



Martin-Baker

Rafale Ejection Seat F16F

New generation lightweight fighter aircraft, such as the Dassault Rafale, demand significant weight reduction for all their subsystems in order to achieve a lower aircraft total mass. The Mk16 ejection seat achieves its remarkably light weight by combining the twin catapult outer cylinder tubes as both propulsion system and as the seat's primary structure. The Mk16 ejection seat design optimises pilot field of view, improves comfort and pilot efficiency.

Reliability and maintainability have been key elements in the design, resulting in an escape system that has full component accessibility in the cockpit. Modular construction enables the seat to be safely removed or installed in minutes without removing the aircraft cockpit canopy. These and other design features will ensure that this new generation of ejection seat succeeds the Martin-Baker Mk10 as the world's most popular escape system.



Specifications

Operating ceiling
 Minimum height/speed
 Crew boarding mass range
 Crew size range

 Maximum Speed for ejection
 Parachute type
 Parachute deployment
 Drogue parachute
 Drogue deployment
 Aerosurface deployment system
 Harness type
 Ejection seat operation type

 Ejection gun
 Ejection initiation

 Automatic back-up unit
 Manual sequencer

 Barostatic time-release unit
 Timers
 Seat adjustment
 Arm restraints
 Leg restraints
 Oxygen supply

 NBC equipment
 Personal survival pack (PSP)
 Aircrew services

 Command ejection
 Canopy jettison
 Canopy fracturing system
 Interseat sequencing system

F16F Rafale

65,000ft (19,812m)
 Zero/zero in near level attitude
 63.5 to 106.0 kg
 French Air Force specific crew size range 3 - 98
 percentile of estimated French pilot range in year 2015
 625 KEAS
 GQ Type 5000
 Cartridge initiated
 Yes
 Cartridge initiated
 Yes, gas operated
 Combined
 Ejection guns and underseat rocket motor
 Lateral thrust rocket motor (twin seat only)
 Twin
 Handle on seat pan initiates gas operated seat
 firing system
 No, manual override available
 Mechanical mode selector, used in combination
 with barostatic time-release unit
 Yes + g-restrictor, cartridge initiated
 Drogue deployment unit timer
 Up/down actuator operated 28 Vdc
 Yes
 Passive leg restraint system
 Connection to On Board Oxygen Generating System
 (OBOGS) Emergency oxygen cylinder
 Nuclear, biological and chemical (NBC) ventilator
 Yes + automatic deployment and liferaft inflation
 Aircrew services package, interface for:
 - breathing gas- NBC ventilation supply
 - mic/tel- helmet mounted display system interface
 Yes
 No
 Yes, Canopy pyrotechnic cutting system
 Yes, via mode selector



EJECTION SEAT