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Boeing F-15 Silent Eagle

The F-15 Silent Eagle (F-15SE) is an innovative design solution developed in response to international customer requirements for a cost-effective, high performance fighter aircraft to defend against tomorrow's threats. Utilizing a modular design approach, the F-15 SE offers unique aerodynamic, avionic, and stealth features that provide the user with maximum flexibility to address an ever-changing conflict environment.



Key elements of the F-15SE include aerodynamic improvements, RCS reductions, an internal weapons bay, and advanced avionics enhancements. Aerodynamic changes to the F-15 SE will improve the aircraft's aerodynamic efficiency and fighter performance by reducing overall airframe weight and drag. The RCS reduction methods are applied to the airframe for frontal aspect stealth capability thus improving mission effectiveness. The modular internal weapons bay is unique in the fighter aircraft world, and contributes to the overall aircraft RCS reduction package while maintaining strike capability. The enhanced avionics include an integrated Active Electronically Scanned Array (AESA) radar and Digital Electronic Warfare System (DEWS) that provides the pilot with greater situational awareness.

The F-15SE is designed to meet the future needs of international customers when those needs require more survivability early in a conflict, followed by a need for large and diverse weapons payloads. The internal carriage Conformal Fuel Tanks (CFTs) can be quickly replaced by the large payload external carriage CFT's which are optimized for increased weapons load. The innovative Silent Eagle is a balanced, affordable design solution based on the combat-proven F-15 Eagle.

- Maximum gross takeoff weight: 81,000 pounds
- Payload: 23,000 pounds
- Maximum combat radius without refueling: more than 800 nautical miles
- Fully hands-off automatic terrain following flight control system
- Powered by two F110-GE-129 or two F100-PW-229 turbofan engines (29,000 pound thrust class with afterburners)
- A mix of air-to-air weaponry: 20mm cannon; AIM-120 and AIM-9 missiles
- A mix of air-to-ground ordnance, including precision-guided munitions, i.e., the Joint Direct Attack Munition and Small Diameter Bomb

Internal Weapons Carriage:

The new sophisticated F-15 SE internal carriage capability minimizes aircraft radar signature and significantly increases pilot tactical options.

- Equipped with two internal bays designed for multiple carriage configurations
- Capable of carrying electronic warfare, reconnaissance equipment, side looking radar, and jamming equipment.
- Reconfigurable capability provides enhanced combat flexibility.
- Each application reconfigured in approximately 30 minutes for the next specialized mission.

Aerodynamic Improvements:

- Canted vertical tails coupled with a Digital “Fly-by-Wire” Flight Control System (DFCS) improves aerodynamic efficiency and fighter performance by reducing overall airframe weight and drag.
- The innovative, configurable design provides “night threat” operations, special mission, and sustained long haul capability.

RCS Reduction Package:

The elite F-15SE signature reduction methods are applied to the airframe for frontal aspect stealth capability.

- Provides greater survivability in the battlefield by reducing the threat’s ability to detect and launch.
- Ensures mission effectiveness and survivability in any threat environment.

Baseline F-15SE Capability:

The F-15SE possesses advanced radar, electronic warfare computer, display, protection, and targeting systems:

- Raytheon AN/APG-63(V)3 AESA radar
- DEWS
- Honeywell Advanced Display Core Processor (ADCP)
- Rockwell Multipurpose Color Displays
- L3Comm Flat Panel Up-Front Control
- Boeing/VSI Joint Helmet Mounted Cueing System (JHMCS)
- Wide field-of-view head-up display
- Lockheed Martin Sniper advanced electro-optical targeting system and Infrared Search and Track (IRST) system

- AN/APG-63(V)3 radar incorporates the most advanced AESA available. This new radar provides all air-to-air, air-to-surface modes including Ground Moving Target Track, sea surface search and high resolution map capabilities.
- DEWS provides world-class performance and capability while improving reliability, maintainability and operational availability. DEWS combines four systems into one processor for improved sensitivity, greater situational awareness, faster jamming, accurate threat location, and rapid response. Retrofitting the hardware onto existing domestic and international F-15s will also be possible and practical. A DEWS retrofit will provide enhanced performance, reduced logistics requirements, and life-cycle cost savings for the customer.
- Advanced Forward Looking Infrared (FLIR) systems enhance target detection, tracking, and navigation.
- Link-16 fighter data link connects the F-15SE to the networked battlefield and coalition forces.
- The third generationIRST system provides enhanced air-to-air capability

Proven Combat Performance

The F-15 family has a combat record of 101 victories and zero losses. The U.S. Air Force's F-15E has flown thousands of combat missions during worldwide combat operations.

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