agreements depicted in the company family trees. That for Rolls-Royce in particular illustrates the considerable responsibilities that the larger aero-engine organisations hold towards other manufacturers overseas.
It is this extensive structure of international trading agreements which, in times of financial difficulties, virtually forces governments to provide supporting finance. Th e chances in these circumstances of letting major companies sail on the face of it seem limited—that is if international reputations are to be safeguarded.
What at present seems wrong, and must be of growing concern to industry, is that whereas aero engines are a high-risk market, they appear increasingly (as judged by company financial results) not to be producing the commensurately high returns expected. Further serious consequences
resulting from this dilemma may well be
witnessed this year.

AUSTRALIA

CAC

Commonwealth Aircraft Corporation Pty Ltd. Headquarters: Port Melbourne, Victoria. Public company (shareholders in-clude Rolls-Royce Ltd) engaged in licensed-manufacture of aircraft and aero engines.
Sole aircraft turbine engine manufacturer in Australia. CAC licence builds 14,1001b, 64kN Snecma Atar 09C augmented turbojets for CAC-built Mirage III-O fighters, and 2,5001b, 11.34kN Rolls-Royce Viper 11 turbojets for CAC-built MB.326H trainers. The company also overhauls these engines and Rolls-Royce Avon turbojets.

BELGIUM

FN

Fabrique Nationale d'Armes de Guerre, SA. Aviation head-quarters: Herstal-lez-Liege. Public company engaged in mechanical engineering including arms and licensed aero-

The following 14 pages provide a detailed survey of the world's aero-engine industry, its capabilities and capacities, together with diagrammatic presentations of the numerous licence and collaborative agreements which interconnect virtually all companies in the West to form effectively one huge commercial and technical complex. Forty-five companies in all are reviewed, showing in many instances that their ownership lies with large industrial corporations or with governments—there are very few solely or primarily aero-engine firms. For a company such as Rolls-Royce, which is forced by circumstances into extensive overseas trading, the number and variety of agreements—both outgoing and incoming—with other manufacturers is considerable. With the high cost of aero-engine development programmes today, maximum product diversification is the order of the day.
This pressure to maximise the trading opportunities for a given engine results in the many interlinking

Commercial collaboration

Technical collaboration

Licence agreement

Basic family tree

Heading picture The world's most powerful jet engine, the 70,0001b CE4, on test at the company's plant at Peebles, Ohio. Above, key to the family trees beginning overleaf