

**Air Traffic Control, 1952.**—The primary functions of Air Traffic Control are to expedite and maintain an orderly flow of air traffic and to prevent collision between aircraft operating within controlled airspace and between aircraft and obstructions on the movement area of controlled airports. This is accomplished through provision of airport-control service and area-control service. In addition, the following services are provided: (a) flight information, (b) alerting for search and rescue, (c) customs notification and (d) aircraft identification.

*Airport Control* is designed particularly to provide air-traffic control service in the vicinity of major civil airports where the volume and type of aircraft operations, together with weather conditions and other factors, indicate its need in the interest of safety. The service includes the control of pedestrians and vehicles on the manoeuvring area of the airport. Control is effected by means of direct radio-telephone communication, or visual signals, to aircraft and surface vehicles on and in the vicinity of controlled airports. The two new control towers opened during 1952 at Seven Islands, Que., and Torbay, Nfld., brought to 21 the total number of controlled airports. Control towers are located at Patricia Bay and Vancouver, B.C.; Lethbridge, Calgary and Edmonton, Alta.; Saskatoon and Regina, Sask.; Winnipeg, Man.; Windsor, London, Toronto, Ottawa and North Bay, Ont.; Montreal, Cartierville, Quebec and Seven Islands, Que.; Moncton, N.B.; Sydney, N.S.; and Gander and Torbay, Nfld. Most of these control towers are in continuous operation but a few provide only 16-hour daily service.

*Area Control* is designed particularly to provide air-traffic control service to aircraft operating within controlled airspace during weather conditions that prevent a pilot from seeing other aircraft or obstructions and necessitate his reliance on instruments to conduct the flight. This service is provided by area-control centres at Vancouver, B.C.; Edmonton, Alta.; Winnipeg, Man.; Toronto, Ont.; Montreal, Que.; Moncton, N.B.; and Gander, Nfld. Each of these centres is connected to the control towers, radio range stations and operations offices within its control area by means of an extensive system of local and long-line interphone or radio circuits and through the radio communication facilities available at these offices to all aircraft requiring area-control service. Each area-control centre is similarly connected with the adjacent centres, including centres in the United States, for the purpose of co-ordinating the control of aircraft operating through more than one control area. This communications system permits each centre to maintain a continuous detailed record of the movements of all aircraft operating in accordance with the Instrument Flight Rules, and a general record of the movements of all aircraft operating in accordance with the Visual Flight Rules within its control area. In addition to providing area-control service to aircraft operating within the controlled airspace over Newfoundland, the Gander area-control centre provides this service within the airspace over approximately one-half of the North Atlantic.

*Flight Information* is designed to provide advice and information useful for the safe and efficient conduct of flight, including weather reports and forecasts, field condition reports, data concerning aids to navigation, traffic information, refuelling and transportation facilities and other related data of assistance to the pilot in planning or conducting a flight. This service is provided by all air-traffic control units but particularly by the area-control centres, which are made responsible for flight-information service in seven regions—for each of which one area-control centre is responsible.

*Alerting for Search and Rescue* is designed to ensure that the appropriate organizations are notified of aircraft in need of search and rescue aid and to otherwise assist such organizations as required. Area-control centres are responsible for notifying these organizations promptly of non-arrival at destination of any aircraft for which a flight plan or flight notification has been received. This requires the maintenance and constant supervision of a continuous record of active flights to ensure that non-arrival of any aircraft is detected immediately. The service is available to any pilot who files either a flight plan or a flight notification with any communications agency of the Air Services Branch of the Department of Transport or directly with one of the area-control centres or control towers.

*Customs Notification Service* is provided to facilitate the routine notification of the appropriate customs agency by pilots who plan to cross the Canada-United States boundary. Utilization is made of the air-traffic control communications system and units connected therewith for forwarding pilot requests to notify the customs officer at the airport of destination.

*Aircraft Identification Service* is provided by area-control centres to assist the Department of National Defence in establishing the identification of all aircraft operating within specified areas.