CARD 1
GROUP 2
AIRLINERS

AÉROSPATIALE/BAC

CONCORDE

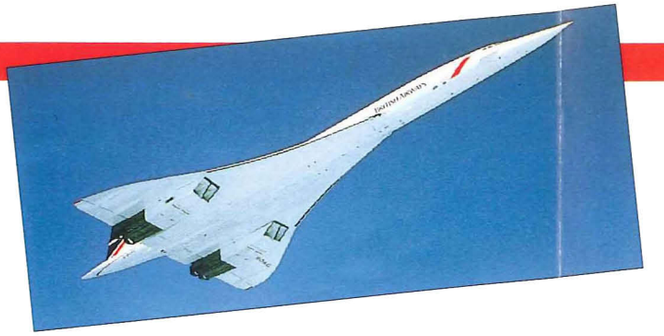
● World's fastest airliner ● Mach 2 performance ● Supreme luxury

▲ *Although it is a product of 1960s technology, without the benefit of multi-screen cockpits and fly-by-wire controls, the Concorde is still the most futuristic airliner to be seen anywhere in the world.*

It is one of the most beautiful aircraft ever built, still capable of turning heads after a quarter of a century. But the Anglo-French Concorde is much more than a work of aeronautic art. A record-breaker from the start, it remains a supremely efficient supersonic aircraft that has proved to be highly profitable on the prestige air routes between Europe and the USA.

Original card from Aircraft of the World

Mach 2 across the Atlantic



Over the last two decades a handful of Concordes have carried more people beyond the speed of sound than all the other supersonic aircraft ever built.

Since its commercial debut in 1976, Concorde has proved deservedly popular. It is the only way a businessman can cross the Atlantic for a meeting and return the same day, while his subsonic competitor faces at the very least two seven-hour flights and serious jet lag. As a result, Concorde flights are nearly always filled with high-paying passengers.

And yet Concorde has been a commercial failure. When it entered service the oil crisis had made the viability of a gas-guzzling supersonic jet questionable, and influential American environmentalists were loud in their protests over the noise its powerful engines generated. As a result, options on 70 aircraft by more than a dozen airlines were cancelled.

Nevertheless, the 14 production aircraft delivered to the national carriers in Britain and France have performed splendidly, with higher than average mechanical reliability. They are the world's only operational supersonic airliners, and will remain so until well into the 21st century.

Concorde in flight could never be confused with any other aircraft currently in service. The graceful arrow-like layout, the slender nose and unique curved double delta wing are instant recognition features.

SPECIFICATION
Concorde

Type: luxury supersonic airliner

Powerplant: four 169.17-kN Rolls-Royce/SNECMA Olympus 593 Mk 610 turbojets with afterburning

Cruising speed: 2180 km/h at 15000 m (Mach 2.04)

Range: 6250 km with maximum payload and reserves

Service ceiling: 18300 m

Weights: empty 78700 kg; loaded 185066 kg

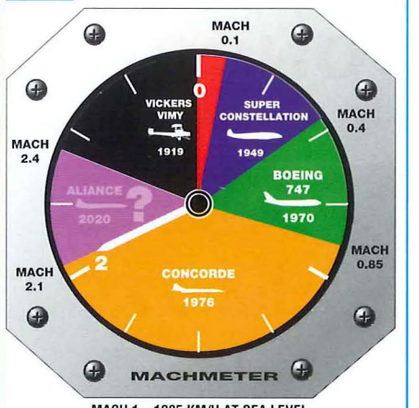
Payload: three crew, 100 passengers

Dimensions:

span	25.55 m
length	62.10 m
height	11.40 m
wing area	358.22 m²

PERFORMANCE DATA

SPEED

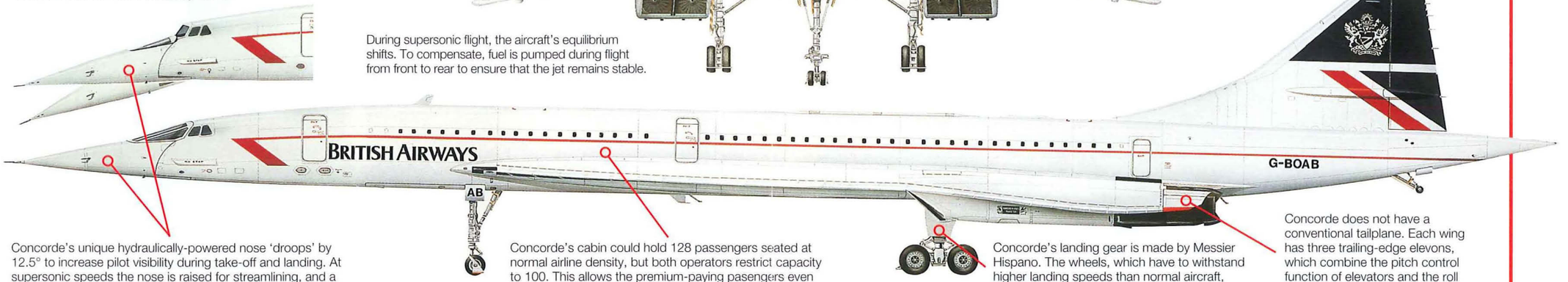


MACH 1 = 1225 KM/H AT SEA LEVEL

Alcock and Brown first crossed the Atlantic non-stop in 1919. Their Vickers Vimy could not exceed 150 km/h. Thirty years later, the great piston-engined airliners were crossing in 14 hours. The coming of the jet age increased speed once again, and half a century after Alcock and Brown's pioneering flight Concorde had cut the crossing to three and a half hours. But we will have to wait until well into the 21st century to see any advance on that.

CONCORDE

G-BOAB was the sixth production Concorde, which entered service with British Airways on 21 January 1976.



Concorde's curved double delta wing is a good compromise between supersonic efficiency and low-speed controllability during landing and take-off.

During supersonic flight, the aircraft's equilibrium shifts. To compensate, fuel is pumped during flight from front to rear to ensure that the jet remains stable.

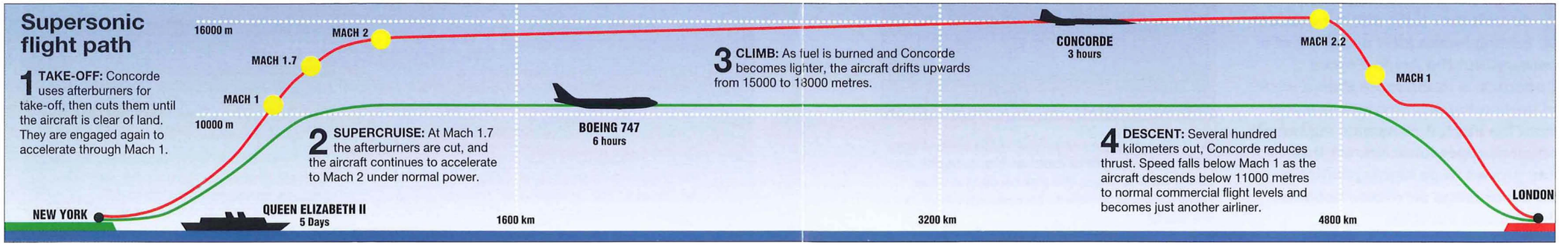
Concorde's unique hydraulically-powered nose 'droops' by 12.5° to increase pilot visibility during take-off and landing. At supersonic speeds the nose is raised for streamlining, and a heat-resistant visor protects the cockpit windows.

Concorde's cabin could hold 128 passengers seated at normal airline density, but both operators restrict capacity to 100. This allows the premium-paying pasengers even more room than in conventional first-class layout.

Concorde's landing gear is made by Messier Hispano. The wheels, which have to withstand higher landing speeds than normal aircraft, retract inwards towards the fuselage.

Concorde does not have a conventional tailplane. Each wing has three trailing-edge elevons, which combine the pitch control function of elevators and the roll control of ailerons.

Supersonic flight path



1 TAKE-OFF: Concorde uses afterburners for take-off, then cuts them until the aircraft is clear of land. They are engaged again to accelerate through Mach 1.

2 SUPERCRUISE: At Mach 1.7 the afterburners are cut, and the aircraft continues to accelerate to Mach 2 under normal power.

3 CLIMB: As fuel is burned and Concorde becomes lighter, the aircraft drifts upwards from 15000 to 18000 metres.

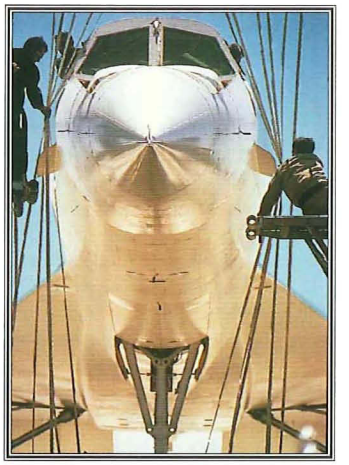
4 DESCENT: Several hundred kilometers out, Concorde reduces thrust. Speed falls below Mach 1 as the aircraft descends below 11000 metres to normal commercial flight levels and becomes just another airliner.

PHOTO FILE

AÉROSPATIALE/BAC CONCORDE

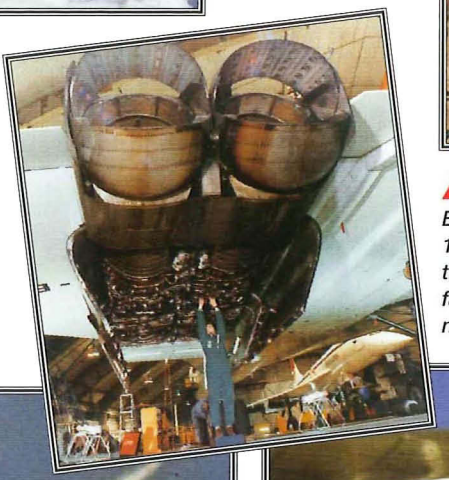
◀ Supercruise

Concorde is one of the very few aircraft able to maintain a supersonic cruise without the use of afterburners, which enables it to fly further at Mach 2 than any other aircraft.



Olympus power ▶

Concorde's engines each pour out more than 17 tonnes of thrust.



▼ Powerpack

To gain additional thrust at critical moments such as take-off and transition to supersonic speed, Concorde's engines are fitted with afterburners.

▲ Streamlining

Even at rarified altitudes above 15000 metres, air friction at twice the speed of sound is a significant factor, so Concorde is polished mirror smooth to reduce drag.

▲ Elegant travelling

Concorde's aesthetically pleasing shape is matched by a standard of service more luxurious than that of any other scheduled airliner.

FACTS AND FIGURES

- **Since Concorde entered scheduled service in 1978, British and French aircraft have carried 3,000,000 supersonic passengers.**
- **Concorde's only rival, the Soviet Tu-144, is no longer in service.**
- **During supersonic flight, Concorde's skin heats to 127°C at the nose.**
- **Concorde gains 3000 metres in height as fuel is burned off during a flight.**
- **Concorde flies 16 km while a passenger's champagne glass is filled.**
- **The 14 Concordes have clocked up more supersonic hours than all the fighters used by the world's air forces.**