

Lockheed YF-22

Advanced Tactical Fighter (ATF)

Engines

Two Pratt & Whitney F119 engines can reach supersonic speed without use of afterburners. Thrust-vectoring nozzles increase manoeuvrability.

Inflight-refuelling receptacle

Performance:

Speed at sea level 1,480 km/h
Speed at 15,000 m Mach 2

Dimensions:

Length 19.6 m
Wing span 13 m
Height 5.4 m

Stealth

Body covered in radar absorbent material. Body panels are angled to reduce reflections back to enemy radar. Edges are serrated to break up radar returns. Weapons and fuel are carried internally to reduce radar signature

Advanced materials

Carbon composite materials used for 40 per cent of airframe

Weapons

Four Sidewinder air-to-air missiles carried in engine bays.
Four Amraam medium range missiles carried in internal weapons bay. 20 or 30mm cannon under development

Fly-by-wire computers

Flight controls designed to be 'self repairing'. If flight surfaces are damaged then computers use alternative flight controls to keep the aircraft flying

Cockpit

Three liquid crystal displays capable of showing one tactical panoramic view

Weapons data to be shown on helmet visor

Multi-function control stick

Head up display