

Commercial Aircraft of the World . . .

first employed to open deep-penetration car ferry services for British United Air Ferries, it is being increasingly used on shorter sectors. Eventually BUAFA intend to replace all their Bristol 170s with Carvairs.

Aer Lingus have their three Carvairs modified to carry racehorses in addition to vehicles and cargo. Interocean of Luxembourg employ their two Carvairs on world-wide freighting, and Aviaco have a mixed-traffic operation between Spain and the Balearic Islands and France with three Carvairs.

BEAGLE *Beagle Aircraft Ltd, 75 Victoria Street, London SW1.*

Beagle 206 In production and available for early delivery with a transport category C of A is this new British twin-piston engined executive/third-level airliner. In the transport role the 206 can carry up to seven passengers with a one-man crew. IFR-equipped for commercial operations, the 206 costs around £50,000.

BEECHCRAFT *Beech Aircraft Corp, Wichita, Kansas, USA.*

G18S Super 18 The Super 18, which is still in full-scale production, is developed from the Beech 18 which first flew in 1937. This seven seat light-twin transport has always been popular with feeder line operators as well as executive and military operators. Some 100 are in airline service around the world.

Queen Air 65/80 First flown in 1961, the Queen Air 65/80 can be summed up as a modernized and more efficient version of the Super 18 at a higher price. Although not yet in very wide service with feeder line operators, it has many of the qualities of a Super 18 replacement.

BOEING *The Boeing Company, Transport Division, Renton, Washington, USA.*

Boeing 307 Stratoliner First flown on December 31, 1938, the Stratoliner was a civil development of the B-17 bomber. Of the same generation as the DC-4, and a direct competitor, it went into service with Pan American and TWA in the early months of 1940. It was an advanced aircraft for its time, being the first pressurized aircraft to go into service, and although only ten were built, a few remain in service to this day.

Boeing 377 Stratocruiser The Stratocruiser was developed from the YC-97, a transport derivative of the B-29 bomber. The first YC-97 flew in 1944, and the Stratocruiser was ordered by Pan American, Northwest, United, American, BOAC, and SAS (whose order was subsequently transferred to BOAC). The aircraft entered service in 1949, and its renowned comfort maintained its position in the front rank until late 1958. A total of 56 were built, but there is no reliable evidence of any still in civil operation at the present time. Altogether, some 888 C-97 transports and KC-97 tankers were built for the USAF.

Boeing 707/720 The 707/720 family of Boeing jet airliners, which were developed as a private venture out of the company's unique jet bomber (B-47, B-52) experience, has now been developed into some nine basic versions. The prototype 707, the 367-80, which first flew in July 1954, led to a USAF order for more than 450 KC-135 jet tankers, contributing sig-

BOEING 707-320C "Flight International" operators' reference drawing (see page 903 for key)

nificantly to the commercial production programme. Total production of tankers and transports for the USAF now stands at more than 660. The first 707 order was placed on October 13, 1955, by Pan American, and the first 707/120 flew on December 20, 1957. Deliveries (to Pan American) began in September 1958. Although the -120 was designed for medium-range routes, it first entered regular service across the North Atlantic, on October 26, 1958. Most of the -120s built have since been given improved range and airfield performance by replacing the 13,500lb thrust P & W JT3C-6 turbojets with P & W JT3D-3 turbofans of 18,000lb thrust. The JT3D-3 is also the standard powerplant of the 707-120B which also has wing leading edge modifications, not all of which have been applied to converted -120s.

The 707-220 is a shorter-fuselage version powered by 15,800lb P & W JT4A-3 turbojets, and ordered by only one operator—Braniff, who wanted a high reserve of power to meet the hot-and-high conditions of their Latin American routes.

When it ordered the -120 late in 1955, Pan American began discussions with Boeing for a transatlantic development. This resulted in the 707-320 which made its first flight in February 15, 1959. In August 1959, less than a year after

the -120 entered service, Pan American began replacing it on the North Atlantic with the -320. Towards the end of 1956, BOAC ordered a version of the -320 powered by R-R Conway 508 turbofans of 17,500lb thrust which became known as the 707-420. In March 1960 the -420 became the first turbofan powered airliner in service and, with its range-payload advantage over the -320, demonstrated the potentialities of this form of powerplant.

The turbofan principle taken a stage further in the form of the P & W JT3D-3 of 18,000lb thrust, and applied to a -320 airframe with improved leading and trailing edge wing devices for low-speed lift, wing-tip modifications to improve cruising lift/drag, and structural modifications for an increased gross-weight led to the 707-320B with substantially improved range-payload performance. This aircraft first flew in January 1962 and entered service with Pan American in June 1962, and has made it possible for airlines to schedule all the year round direct flights from western Europe to the American west coast. A cargo or mixed cargo-passenger version of the -320B, the 707-320C, was first flown in February last year and entered service four months later. Apart from the 97in x 104in side door, strengthened floor, and special pallet handling equipment, the -320C has landing gear and

