

Aircraft.—The *F-86 Sabre* jet fighter program for the RCAF was completed in 1957, but production continued on a contract for the West German Air Force. In 1956, *Sabre* production had been reduced slightly from the level of 1955 though a reduction in deliveries to the RCAF was partly offset by company export sales to the Union of South Africa and to Colombia. The *CF-100* jet interceptor continued in production at a reduced rate throughout 1956 and 1957. A reduction in the quantity of *CF-100* aircraft delivered to the RCAF, and the termination of the *Mark-6* program in 1957, were more than offset by a United States Mutual Aid purchase of a large number of these aircraft for Belgium. The output of jet powered *T-33 Silver Star* training aircraft was maintained at a minimum level during these two years. The first deliveries of the *CS2F Tracker* aircraft to the Royal Canadian Navy took place in 1956 as scheduled and continued in production through 1957. This aircraft, powered by twin *R-1820-82* piston engines, is designed for the detection and destruction of submarines. Both airframe and engines are being built in this country to United States designs, and the work is being shared widely by Canadian industry through a broad sub-contracting program. During the two years under review, rapid strides were made in the development and production of the *CF-105* supersonic jet fighter, the first of which came off the line on schedule late in 1957. The speed and altitude capability demanded of this aircraft necessitate the highest standards in equipment and materials, and Canadian industry has had to develop special manufacturing techniques to meet this need. The first flight of the long-range maritime reconnaissance aircraft, the *CP-107 Argus*, was made in 1957. This craft is a re-design of the *Bristol Britannia* civil aircraft. A transport version of the *Argus*, designated the *CC-106*, was introduced for engineering and tooling during 1957; its engines and associated propellers are of British make.

In the aero engine field, activity paralleled that for airframes. Production of *Orenda* engines for the *Sabre* and *CF-100* aircraft continued at reduced rates. Development of the more powerful *PS-13 Iroquois* engine, to be fitted in the *CF-105*, proceeded satisfactorily and a prototype was air tested in 1957. In the Canadian piston engine facility, the production of *R-1340 Wasp* engines for the Mutual Aid Program was completed late in 1956, with the manufacture of long-term maintenance parts continuing throughout that year. During 1957 the production of *Wasp* engines was largely replaced by the production of *R-1820-82* engines for the *CS2F Tracker* aircraft. The manufacture of *43D51* propellers for the *Tracker* also proceeded satisfactorily.

The repair and overhaul of aircraft, aircraft engines, instruments, systems and accessories occupy a position of increasing importance. The repairs and overhaul needs of older items of equipment increase with the passage of time and, at the same time, the growing complexity and more stringent operational requirements of newer equipment impose new demands on the repair and overhaul facilities. These facilities were kept abreast of new developments, and relatively stable work loads were maintained through a system of progressive overhaul followed by the Department of National Defence.

Early in 1956, the *Sparrow II* missile, developed in the United States, was chosen to meet RCAF requirements for air-to-air guided missiles, superseding the Canadian weapon, *Velvet Glove*. As a result of this decision, work among the Canadian contractors employed on the *Velvet Glove* program was limited to the minimum needed to keep intact the engineering complex which had been developed and to maintain a nucleus of essential personnel. By the end of 1957, the bulk of the drawings, technical data, and other information relative to *Sparrow II* had been received from the United States, thus permitting certain activity among manufacturers of special equipment in Canada. This missile is to be modified for use in the *CF-105 Arrow* aircraft.

Electronics.—The procurement and production of electronic equipment for defence reached a peak in 1956. The completion of the Mid-Canada radar line, the postponement of production for the radar improvement program and the approaching completion of some existing production contracts together with a slow-down caused by the change-over from the *Velvet Glove* to the *Sparrow* missile caused a decline in 1957. This decline, however, was partially offset by activity on the development of the electronics system for the *CF-105*