de Havilland Canada Dash 7  The Canadian Government is financing the development of two prototypes of this 48-passenger Stol airliner (see Flight for June 7, page 667). DHC is spending $12 million and United Aircraft, which builds the geared PT6A-50 engines, will contribute $4 million. Government aid to the companies will total $45 million and $12 million respectively on top of several million dollars already spent. The Canadian Government has an option extending to June 30, 1974, to buy DHC from Hawker Siddeley. The de Havilland Canada Dash 7 “quiet Stol airliner” is expected to inaugurate, says DHC, a new short-haul system by providing convenient, rapid and comfortable service without compounding growing congestion at major airports. The aircraft is designed to operate with a full load of 48 passengers from 2,000ft runways at major airfields, city centres and smaller towns. Stol performance is allied with minimum land use, smokeless engines and low noise.

The flyover noise value of less than 80 PNdB should permit unrestricted operation over residential areas. The maximum take-off noise level is 95 PNdB at 300ft sideline distance. Low-speed propellers and UACL PT6A-50 turboprop engines produce a noise footprint of 0-4 sq miles, compared with a 30 sq mile footprint or more for current jets. Four engines should provide safe engine-out performance for take-off from short runways under hot-and-high conditions as well as from city Stolports.

The Dash 7 is scheduled to enter airline service in 1975, following type certification to FAR Part 25. First flight will be in the summer of 1974.

There is a marketing agreement between de Havilland and Boeing. The latter company is expected to acquire the Dash 7 design and production programme independently and is expected to work with de Havilland in marketing the Dash 7. The Canadian Government, Boeing and de Havilland believe that production of the Dash 7 will stimulate Stol development throughout the world.

The main advantages cited by DHC are alleviation of congested airfields, particularly in North America and Europe, setting a new low noise standard and providing modern airliner comfort for the expanding commuter and regional market. In addition, says DHC, the Dash 7 has a significantly bigger payload than do twin-engined aircraft in hot-and-high conditions and is attractive for resort areas and developing countries where 2,000ft runways can be laid down at minimum cost.

Many commuter carriers have indicated a requirement for the Dash 7 because of increased traffic growth. Stol runways are already in use at airports such as Houston and Kennedy, New York, and are in the planning stage elsewhere. These could be in the form of expanded spoke-and-hub (collection and distribution) Dash 7 operations at major traffic centres. Separate airspace and quick turn-round from conveniently located Stol runways will save the passenger time and money, in addition to meeting growth of conventional traffic. The Dash 7 will spend only 10min on the ground at en route stops and requires minimal ground equipment.

The aircraft is now in the detail design stage. The aerodynamic design of the propeller has been tested on a DP8-5 Buffalo to check predicted noise levels. UACL is flight-testing a PT6 engine with the same mass flow as the geared PT6A-50 to be used on the Dash 7. Cruise speed is 250kt, 444km/hr. Range is 564 st miles, 941km with fuel reserves and a 48-passenger load. Fuel capacity is available for longer range or to permit multi-stop flights without refuelling.

Most Dash 7 flights will not exceed 1hr, requiring high reliability and fast maintenance. The effect of frequent take-offs and landings has been considered in the design of the airframe, engines and landing gear. Optional avionics for difficult terrain and city centres includes area navigation and microwave ILS. The FAA has licensed some US commuter operators to install MLS for Twin Otter operations, and the Canadian Government has bought and tested MLS and area navigation for Twin Otter city-centre routes, in anticipation of Dash 7 services.

See page 650 for tabular data and page 676 for drawings.

Europlane Qtol  This project is designed to carry 190 to 200 passengers over transatlantic 500 miles, 800km from 4,000ft, 1,200km runways. It will also offer the flexibility of flying ranges of up to 2,500 miles, 5,700km using runways of 5,600ft, 1,700m. Powered by twin CF6s or RB.211s, Europlane will be at least 10 EPNdB below FAR Part 36 at all three measuring points. The partners in the project (BAC, Casa, MBB and Saab-Scania) do not agree with Boeing that a forward-slung, over-wing mounting is best for noise shielding. Europlane thinks the best solution is to shield forward noise using the wing and to reduce rearward arc noise by acoustic treatment and a full-length cowl. The consortium is convinced that the chosen (F.28-type) layout provides the optimum trade-off of noise reduction and operating costs.

The design and marketing teams, with their headquarters at Weybridge, are now engaged in phase three of their studies. These are intended to provide a specification which will form the basis for firm offers to the airlines in the first half of next year. The first of a series of regular meetings with the Governments of the four nations involved has already taken place and Europlane is talking with about 30 airlines. Details of Europlane’s Qtol project were published in Flight for May 24 and August 16.

Fokker-VFW F.27 Friendship  The Fokker-VFW Friendship is still in production and sales recently passed the 600 mark. The design of a DC-3 replacement was first considered by Fokker in 1950 and by September 1955 ideas had taken shape around the Rolls-Royce Dart turboprop. Prototype construction was paid for by the Netherlands Institute of Aircraft Development and the first flight was in December 1955. Aer Lingus was the first airline to put the type into