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AIR TRANSPORT

DC-10 boosts cargo charters

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wo YEARS ago Martinair "wouldn't have believed" the amount and variety of freight it carries now. Cargo
now accounts tor 30 per cent of the Dutch supple-mental's turnover. Of its eight aircraft (one DC-10, three DC-8s, three DC-9s and a Fokker F.28) the DC-10, two DC-8s and two DC-9s are convertible passenger/freight aircraft.

In November 1973 Martinair took delivery of its first DC-10-30CF. The airline views itself as a supplemental as opposed to a competitor for the scheduled airlines; a corollary is that a supplemental must use aircraft com-parable to thoise of the scheduled airlines which it comple-ments. The DC-10 was named Kohoutek after the discoverer of the comet which made such a disappointing showing in late 1973, but unlike the comet has lived up to expec-tations. A second DC-10 was ordered last year; when it arrives the thirsty ex-Pomair DC-8-30 acquired in Novem-ber will be sold.

Aocording to Martinair the DC-10-30 arrived at the right time. Its arrival, together with the sale to Hawaiian Air at about the same time of a DC-9-33RC, represented a move from short-haul into long-haul cargo. Fuel prices hit shortj

haul overland air cargo very hard, as air shipping
costs are roughly ten times as high as road costs and the time and convenience gap is not so wide. On longer routes the margin is: wider as transfers from ship to truck are necessary and there can be long dock delays.
When Flight joined Martinair's DC-10 in Amsterdam
for a flight to Kigali in Rwanda, the outbound cargo— seven tons of expanded polystyrene:—was already loaded. Although the DC-10 can carry 65 tons the load filled the cabin; the charterer had asked for a DC-8 but had been persuaded to take the wide-body when it became clear that two of the older aircraft would be needed. Shippers, says Martinair, do not always realise the importance of giving full details of a shipment. The styrofoam was to insulate the refrigerators in a new public slaughterhouse, and the alternative to air freight was a sea journey around the Cape of Good Hope to one of the East African ports and a journey by road into Central Africa.
Africa is a major market for cargo charters. Port delays are long (up to 100 days) and climate unfavour-able so surface freight must be protected against corrosion and pilfering. The attraction of air freight lies not only in its speed but in the fact that the freight is handed over by the charterer at the point of origin and stays firmly lashed to an aircraft floor until the charterer's agent signs for it at destination a matter of hours (rather than weeks or months) later. Martiniair has carried cars to parts of Africa for more than one maker where contract times have toad to be met; there have been cases of cars being literally stripped on the dockside.
A public holiday in Libya delayed permission for a refuelling stop on the return trip and Kohoutek was about three hours late getting airborne from Schiphol. Our estimated time of arrival at Kigali was 1600hr GMT (1800hr local time), which, we were informed after take-

Although the "air-cargo breakthrough" may be a long way off the established cargo operators are healthy enough. BILL SWEETMAN reports from Schiphol and Kigali on Martinair's cargo operations.

off, was the time when the airport, lacking ILS or apron lighting, closed for the night.
Ad hoc charter flights involve problems other than those of obtaining a new set of clearances for nearly every flight. The need for a navigation system usable for flights all over the world led Martinair to select a combination of two of the most advanced navigation techniques avail-able for its DC-10, which is fitted with an undoubtedly expensive Litton AINS-70 area/inertia! navigation system with software by Collins. The combination of triple inertia! platforms with computer-plotted VOR/DME/ADF and Loran enables the DC-10 to navigate to an accuracy of a couple of hundred yards over any distance, according to Martinair.

The AINS-70 digital computer in RNav mode has authority over the platforms, which exercise a majority vote over each other. Two separate tapes each carry the entire world airways system and all the destinations, routeings and alternates of the KSSU group of airlines, to which Martinair belongs. Two independent cockpit dis-play units (CDUs) either side of the throttle quadrant perform the dual function of providing the pilots with a wide variety of navigational information on demand and receiving pilot commands and inputs. The CDUs supply information in "pages" selected by push-buttons. For instance, the system can be instructed to display the flight plan, including track, distance flown and to fly, true air-speed reading and navigation mode (e.g., RI, or radio-updated inertial). Another CDU page shows the status of the inertial platforms and reports deviations.

The AINS also holds and can display the standard holding patterns and instrument departures from all the airports on the KSSU network. It can also be instructed to fly a holding pattern of a specified size and shape based on any waypoint. If the CDUs themselves disagree the fact is displayed.
Over Uganda we encountered cumulo-nimbus rising well above our cruise level. The AINS-70, however, was equal to the situation; an OFFSET mode is available which pro-vides a set detour and return to original flightpatto, and we rounded the threatening weather without difficulty. Kigali was reached exactly at closing time. The descent was made in command-autopilot mode, the aircraft being flown on instructed speeds and headings by the automatic flight control system until the final, manual approach. The DC-10 was the first wide-body to visit Kigali and the absence of suitable airstairs had been anticipated by the provision of a stepladder long enough to reach a set of standard 707 steps.
There was no prospect of unloading the DC-10 that evening, so it was at 0600hr the next morning that the operation started. The return load was G21

2 tons of tin
ore carried in sacks held to pallets with webbing. This was decidedly a "filler load," not being the sort of com-modity to which the advantages of airfreighting apply. It is a characteristic of ad hoc passenger charters that they constitute a return load; it is equally typical of cargo