Martin-Baker

US16E
Joint Strike Fighter

The System Development & Demonstration (SDD) ejection seat that was competitively selected by Lockheed Martin Aeronautics Company is a further development of the Mk.16 range that has already been successful with the Raytheon Texan II (JPATS), the Eurofighter Typhoon, the NASA T-38N and USAF T-38 upgrade programmes and other numerous aircraft platforms around the world.

The US16E seat design provides an unprecedented balanced optimisation between key performance parameters such as safe terrain clearance limits, physiological loading limits, pilot boarding mass and anthropometric accommodation ranges to fully meet the F-35 Escape System requirements.

The US16E will be common to all F-35 aircraft variants

Operating ceiling	50 000 ft (15,250 m)
Minimum height/speed	Zero/zero in near level attitude
Crew boarding mass range	57.7 to 136.1 kg
Crew size range	JSF multivariate
Maximum speed for ejection	600 KEAS
Parachute type	IGQ Type 6000
Parachute deployment	Cartridge initiated
Drogue parachute	Yes, with reefing
Drogue deployment	Cartridge initiated
Harness type	MG5 Integrated
Ejection seat operation type	Twin tube catapult and under seat rocket motor
Ejection gun	Twin
Ejection initiation	Handle on seat bucket initiates gas operated seat firing system Yes, mechanical system with barostatic time-release
Automatic back-up unit	Yes, mechanical system with barostatie time-release
Electronic sequencer	Yes, powered by thermal batteries
Timers	Time delays imposed by sequencer and ABU
Seat adjustment	up/down actuator operated 28 Vdc fore/aft manual backrest adjustment rail assembly tilt mechanism enables Installation to aircraft with different bulkhead configurations
Arm restraints	Yes
Leg restraints	Yes, passive system
Oxygen supply	Bottled back-up/emergency oxygen Connection to main on board oxygen Generation system (OBOGS)
Seat survival kit	Yes + automatic deployment and liferaft inflation
Aircrew services	Connection to main oxygen supply, mic/tel,anti-g, thermal cooling. Interface to helmet.
Canopy fracturing system	Yes
Auto eject system	Active on STOVL variant only

EJECTION SEAT