170 kg) load || 2.75 in (70 mm) FFAR Rocket Pod || 5 in (127 mm) Zuni Rocket Pod || AIM-9 Sidewinder air-to-air missile || AGM-45 Shrike anti-radiation missile || AGM-62 Walleye TV-guided glide bomb || AGM-65 Maverick air-to-ground missile || AGM-84 Harpoon air-to-ground missile || AGM-88 HARM anti-radiation missile || Mk 81 250 lb (113 kg) GP bombs || Mk 82 500 lb (227 kg) GP bombs || Mk 83 1,000 lb (454 kg) GP bombs || Mk 84 2,000 lb (907 kg) GP bombs || Mk 117 750 lb (340 kg) GP bombs || Mk-20 Rockeye II cluster bombs || CBU-89 GATOR mine cluster bombs || Mk 77 750 lb (340 kg) incendiary bombs || GBU-10 Paveway II laser-guided bombs || GBU-12 Paveway II laser-guided bombs || GBU-16 Paveway II laser-guided bombs || B43 nuclear bomb || B57 nuclear bomb || B61 nuclear bomb || B83 nuclear bomb || various air-dropped landmines || Various air-dropped underwater mines.

SOURCE: [SCO] Wikipedia http://en.wikipedia.org