There has been competition in the design of a suitable load-
ing system for the new Carvair, and two prototypes have been built
and evaluated. The scissor lift (top), designed by Aviation Traders,
will probably be the unit used for loading cars, although the Littlegreen
unit (lower picture) may also find a use in the freight role

exacerbated by a high seasonal peak : trough ratio. On the Calais and Ostend holiday routes this is of the order of 10:1 and 4 :1 respectively; on the Rotterdam route the business is more even, of the order of 14 :1. The long-haul routes will have their problems too, but they will bring many economic reliefs. For example, it takes a clerk longer to make a booking to Geneva than it takes him to make one to Calais. This sort of effect, says Mr Douglas Whybrow, director of Channel Air Bridge, is likely to be felt in many ways throughout the operation.
Obviously, Channel Air Bridge could not have contemplated operating new long-haul routes with Bristols. Indeed, the very feasibility of these long-planned routes has postulated the existence of a suitable aircraft. The story of how the Carvair came into being is probably well known by now; but it is good enough to withstand at least one more repetition.
The Air Bridge's specification for the ideal second-generation ferry aircraft, drawn up four years ago, called for: (1) low first cost, (2) simplicity of servicing and overhaul, (3) about 70 feet of hold space (accommodation for five cars) (4) 25 passengers, (5) a payload of some eight tons, (6) faster (200 m.p.h.) and quieter than the Bristol, and (7) space for toilet and galley. The story goes, and it is a true story, that Mr Freddie Laker, managing director of the Air Bridge's parent company, said one day: "I've got an idea." That idea—sawing off the nose of a DC-4 and grafting on a new one—was thought about for many months, and it is now within a week or two of obtaining its certificate of airworthiness. Test flying was completed early in December. Three Carvairs will be delivered to Channel Air Bridge in time for the new long-haul services to begin in April. Seven more are to be produced for the Air Bridge, and will be delivered during the course of the next two years. Eight more are on option. Other airlines are already "nibbling."

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Changes for the better invariably prompt the question: "Ho did we manage before?" Comparative profitability of the Bristo and Carvair, in very general terms, can be measured by a look the Southend - Rotterdam route—which, incidentally, is still th longest vehicle-ferry air route in the world. Cost of the Bristo for the 330 statute-mile round trip is about £175, compared w about £200 for the Carvair. While the cost of the Carvair is abo 15 per cent higher, its productivity, because it has half as mu speed and carrying capacity again as the Bristol, is 100 per c higher. At a guess, the Carvair's round trip revenue on the Southe Rotterdam route is perhaps £370 compared with £185 for t Bristol.

In a nutshell, therefore, the Carvair has up to double the revenearning capacity for a 10-20 per cent higher operating cost, depeing on the route. Such an improvement cannot help but transfo

the economics of the whole Channel Air Bridge operation.
In more detail, how does the Carvair stack up against the origi specification, which seemed like a frivolous dream? The Air Bridg wanted low first cost; but it could scarcely have dreamed of vehicle exactly matching its technical requirements that leaves a of change out of £200,000. A good DC-4 goes on the market tod

for anything between £35,000 and £45,000. Cost of the modifiction, which is done by Aviation Traders Ltd (also a British Unite
company, and apparently quite a thriving one), is about £105,0 On top of this are extras such as the tank seal, which the DC requires after every 16,000hr, and the zero-timing of airframe a engines. (Cost of four zero-time Pratt & Whitney R.2000s and th Hamilton standard propellers is of the order of £12,000.) These a other smaller extras bring the total cost to a level which more th meets the original "low first cost" requirement.

Had Channel Air Bridge spent £500,000 on a new turbine acraft of comparable work capacity, it would have found itse
paying amortization charges of at least £70 or £80 an hour a utilization of l,000hr a year. This would be as much as the to flying cost of the Carvair.
The dream also specified simplicity of maintenance and overha Not even the most cynical engineer could call the familiar DC-4 can of worms. The expensive test equipment required for mod turbine airliners calls for what might be termed the "laboratory rather than the workshop approach to maintenance. This is cle apparent in the maintenance departments of Aviation Traders Southend, where British United's Britannias, DC-6s and DC-4s a the Air Bridge's Bristols are maintained. Here, side by side, a

two generations of test equipment. The Britannia's Proteus copressor r.p.m. relay, to take one of numerous examples, requires
its 600hr check laboratory class equipment whose cost cannot

spread over other types in the fleet. Again, the Sperry SEP.2 aupilots of the Britannia's and DC-6s have to be returned to t
makers for overhaul, whereas the A.3 autopilots of the Bristo DC-4s and Carvairs are overhauled by Aviation Traders. In sho the Carvair will not make Channel Air Bridge's maintenance b soar, as would a modern turbine aircraft.

How does the Carvair fulfil the rest of the dream ? Space avaable for cars is 69ft—only 12in short of the original requiremen
passenger capacity is 23, compared with 25; payload is just o 8 short tons, instead of the original 8; there is space for a toilet a provision for galley service; cruising speed is 200 m.p.h., which 45 m.p.h. faster than the Bristol; and the quietness and comfort

"The... quietness and comfort of the aft passenger cabin [of the Carvair] will be as good as in any turboprop airliner." The Carvair provides seating for 23 passengers plus a toilet and a galley

PASSENGER DOOR