

World Air News

Concorde for Continental

CONTINENTAL AIRLINES, a U.S. domestic carrier, have signed a contract with Sud Aviation and British Aircraft Corporation for the purchase of three Concorde supersonic transport aircraft. They will be used on internal routes in the United States and will reduce the flight time between Los Angeles and Chicago to less than two hours. This is the second U.S. order for the type; the first, for six Concorde, from Pan American was reported in the July issue, p. 209.

General André Puget, President of the Committee of Directors for the Concorde project, states that, "The decision of Continental Airlines to conclude this contract for the purchase of three Concorde is a significant development which confirms our own views that this commercial aeroplane, with a speed of Mach 2.2, is capable of finding a large market not confined to companies operating intercontinental long-range services. It is a confirmation that from the revenue point of view the Concorde constitutes a logical step forward in airline re-equipment."

The 265,000-lb. Concorde will be slightly heavier than Continental's Boeing 707s (248,000 lb.) or Boeing 720Bs (230,000 lb.), but lighter than intercontinental subsonic jets and will be able to use

present jet runways. To avoid ground noise problems, the aircraft will be operated subsonically up to 40,000 ft., then climb to normal supersonic cruising altitude of 50,000 to 60,000 ft.

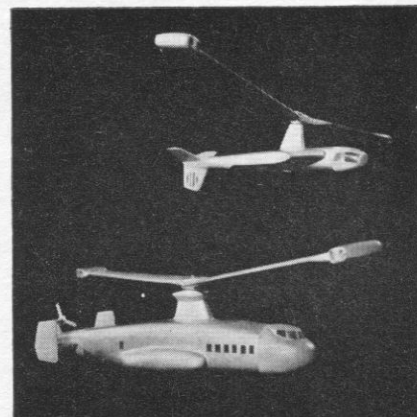
American Airlines buys One-Elevens

American Airlines have placed an order for fifteen B.A.C. One-Eleven Series 400 short-haul jet airliners, all for delivery in 1965. This order brings the total firm order book for the One-Eleven to sixty aircraft, for seven operators, two of which are in the U.S.A.

The value of this new order—the first ever placed in Great Britain by one of the United States "Big Four" domestic trunk carriers—is more than £14 million (40 million dollars). An article on the One-Eleven appears on pp. 283-5 of this issue.

Tip-engine helicopters

The U.S. Army Transportation Research Command has awarded Hiller Aircraft Company a contract to design a giant rotor system powered by turbojet engines mounted at the blade tips. The contract will be the first of several phases leading to construction of a flying article, if the study indicates feasibility. The second phase would involve construction of a full-



Models of Hiller helicopter projects employing twin-turbojets at the rotor tips: flying crane (top) and transport

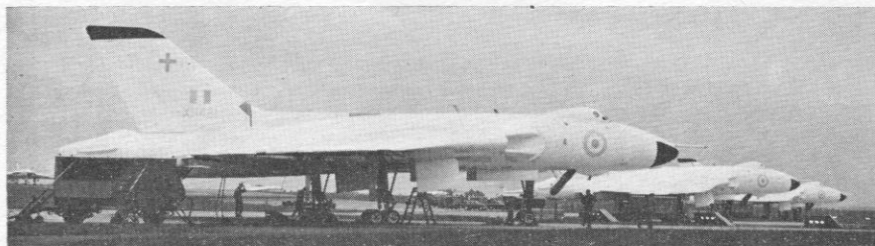
scale lift and propulsion system, which Hiller proposes to test in a special whirl-test facility. Hiller and Continental Aviation and Engineering Corp. (who will supply the 1,700-lb. thrust J69-29 engines) will now complete parametric and preliminary design studies of the large four-jet rotor system. This first phase will also include wind tunnel component tests.

Second DC-9 order

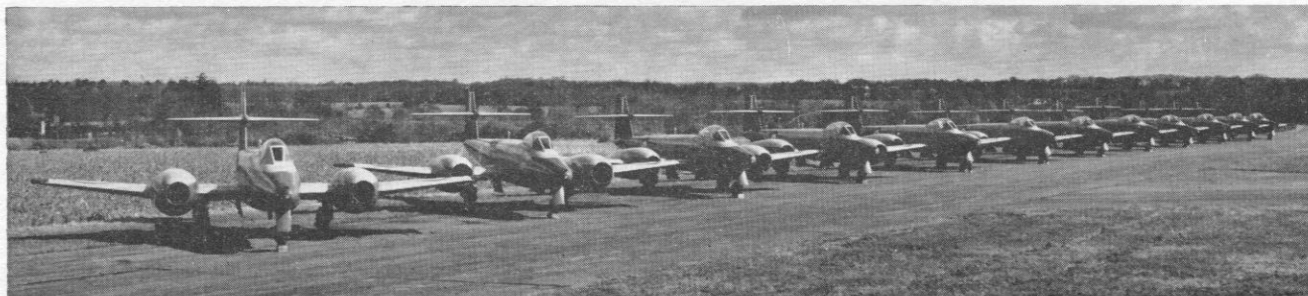
Bonanza Air Lines have placed an order for three Douglas DC-9s with an option on three more. They are expected to enter service early in 1966 and will be used on long-haul, high-density routes from Las Vegas to Los Angeles, Phoenix, Reno and Salt Lake City. First airline to order the DC-9 was Delta, with a contract for fifteen and an option on fifteen more. Details of the DC-9 appeared in the June issue, p. 182.

New aircraft carrier

The Minister of Defence, Mr. Peter Thorneycroft, announced in the House of Commons on 30th July that a new aircraft carrier, of about 50,000 tons, is to be built



LEFT: Three Vulcans of 101 Squadron—note City of Lincoln crest on fin—recently flew non-stop from their base at Waddington to Perth, Australia. BELOW: Meteor F.8s converted to drones at Tarrant Rushmore by Flight Refuelling Ltd. F.R. recently converted their 100th—ninety-two U.16s for the R.A.E. and eight U.21s for Woomera (Photos: Flight Refuelling Ltd.)



for the Royal Navy. It will enter service in the early 1970s, at about which time *Ark Royal* and *Victorious* will have reached the end of their useful lives. The other two front-line carriers will be *Eagle* and *Hermes* which, with refits, are expected to continue in service until 1980. At present Britain has three other carriers: *Centaur*, which will probably be scrapped in a few years' time; and *Albion* and *Bulwark*, which have been converted to commando ships.

Beagle 206 to "Gib."

The pre-production Beagle B.206Y, G-ARXM, carrying a load of 1,410 lb., recently flew non-stop from London (Gatwick) to Gibraltar, a distance of 1,100 miles, in 5 hours 40 minutes. The aeroplane landed with sufficient fuel to fly a further 2½ hours or 500 miles additional range.

This performance comfortably exceeds both the estimated performance for the aeroplane in its civil form and that guaranteed to the R.A.F. for the military communications version. The aeroplane later flew on from Gibraltar to Seville for its tropical trials and has since returned to its base at Shoreham.

T.W.A. orders

Trans World Airlines have ordered six Convair 880s from General Dynamics Corporation for use on the airline's routes within the United States. This brings the total of Convair 880s now in service with TWA to twenty-six. This airline has also recently ordered five Boeing 707-320C all-cargo jets, with an option to buy two more, and the lease of two with option to buy.

Zero launch for F-104

A Lockheed F-104 has been successfully zero-launched at Edwards A.F.B., California. The aircraft, with Lockheed test pilot Ed Brown in the cockpit, was "fired" into the air by means of a zero-launch ramp and a newly developed rocket booster. After landing, Brown said this had been one of the easiest starts in his twenty years of flying experience. The zero-launch system for the F-104 was developed by Lockheed's.

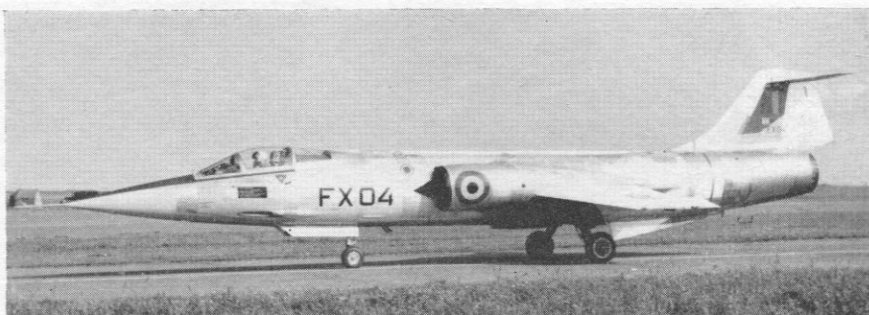
Farnborough 1964

Next year's S.B.A.C. air display and exhibition at Farnborough will be held from Monday, 7th September to Sunday, 13th September. It will be the twenty-fourth in the series, which began in 1932.

103 Sqn. to Singapore

No. 103 Squadron, which has flown Sycamore helicopters in Cyprus for several years, disbanded on 31st July but is being

Nearing completion at Weybridge is the first Vickers Super VC10 (background), which will also be the first of thirty for BOAC; 13 ft. longer than the standard VC10, the "Super" will seat up to 163 passengers in BOAC's layout, compared with the standard machine's 135



Lockheed F-104G Super Starfighters are now serving with several European Air Forces—TOP: F-104G of the Belgian A.F.'s 1st Fighter Wing at Beauvechain (Photo: Air-Press). BELOW: An Italian A.F. machine from the 4th Aerobrigata. Note the prancing horse insignia on the fin, used by the Italian ace Francesco Baracca in W.W.I. (Photo: G. Musitelli)

re-formed at Seletar, Singapore, Far East Air Force, and re-equipped with Whirlwind HAR.10s. Replacing No. 103 Squadron in the Near East Air Force will be Nos. 1563 and 1564 Flights, one based at Nicosia and the other at El Adem, Libya, also equipped with Whirlwind 10s.

No. 103 Squadron was formerly known as No. 284, which re-formed in Cyprus in 1956 and operated with distinction during the emergency; the squadron was re-numbered No. 103 in 1959.

H.S. 748 for Smiths

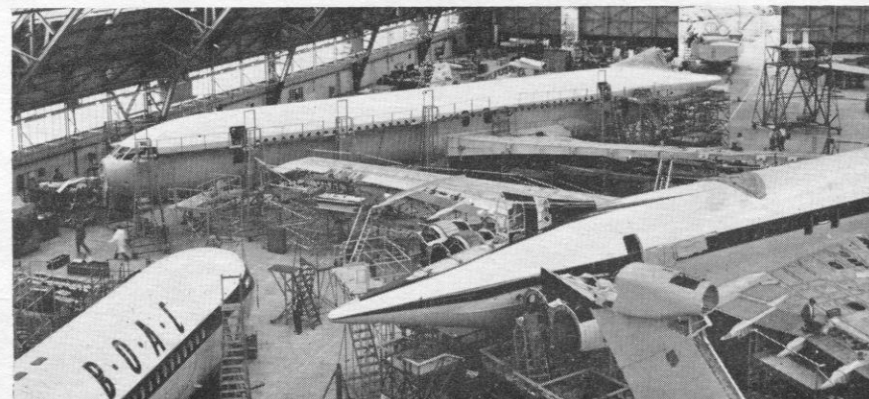
Smiths Aviation Division have ordered a Hawker Siddeley 748, due for delivery towards the end of this month. Registered G-ASJT, the aircraft's initial role will be in the flight development of a new Series 6 flight control system. The 748 will also be closely concerned with Smiths long-term programme on the development of gyros, air data computers, take-off and landing

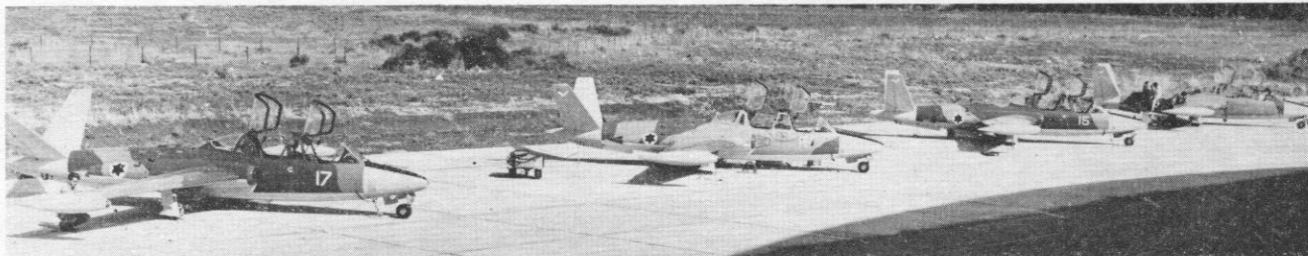
indicators, ground manoeuvring devices and other appropriate equipment. The aircraft will be based at Staverton Airfield, Cheltenham, where Smiths' Flying Unit operates a Varsity, a Dove and a DC-3.

Without a parachute

A new method of air-landing troops, without parachutes, is to be tried out by the U.S.A.F.'s Tactical Air Command. They will test equipment and techniques to deliver troops direct to the battlefield by extracting them from low-flying Lockheed C-130 assault transports in "people pallets".

The troops to be air-delivered sit in pallets holding twelve, twenty-four or forty-eight men. The Lockheed C-130 flies over the delivery strip at heights up to 35 ft. and at speeds between 115 and 159 m.p.h. It trails a hook which is attached to the pallet inside the open cargo ramp at the rear of the aircraft. The hook engages

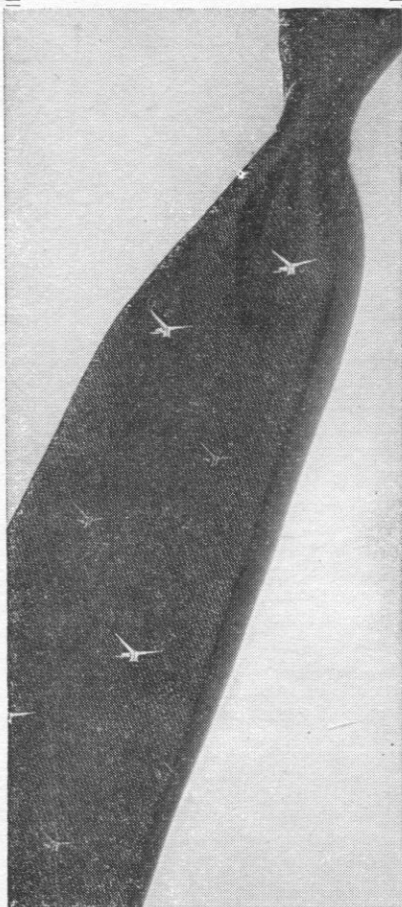




Following our article on Israel's Air Force last month, we have received this photo from Israel Aircraft Industries Ltd. of some of the Potez-Air Fouga Magisters they have built for the IDF/AF. Seen outside the factory at Lod, the machines are serialised 15, 16, 17 and BK 101. The company intends to market the Magister abroad

Air League Tie

Available for all Members



Price £1 post free from
THE AIR LEAGUE
142 Sloane Street,
London, S.W.1

World Air News . . .

a steel cable on the ground which pulls the pallet from the aircraft. The aircraft meanwhile flies on.

When the pallet falls to the ground, the shock felt by the troops inside it will be less than that which a person feels when riding in a fast lift. The pallet slides about 100 ft. and is brought to a gradual halt by two energy absorbers.

Using "people pallets" one C-130 squadron could deliver two battle groups of about 3,000 men in less than six hours. The technique eliminates difficulties in parachute dropping accuracy and in assembly of troops scattered over the dropping zone.

DC-8s for TEAL

Tasman Empire Airways Ltd. have been authorised by the New Zealand government to purchase three Douglas DC-8 Series 50s. Deliveries will be made during 1965. This order increases total sales of DC-8s to 208, of which 186 have been delivered.

Man-powered aircraft

The Hatfield Man Powered Aircraft Club have started work on a successor to their Puffin aircraft (see January 1962, p. 7). Puffin Mk. II will have a fuselage and tail unit substantially rebuilt to the old design, but the opportunity is being taken to benefit from past experience to design completely new wings.

The original Puffin was extensively damaged in an accident on 24th April 1963, when fluctuating winds caused a forced landing on marshy ground. At that time, the aircraft had completed a total

of ninety-six flights, had flown a maximum distance in one flight of 993 yards, and had reached a reliably estimated height of 12 ft. In May 1962 Puffin I, flown by Mr. J. C. Wimpenny, won a £50 prize for the first flight of over half a mile by a man-powered aircraft.

Three new projects which have received financial grants from the Royal Aeronautical Society's Man Powered Aircraft Group Committee are:

1. The London Man Powered Aircraft Group, formed by Mr. A. Lassiere at Imperial College, London, which is to carry on the work of the Southampton University Man Powered Aircraft Group whose members had separated to take up posts in different areas.
2. The Farnborough Man Powered Ornithopter Club, led by Mr. J. S. Elliott.
3. The Woodford Man Powered Aircraft Group, to assist in the construction of the fixed-wing aircraft designed by Mr. C. Hodgess-Roper.

Laminar-flow H.S. 125

The Ministry of Aviation are now studying a Handley Page proposal for converting a Hawker Siddeley 125, with completely new wings and tail, for laminar-flow research. This would carry on the practical research that Handley Page have been conducting with a test wing section mounted on the back of Lancaster PA474 (see November 1962 issue, p. 344).

"Aerogyro"

Aerogyro is the term now used by Lockheed Aircraft to describe their new family of rigid-rotor vehicles. The first

First flown as a conventional aircraft on 7th July 1962, the Lockheed XV-4A (previously designated VZ-10) Hummingbird VTOL research machine is now starting hovering trials—see November 1962 issue, p. 346



AIR PICTORIAL

machine of this series, the Lockheed CL-475, was illustrated in the May 1962 issue, p. 139. Lockheed's are now test-flying two developments, designated XH-51A, which have been built under a jointly funded U.S. Army-Navy contract. Designed to fly at 200 m.p.h., the XH-51A has already achieved speeds up to 160 m.p.h. It is powered by a 450-h.p. Canadian Pratt & Whitney T-74 turbine engine.

Hercules for R.N.Z.A.F.

The New Zealand Government has approved the immediate purchase of three Lockheed C-130E Hercules transports for the R.N.Z.A.F. At the same time, approval "in principle" has been given to the inclusion of five maritime reconnaissance aircraft in a five-year defence programme. An R.N.Z.A.F. team is going to the Lockheed plant at Marietta to study the possibilities of the Hercules as an anti-submarine aircraft. Present R.N.Z.A.F. equipment includes Hastings and DC-6 transports, and Sunderland flying-boats.

K.L.M. "streamlining"

During the next two years K.L.M. plan to modernise and standardise their aircraft fleet. Douglas DC-7Cs and DC-3s will be withdrawn as soon as possible, and three of the ten Convair 340s will be transferred to the West Indies; the other seven 340s will be put up for sale. European services will eventually be operated by Electras and Viscounts only, and all other services by DC-8s. By early 1965 the K.L.M. fleet should consist of sixteen DC-8s (including the two recently ordered DC-8F Jet Traders), eleven Electras, nine Viscounts, and four DC-7F Freighters.

Sassoon Trophy

The Sassoon Trophy for the best combined results in the annual Near East Air Force bombing and navigation competition has been won by No. 249 Squadron, based at R.A.F. Akrotiri, Cyprus. Runner-up was No. 6 Squadron, and other Canberra units taking part were Nos. 32 and 73 Squadrons, R.A.F. No. 5 Squadron, Royal Rhodesian Air Force, was a guest competitor, and a Rhodesian crew achieved the best individual results in the medium bombing category.



Another jet trainer which is to be marketed abroad is the Yugoslav Soko Galeb. Seen at the company's field at Mostar, this machine is serialised 0537. Details of the Galeb appeared in last month's issue, p. 236

NEWS IN BRIEF

The South African A.F. has taken delivery of the first of a batch of sixteen Dassault Mirage IIICZs on order; three two-seat IIIBZs are also on order.

British United Air Ferries are expected to increase their order for Carvairs to twenty-five.

The U.S.A.F.'s 8th Tactical Fighter Wing, stationed at Itazuke, Japan, is to be equipped with F-105 Thunderchiefs. Details of other F-105 wings appeared in the June issue, p. 182.

The Curtiss-Wright X-19 V/STOL transport was rolled out on 23rd July. Powered by two Lycoming T55-7s, it will carry eight passengers.

No. 215 Squadron, R.A.F., re-formed at Benson and equipped with Argosies, is moving to Changi, Singapore, to become part of F.E.A.F.

K.L.M.'s two DC-8 Jet Traders, PH-DCS "Alfred B. Nobel" and PH-DCT "Baron Pierre de Coubertin", will be delivered in July and August 1964 respectively.

The General Dynamics F-111 (TFX tactical fighter) is scheduled to make its first flight in December 1964. It will be powered by a Pratt & Whitney JTF10A-20 engine. **Brantly B-2B G-ASHJ** will shortly join G-ASHK (now XS681) at A. & A.E.E. Boscombe Down for evaluation as an Army unit light helicopter.

Rumania is now testing the first I.A.R. 818 utility and agricultural lightplane, registered YR-AVE. A development of the

I.A.R. 817, it has endplates to its high wing, a tricycle undercarriage, and a top speed of 118 m.p.h.

The Douglas DC-9 is scheduled to fly on 15th March 1965. Fabrication of the first machine started on 26th July 1963.

Alitalia have ordered two more Caravelle VINs, bringing their total to eighteen. LAN-Chile have ordered three Caravelle VIRs, for delivery in January 1964; and an order for a second Caravelle III has been placed by Tunis-Air.

TSR-2 production orders will probably be placed towards the end of this year, the Minister of Defence stated on 31st July.

The first Wessex HC.2 for the R.A.F. has now been delivered to the Intensive Flying Trials Unit at Odiham, Hants. The HC.2 is powered by two 1,350-s.h.p. Bristol Siddeley Gnome turbines.

Kuwait Airways have ordered a second Comet 4C, for delivery early in 1964.

Cunard Eagle have bought five of the fourteen Bristol Britannia 312s put up for sale by B.O.A.C.

The Dassault Balzac's lift engines are to be fitted with deflectors to prevent ground erosion during run-up; at present the Balzac uses a special take-off grid on unprepared sites.

SIAT-Marchetti of Italy have signed an agreement with the French SIPA company for joint development of the 251 Antilope. SIPA are already laying down a pre-production batch of ten.

The Royal Canadian Navy received the first of eight Sikorsky CH-53 on 15th May. Six of these helicopters will serve aboard H.M.C.S. Bonaventure.

Models for spin research

THREE MODELS OF THE Gnat Trainer have been made in the wind tunnel model shop at the Whitley factory of the Avro-Whitworth Division of Hawker Siddeley Aviation. They are constructed mainly from glass-fibre with foam filling and are approximately one-fifth scale; the weight and moments of inertia are also scaled. Flying controls are cam-operated and are driven mechanically through a predetermined sequence.

The models are used to investigate the trajectory, flight path velocities and attitudes of the aircraft during a spin. A model is released from a helicopter at about 4,000 ft. and the controls are moved to the "spin entry" configuration, followed by "spin recovery" and finally to "glide", at which point the canopy is jettisoned and a parachute is released to facilitate recovery.

