



Martin-Baker

F16F - Rafale

New generation lightweight fighter aircraft, such as Eurofighter and Rafale, demand significant weight reduction for all their subsystems in order to achieve a lower aircraft total mass. The Mk.16 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 Mk.16 ejection seat design optimizes pilot field of view, improves comfort and pilot efficiency, provides integration with OBOGS, chemical defence and helmet mounted systems. 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 Mk.10 as the world's most popular escape system.



Operating ceiling	65 000 ft (19,812 m)
Minimum height/speed	Zero/zero in near level attitude
Crew boarding mass range	63.5 to 106.0 kg
Crew size range	French Air Force specific crew size range 3 - 98 percentile of estimated French pilot range in Year 2015)
Maximum Speed for ejection	625 KEAS
Parachute type	GQ Type 5000
Parachute deployment	Cartridge initiated
Drogue parachute type	Yes
Drogue deployment	Cartridge initiated
Aerosurface deployment system	Yes, gas operated
Harness type	Combined
Ejection seat operation type	Ejection guns and underseat rocket motor. Lateral thrust rocket motor (twin seat only)
Ejection gun	Twin
Ejection initiation	Gas operated seat firing system
Automatic back-up unit	No, manual override available
Manual sequencer	Mechanical mode selector, used in combination with Barostatic time-release unit
Barostatic time-release unit	Yes + g-restrictor, cartridge initiated
Timers	Drogue deployment unit timer
Arm restraints	Yes
Leg restraints	Passive leg restraint system
Oxygen supply	Connection to onboard oxygen generating system. Emergency oxygen cylinder
NBC equipment	Nuclear, biological and chemical (NBC) vent.
Personal survival pack (PSP)	Yes + automatic inflation and liferaft inflation
Aircrew services	Aircrew services package, interface for: - NBC ventilation supply - helmet mounted display system interface
Canopy fracturing system	Yes, Canopy pyrotechnic cutting system
Interseat sequencing system	Yes, via mode selector



EJECTION SEAT