An Avro CF-100 Mk 5M equipped with dummy Sparrow 2 missiles and re-heat version of the Orenda 11.

The Canadian Industry . . .

A. V. ROE CANADA, LTD.,

170 UNIVERSITY AVENUE, TORONTO

FORMAL recognition of the enormous diversification and industrial expansion programme followed by the A. V. Roe Canada group in recent years has come during the last twelve months with the separation of the member-companies into two major divisions. The aeronautical division of this Canadian Hawker-Siddeley branch comprises Avro Aircraft, Orenda Engines, Canadian Steel Improvement and Canadian Applied Research, while Canadian Car is included in the industrial group. The total number of companies in Canada owned by A. V. Roe Canada is now no fewer than 44, of which 33 were acquired with the taking-over of Dosco (Dominion Steel and Coal) late last year.

Executive vice-president (aeronautical) of A. V. Roe Canada, the holding company, is F. T. Smye, who is also chairman of the boards of the four relevant operating companies (and president of two of them, C.S.I. and C.A.R.L.). A. C. MacDonald is executive vice-president of industrial operations. Chairman of A. V. Roe Canada is Sir Roy Dobson, and Crawford Gordon Jr. is president and general manager.

Avro Aircraft, Ltd., *P.O. Box 4004, Terminal A, Toronto.*

MARCH 25, 1958, was a proud day for Avro Aircraft, and for Canada, as the day on which five years of hard work came to fruition with the first flight of the CF-105 Arrow. This last year has also seen the completion of the Belgian order for 50 CF-100s; and the beginning of Sparrow 2 testing by means of missile-carrying CF-100s. Work has continued on other projects, including the revolutionary Weapons System 606A, for which a top-secret U.S.A.F. research and development contract is held.

Total floor area of the Avro plant at Malton Airport, Toronto, has grown to 1,700,000 sq ft, while employment has remained constant at more than 9,000. During the year J. L. Plant succeeded F. T. Smye as president and general manager.

CF-105 Arrow. Powered by two Pratt and Whitney J75 engines, the first CF-105 Arrow Mk 1 achieved a level-flight speed of over Mach 1.5 at 50,000ft—equivalent to more than 1,000 m.p.h.—during its seventh flight from Malton in April.

Production tooling has been used from the outset in the Arrow programme, and the fifth machine was approaching completion on the line at Malton last month. This will be the last Mk 1 and will be followed by Mk 2 versions powered by the lighter and more powerful Orenda Iroquois engines. The present contract is for a total of 37 aircraft, which are all pre-production machines.

An accident to the prototype Arrow took place during June when pilot Jan Zurakowski was bringing the aircraft in to land after its tenth flight at Malton. The port main landing gear, although fully down, had jammed (unknown to Zurakowski) with the tandem wheels inclined at about 30 deg to the longitudinal axis of the machine, which swerved off the runway at the end of the landing run, causing the landing gear to collapse. The damage to the airframe was not extensive and, although the flight-test rôles of the first and second machines have consequently been exchanged, no significant delay to the overall programme is expected.

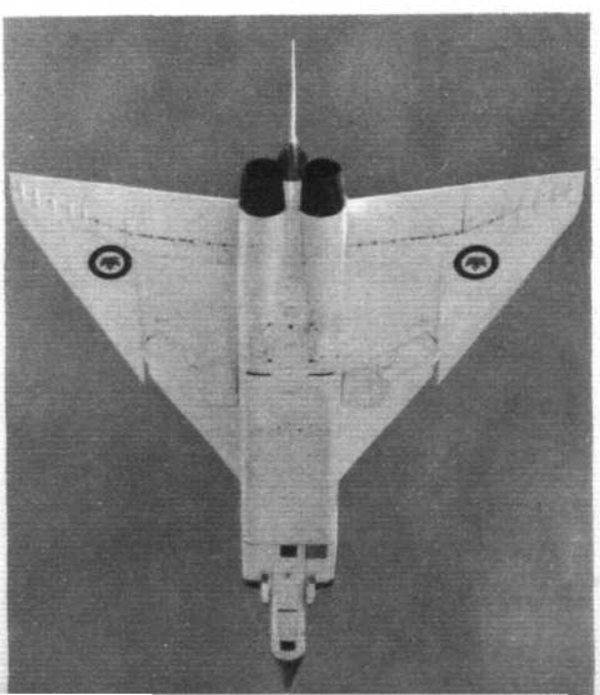
The advanced electronic system for automatic flight, weapon fire-control, communication and navigation of the Arrow is designated Astra and is the responsibility of R.C.A. and Minneapolis-Honeywell, plus their Canadian associates and specialized sub-contractors. Among the many other contributors to the Arrow—some 650 outside suppliers are involved in the programme—are those listed on subsequent pages of this review. The aircraft was fully described in our issue of October 25 last.

The cost of the Arrow development programme was divulged recently in the Canadian House of Commons. The Department of National Defence statement said, "The currently estimated production cost of each complete Arrow aircraft within the 37 pre-production order is $6,100,000. Should the decision be taken to proceed with production, the cost per subsequent aircraft will be reduced considerably.

"The total cost to the Government of the complete Arrow aircraft project including design, development, tooling and pre-production costs of the Arrow airframe, the engine programs and the integrated electronic and fire control system, up to May 1, 1958, is $233,000,000. This cost figure also covers two completed aircraft, three in final assembly and 32 others, within the present order of 37 aircraft, in various stages of manufacture and material procurement."

CF-100. Production of CF-100 Mk 5 high-altitude all-weather fighters has continued during the year, but is now only a trickle compared with the peak rates of the Mk 4 era. Delivery of 50 Mk 5s for the Belgian Air Force was completed in less than a year from the contract date.

During the year the Canadian Government cancelled the CF-100 Mk 6 programme covering the missile-carrying version of the aircraft. As part of the development programme for the Arrow



Two contrasting views of the Avro Arrow Mk 1, powered by two Pratt and Whitney J75 engines. Later Mk 2 Arrows will have the more powerful Orenda Iroquois.