

Mk2



**OVER XXX MK2 SEATS
CURRENTLY IN SERVICE**



**XX LIVES SAVED
USING A MK2 SEAT**

MISSING

Experience with the manually operated seats had shown that a number of fatalities had occurred, due to unconsciousness after ejection, inaction due to circumstantial stress, or lack of time to carry out the necessary manual operations when ejecting at low altitudes. Accordingly, effort was concentrated on producing a simple, yet effective, fully automatic Ejection Seat, capable of being produced in quantity, reliable in service, and designed to permit the retrospective conversion of most of the existing manually operated seats already installed in service aircraft.

In the design of the first automatic seat, it was decided to house the personal parachute in a container in the back of the seat and the dinghy pack in the seat pan, to facilitate the use of the drogue to effect deployment of the parachute. It was also necessary to devise some means of disconnecting the drogue from the seat at the correct time and transferring its pull to the parachute, and simultaneously a means of releasing the occupant complete with his parachute and dinghy pack from the seat.

On the Mk1 seats, the drogue had been attached to the top of the seat by a solid shackle. This was now replaced by a "Scissor Shackle", capable of being opened automatically at a pre-determined time.

Functions

- The pilot pulls the face screen seat firing handle,
- Two cartridge ejection gun fires and the seat moves up the guide rails,
- Emergency oxygen tripped,
- As seat rises, static line initiates time-delay which fires drogue gun after 1 second
- As seat rises, static line initiates time release unit
- 24/22in. dia then 5ft dia drogues stabilise and slow the seat down
- Above 10000ft
- Barostat prevents operation of time-release mechanism
- Below 10000ft
- ▼ 5 seconds after initiation of time-release unit, plunger releases scissor shackle to separate the drogue from the seat
- ▼ Transfer pull to canvas apron positioned between parachute and its container release face blind
- Canvas apron tautens and tips pilot forward out of seat
- Parachute withdrawal line, attached to apron, pulls parachute pack closure pins and apex of parachute from pack
- Parachute deploys, drogue and apron still attached
- Normal descent
- In the event of failure of time-release unit, aircrew pulls D ring on parachute harness. This pulls slide disconnect pin which disconnects withdrawal line from parachute pulling D ring also removes canvas flap from second D ring
- Aircrew pulls second D ring to operate parachute

SPECIFICATIONS

MK2

Crew Boarding Mass Range	155.2lb (70.4kg) to 224.2lb (101.7kg)
Crew Size Range	5 th to 95 th percentile
Maximum Speed for Ejection	400+ KIAS
Parachute Type	Irvin I 24
Parachute Deployment	Automatic
Drogue Parachute Type	24in. Later versions 22in. controller drogue and 5ft stabiliser drogue
Drogue Deployment	Drogue gun. Initiated by 1 sec clockwork time-delay, tripped by short static line Harness type Type 1 to 4 Ejection Seat operation type
Ejection Gun	Ejection gun; Early version - two cartridge, 60ft/sec; Later versions - 50ft/sec Later versions - 80ft/sec
Ejection Initiation	Face screen firing
Barostatic Time-Release Unit	Yes
Manual Override Handle	No, but provision for manual separation
Timers	Time-release unit for man/seat separation
Seat Adjustment	Up/Down
Arm Restraints	No
Leg Restraints	Integral thigh guards and foot rests
Oxygen Supply	Bottled oxygen
Personal Survival Pack	Liferaft pack
Aircrew Services	No
Command Ejection	No