Short-haul Jetliners . . .

Convair General Dynamics have burnt their fingers so badly with the 880 and 990 that it is extremely doubtful that they will proceed with a small jet. Their present studies are twin-engined, and at quite a late date some still had nacelles hung below the wings.

de Havilland The D.H.121 Trident is in a larger, longer-ranged category than that here discussed. The D.H.126, however, appears to be a project for a small jetliner which has reached the stage of preliminary presentations to selected operators. It may well have replaced the twin-Gnome D.H.123 as a major transport project, although the company have made no announcement to this effect; in fact, the D.H.126 may well be inactive.

Douglas After years of project work the engineering department finalized the Model 2086 as the best possible short-range airliner. The design has never been publicly revealed, but it appears to be for a machine of some 70,000lb, with four wing-mounted engines now giving way to twin fuselage-hung Pratt & Whitney JTF-10s of 10,000lb thrust. The project has so far lain dormant, owing to the deal with Sud (to act as foster-parent to the Caravelle, and make the Caravelle if the market allowed) and to the need to fund continued DC-8 modification. Meanwhile, the aircraft side of the firm appears to be dying.

Fokker At the time of writing, the F-28 appears to be a paper project only, but the name of Fokker is such that it may well turn into a firm programme in spite of the company's vast burden of production work. The existence of such a project was revealed in the 1960 report of the NIV (government aircraft institute), who are keenly discussing the prospects of the aircraft with Fokker. Powered by two BS.75s, the F-28 is probably comparable in performance to the BAC-107, and is likely to stabilize at a weight of about 50,000lb.

Lockheed This company have both the skills and background necessary for such work, but appear to have no plans in this field. Whether this is in spite of, or because of, the Electra is hard to tell.

McDonnell Unsuccessful rival of Lockheed Georgia in the UCX competition, McDonnell Aircraft have since that time produced a largely new and rather larger twin-turbofan project designated T-85. This has been discussed with several airlines, but it does not appear a likely starter.

North American NASRT stands for North American short-range transport, and the huge company (California Division, it appears) have spent many months promoting a project which has yet to settle down. During the summer of this year it was powered by four developed versions of the 4,200lb General Electric CF-700 aft-fan engine, but NAA seem now to be convinced that only a twin will succeed. Weight would be about 72,000lb.

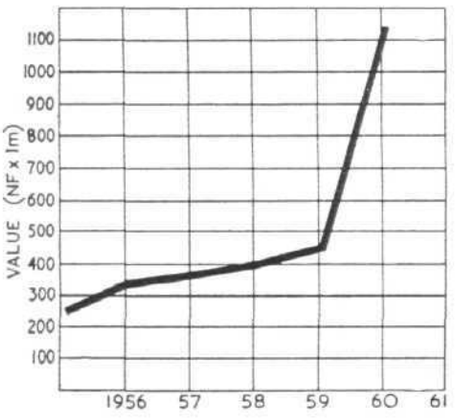
Sud-Aviation With 146 Caravelles on order, plus 43 options, Sud are embarking on a considered programme of development. Very little has been heard in recent months of the "Baby Caravelle" and Caravelle Junior. Rolls-Royce Spey engines and Hobson constant-speed drives for the latter were reported to be on order earlier this year, but Sud's increasing ties with British Aircraft Corporation may well involve agreement by the French company to leave this particular field to the BAC-One Elevens. Conceivably parts of the One-Eleven might be made by Sud. What is openly publicized are Sud's plans to stretch the existing Caravelle, and the 10A (20 already bought by TWA), 10B, 10C, 10D and 10F versions are all active projects. All will have a glove on the inner leading edge and a tailplane/fin bullet to raise the limiting Mach number from 0.77 to 0.81—a remarkable increment. Although the 10A now in production has the General Electric CJ-805-23C aft-fan engine of 16,100lb thrust, the other variants have the Rolls-Royce Avon 533, as in the earlier Caravelle 6, and the Pratt & Whitney JT-8D and projected Rolls-Royce RB.174 (openly discussed by Sud, the 174 is clearly a Spey-type engine sized to give about 15,000lb—i.e., a modernized RB.141). Sud are naming the 10A the Nouvelle Caravelle, and say that "the next series will be called Caravelle Horizon. The leading-edge gloves and other modifications for these aircraft are largely the work of Douglas Aircraft, under the terms of their licence agreement. Mention should also be made of the BAC/Sud supersonic airliner, which in its French form appears to be tailored for relatively short ranges, with only four (R-R or Bristol Siddeley) engines. But this M2.2 machine really comes into the short/medium category of the Trident and Boeing 727.

Tupolev It has not escaped the notice of most airlines that the Tu-124 is a turbofan short-hauler actually in being. Little is known of it beyond the brochure specification, but several good judges—including John L. Watkins, of TAA—have taken the trouble to inspect the aircraft at first hand. Examples have been flying some two years, and there are indications that its progress is satisfactory. Data were given in *Flight* for July 8 and 22, 1960.

METEORIC RISE OF FRANCE'S AIRCRAFT EXPORTS

THE table on the right and the graph below indicate the remarkable growth of French aircraft exports over recent years. To the details of construction by the major companies should also be added the not inconsiderable number of light aircraft exported by the smaller companies. The equipment and engine industries have contributed their quota, notably Turbomeca engines, produced in large numbers under the USA and Britain. Nord has additionally produced and exported scores of thousands of missiles.

Now being added to national production are the international programmes in which France is taking a major part, the Transall and the Breguet Atlantic, the space programme and other agreements now being finalized. In a type of industry which has tended to contract, France has done extremely well in building up an export business where none existed at the end of World War 2.



How French aircraft exports have climbed during the past five years. Total for the first six months of this year was NF753,883. The new franc is worth 13.4 to the pound

FRENCH AIRCRAFT EXPORTS AT OCTOBER 1, 1961

Manufacturer	Type	Export Orders	Licences	French Orders	Total Production Programme (inc. French orders)		
					France	Other	Total
Breguet	1050 Alizé	Secret No to one country	None	Secret	92	0	92
Dassault	Mirage III	Secret No to 3 countries	Australia, Switzerland	370	Secret	about 130	about 500
Morane-Saulnier	760 Paris	55 to 8 countries*	Argentina	44	129	36	165
Morane-Saulnier	880 Rallye-Club and 885 Super-Rallye	363 to 35 countries	None	167	1st batch 500	0	500
Nord-Aviation	Nord 2501 Noratlas	44 to 3 countries	Germany	220	264	161	425
Potez	CM 170 Magister	4 144 to 6 countries†	Germany Finland Israel	310	454	261	715
Sud-Aviation	SE. 210 Caravelle	101 to 12 countries‡ (+ 48 options)	None	43§	175	0	175
Sud-Aviation	SE. 3130 Alouette II	385 to 25 countries **	Sweden USA	395††	810	0	810

* Argentina, 48 (Licence including delivery of 12 major assemblies and 36 sub-assemblies); Brazil, 30; Germany, 2; Great Britain, 1; Iran, 1; Italy, 2; Morocco, 1; Switzerland, 1; USA, 4; Venezuela, 1.

† Austria, 6; Belgium, 45; Cambodia, 4; Finland, 60 (23/37); Germany, 250 (of which 62 delivered by POTEZ); Israel, 40 (4/36).

‡ Aerolinas Argentina, 3(+ 3 options); Alitalia, 14; Finnair, 4 (+ 1); Iberia, 4 (+ 4); Royal Air Maroc, 2; Sabena, 8 (+ 2); SAS (Sweden, Norway, Denmark), 15 (+ 3); Swissair, 8 (leased from SAS, who ordered them); TWA, 20 (+ 15); UAL, 20 (+20); Varig, 2; General Electric, 1.

§ Air France, 35, of which some are operated under contract by Air Liban and Tunis Air; Air Algeria, 6; SGAC, 2.

** Argentina, 3; Austria, 9; Belgium 39; Cambodia, 2; Canada, 2; Congo, 3; Dominican Republic, 2; Germany, 205; Great Britain, 17; Iran, 1; Israel, 4; Italy, 1; Japan, 2; Laos, 2; Lebanon 3; Morocco, 2; Netherlands, 12; Peru, 6; Portugal, 3; Sweden, 25; Switzerland, 10; Union of South Africa, 9; USA, 20; Venezuela: 1; Vietnam, 2.

†† 365 for military purposes + 30 for civil requirements in France and Algeria.