

The Canadian Champion

Vol. 106.—No. 1.

MILTON, ONTARIO, WEDNESDAY, MAY 12th, 1965

Second Section

Canada's Air Traffic Controllers Watchdogs of Safe Air Travel

By Roy Downs

Last year in Canada, 10,000,000 airline passengers in 90,000 aircraft safely travelled millions of air miles in the nation's criss-crossing, converging, vertically-stacked airways.

The responsibility for those passengers' safety while in flight is partly the chore of Canada's 923 air traffic controllers — 90 of whom work at Toronto's International Airport, three of them Miltonians.

Last week during the Canadian Air Traffic Controllers' Association annual meeting in Brampton, Milton's three ATC representatives Frank O'Neill, Clay Jubb and Tom Taylor invited me to join in a press tour of the ATC centre at Malton. I spent a wonderful day watching how they work in what must be one of the most fascinating occupations on record.

Various Jobs

Tom is a controller working in the control tower, a glassed-in dome 87 feet above the ground "away out in left field" at the airport. Frank is a controller in the ground floor centre where a dozen men work over their radar screens in a semi-darkened room, and Clay works there too, on a specialized instrument called GCA — Ground Control Approach — which allows the expert on the ground to "talk down" a pilot on a zero visibility day.

Overhead at Malton, an average of 450 planes a day land, take off, or fly over the skyport. There's not a single traffic policeman in sight . . . unless he's seen guiding

cars in or out of the airport's car park. Unseen by most air travellers, there's a crew of 90 "traffic cops" on duty 24 hours a day, seven days a week, ensuring the safety of the pilots and passengers who occupy those aircraft.

There's no guesswork allowed in air traffic control — each man follows a strict set of rules and by repetition and experience, can guide the pilots up and down, or through the 30-mile radius of the airport airspace that falls into their jurisdiction.

Area Control Centre

Air Traffic Control is big in Canada, with 33 Department of Transport control towers across Canada plus 13 terminal control units and eight large area control centres like the one at Toronto.

In 1939 at St. Hubert airport, air traffic control was born and pilots breathed a sigh of relief to learn that somebody down there on the ground would be able to help them when the weather got rough and the visibility dropped to zero. The occupation grew and Toronto became the first area centre in 1942, followed by one at Montreal and now joined by six others stretching from Goose Bay to Moncton on the east; Winnipeg, Edmonton and Vancouver on the west.

Air traffic controllers established their own association in 1960 and some 40 members attended the fourth annual meeting of the association in Brampton for three days last week, to talk about standardization of services and acquisition of more modern equip-

ment. It was through the association's convention that Wednesday's press tour of the Malton facilities was arranged, and it was Frank O'Neill who handled publicity for the conference and the tour.

Busiest Hours

The gleaming new building that houses Toronto Airport's ATC centre is a beehive of activity, especially from eight o'clock every morning until midnight. For during those 16 hours they average one landing or departure every three minutes meaning at times the sky can be literally cluttered with aircraft heading to or from the busy runways. At peak traffic hours, a controller could be in contact with as many as 10 separate aircraft.

ATC's motto, while unofficial is nonetheless inspiring: "The safe and expeditious movement of air traffic".

It's safe, for there has never been an air disaster in Canada attributed to an ATC man. It's expeditious, for proof just look at the daily volume of air traffic.

Busy in Tower

On a clear day, Tom Taylor and the others staffing the control tower are the busiest, for it's there the traffic is sorted out for landings and takeoffs. But when the weather's lousy it's the ATC crew in the darkened room, peering over their radar scopes, the pilots depend on for a safe journey.

And on a zero-visibility day they turn to Clay Jubb and five other

senior men who man the GCA console. With this system the GCA man gives the pilot a "talk down" while he charts the plane's descent and compares it to two radar beams, one two and a half degree glidepath indicating the plane's altitude, and one line heading for the centrestrip on the runway.

Although the tour day was a clear one, GCA men must keep in practice by making 50 "talk-downs" every month so Clay Jubb did a practice run with an incoming plane under simulated "zero conditions", for the benefit of the visitors from the press.

One-Way Monologue

The controller must keep up a continuous one-way conversation with the pilot, literally "talking" him into a landing. The monologue drones on . . . "you are on the glidepath, turn right 240 degrees, now back on the glidepath . . ." and so on. Pilots have instructions that in case of radio failure, if they don't hear a word for five seconds they must pull the stick and come around for another landing.

Power failure isn't a nasty word around Malton, for there are always emergency generators and "back-up" systems.

There has never been a Canadian air disaster attributed to ATC miscues, but controllers still emphasize the need for the most modern equipment and more "back-up" systems . . . just in case. They do experience problems from static and other radar interference, and air travelling is experiencing such a boom right now they must be on their toes constantly to keep up with the increased work.

Record Conversations

Controllers are extensively trained before being given any responsibilities, and every word spoken into their telecommunications equipment is recorded in case of accident.

And they are constantly being retrained in new methods or new equipment. The Department of Transport (they do NOT work

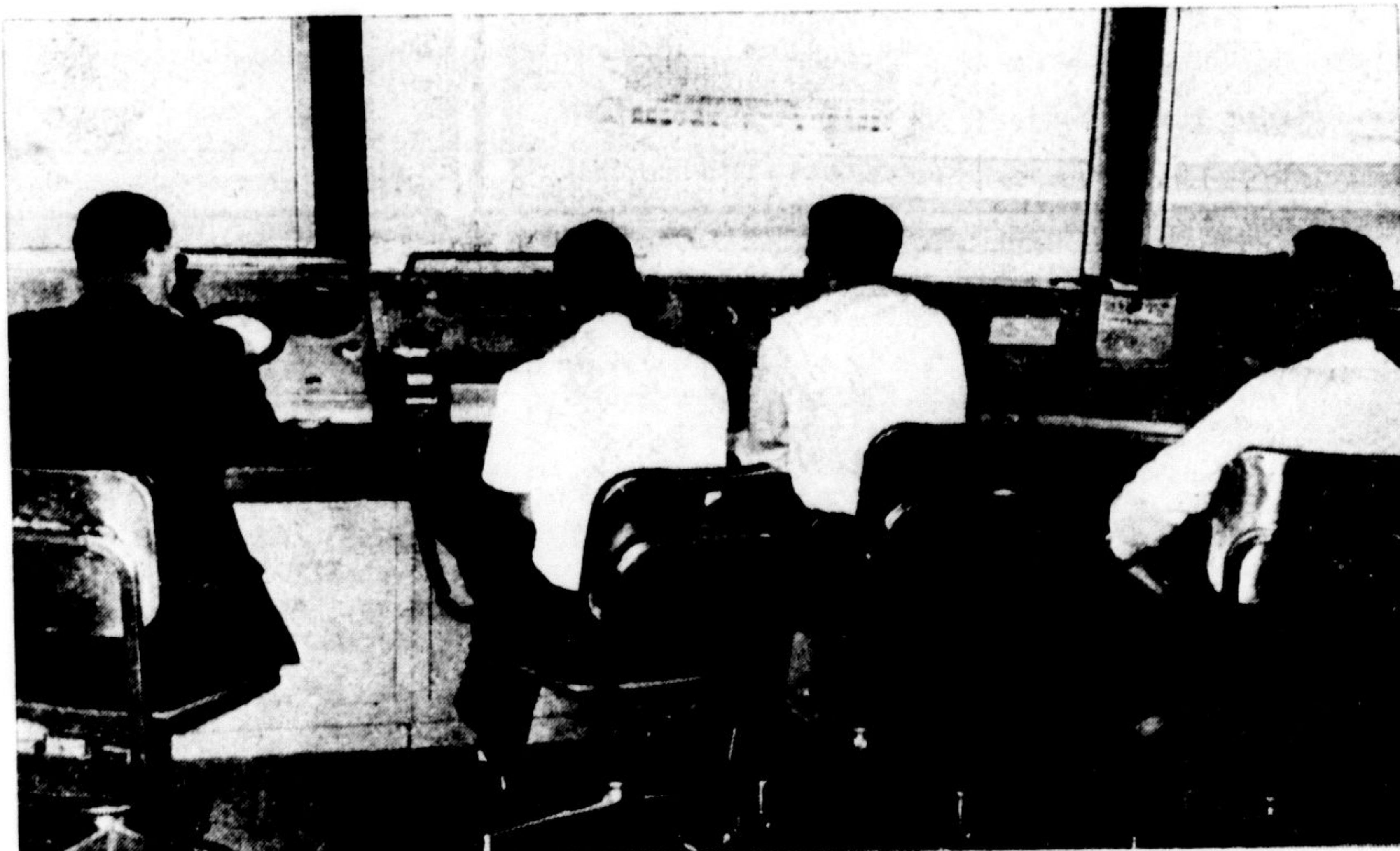
(Continued on Page B3)



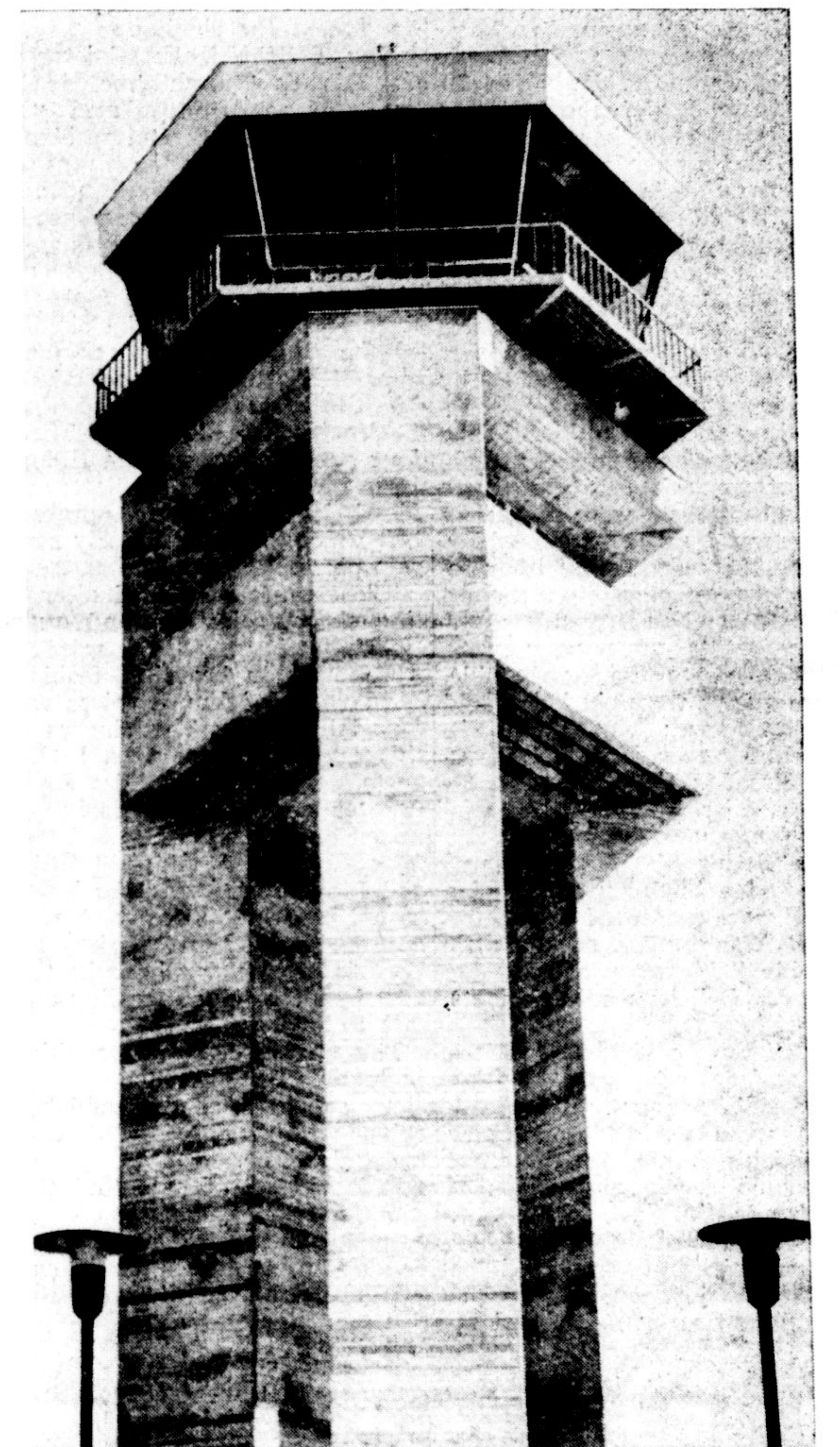
CLAY JUBB OF MILTON, one of three Miltonians working as air traffic controllers at Toronto International Airport at Malton, is shown during a "talkdown" session on the Ground Control Approach console. He follows incoming planes on the two radar scopes in front of him, relaying verbal instruction to the pilot to ensure a safe landing.



FRANK O'NEILL, CONTROLLER at the Malton airport for the Department of Transport, is shown here with John Zahara (seated) with one radar console of the air traffic control branch of the airport. There are 90 controllers working at the Toronto airport, covering not only airport traffic but also a large area of Ontario. They chart the flights of incoming and outbound aircraft and relay instructions to pilots to avoid collisions.



THE CONTROL TOWER at Toronto is a busy place as controllers guide the flights of aircraft, including regular scheduled Air Canada and other airlines, military and private craft. Tom Taylor of town works in the tower but was off duty the day of the press tour last week. The skyport is shown in the distance as controllers work on their radar and telecommunications equipment.



RISING 87 FEET above the ground a half mile from the terminal building, Toronto airport's control tower is the home base for 90 of Canada's 923 air traffic controllers. While some men guide airport landings and departures from the top of the tower, in darkness or on poor visibility days the pilots rely on verbal instructions from the radar-equipped tracking systems of the controllers working in the ground floor area.

— PHOTOS BY ROY DOWNS —

By Frank O'Neill

They Police Aerial Highways

A description of Canada's Air Traffic Control system, written by Frank O'Neill of Milton, a Grade 5 Controller at the Department of Transport's Area Control Centre at Malton.

The responsibility for the control of air traffic in Canada is assigned to Area Control Centres, Terminal Control Units, Airport Control Towers and a few military Control Towers and Approach Control Units.

The boundary of the Toronto Area Control Centre extends east to Kingston, north to James Bay, northwest to Armstrong Ont., then to the south along the lakes to a position just west of London.

The Terminal Control Unit is responsible for a 25 mile radius of the airport and the Airport Control Tower handles a 10 mile radius.

Must Control Tower
The acceptance of the air traffic control service is voluntary, but once a pilot accepts an air traffic control clearance he must abide by it. Within airport control zones (10 mile radius at Malton), however, all aircraft must contact the control tower. Air traffic controllers are only responsible for the separation of aircraft that fly on ATC clearances in controlled airspace. Controlled airspace consists of airways and controlled area extensions.

For example, a 60 mile radius of Toronto is a control area extension. Aircraft that do not fly under ATC clearances are restricted to flight below 9500 ft. along airways. Therefore, on an airway, all aircraft above 9500 ft.

are controlled by air traffic control. Below 9500 ft. it is possible that a mid-air collision occur between two aircraft, one controlled by ATC, the other an unknown aircraft.

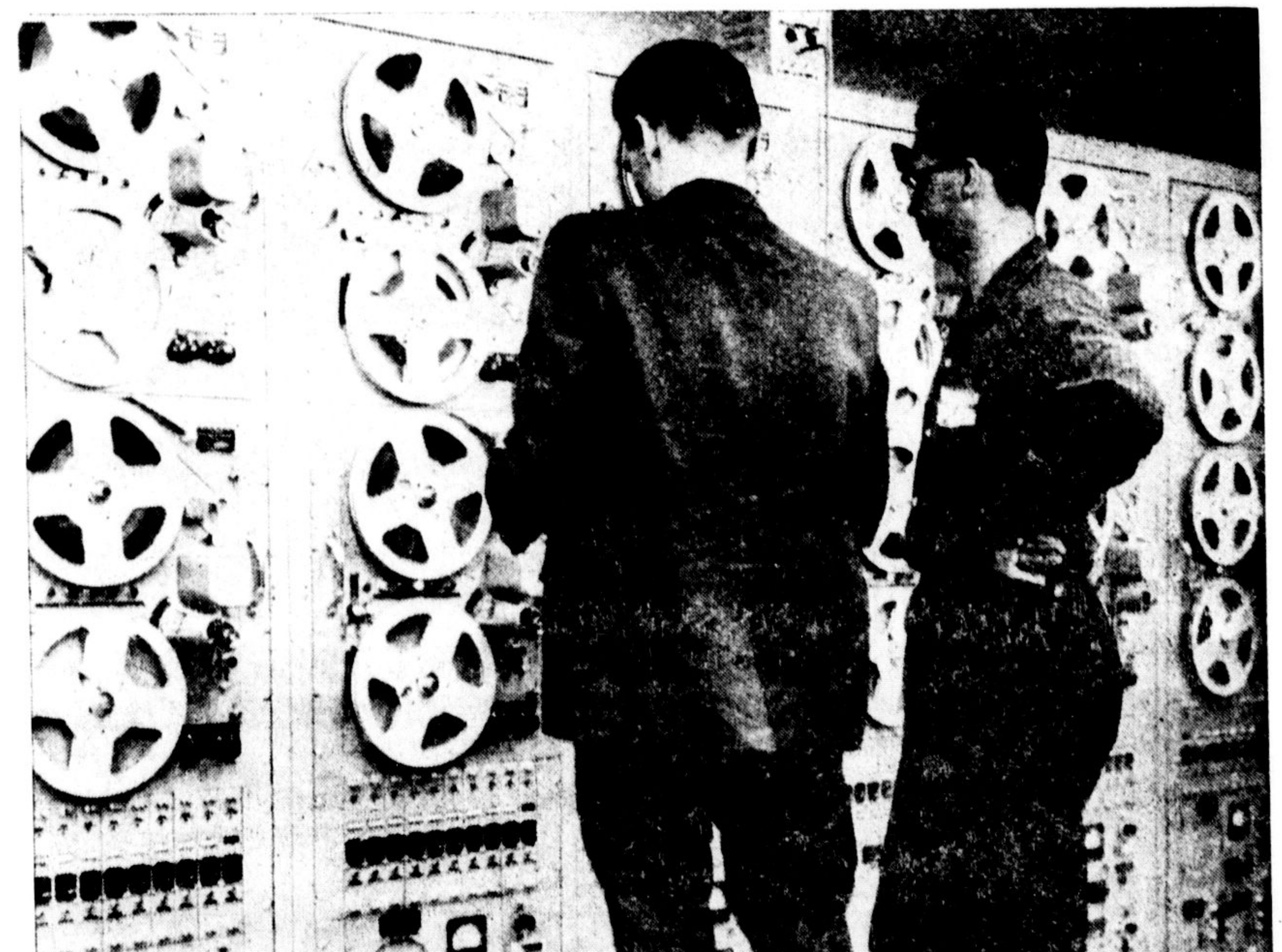
Aircraft are only protected by ATC when flying along airways or in control area extensions. There are two distinct types of airways — Low Level and High Level. The Low Level airways are 10 miles wide, the High Level airways are 40 miles wide. The airway system is designed to enable aircraft to proceed from point to point using ground-based navigational aids. This airway system forms a link between major airports and permits aircraft which use ATC service to proceed via the airway from departure point to destination with control being provided.

Aerial Highways
These airways are a criss-crossing, converging, network of invisible aerial highways. There are, however, two important differences between highways and airways. Cars operate within a speed limit; there is no speed limit on an airway. Highways are on one level whereas the normal use of airways extends up to 45,000 ft. There are no traffic lights or cloverleafs at 35,000 ft. to ensure the safe flow of aircraft. Different methods must be used.

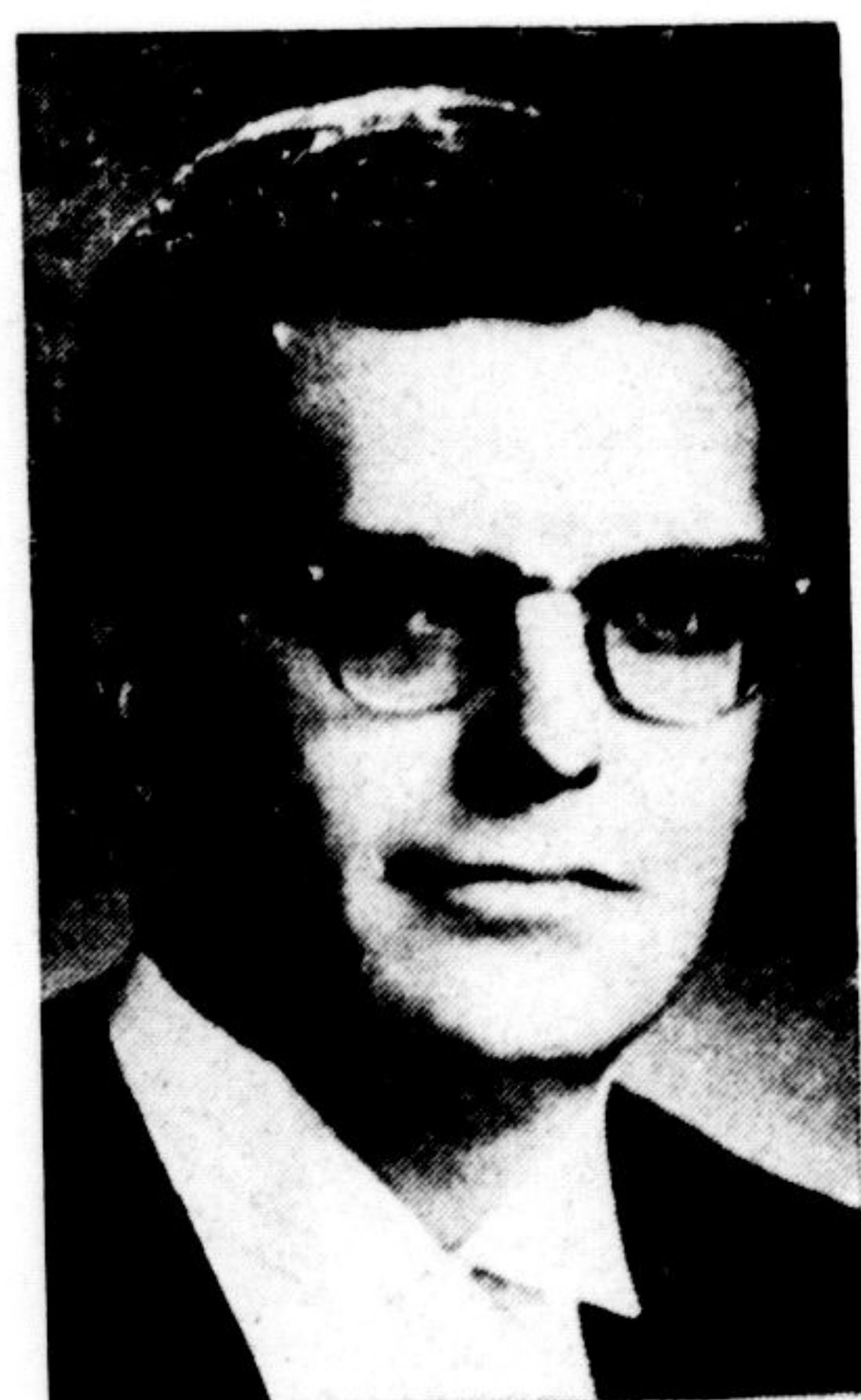
Up to 23,000 ft. airplanes are separated vertically by one thousand feet. Eastbound aircraft fly at odd thousand (13, 15, etc) foot levels, westbound at even thousand (12, 14, etc) foot levels. Above 23,000 ft., 2,000 ft. sepa-

ration is used because of the relative inaccuracy of altimeters at that height. Jets are inefficient and costly at lower altitudes, gulping fuel at an alarming quantity. Jet pilots speak not in gallons, but in thousands of

(Continued on Page B3)



A GALLERY OF TAPE RECORDINGS work 24 hours a day at the air traffic control section at Toronto airport, recording every word spoken through the telecommunications system by controllers and pilots. The tapes are filed away for future reference in case Department of Transport officials need to refer to them.



Harold C. Funk

BARRISTER & SOLICITOR

wishes to announce the opening of a

LAW OFFICE
IN MILTON ONTARIO

at
219 Main St., Milton, Ont.
Telephone 878-3512

in the office building of Hutchinson & Thompson
Barristers & Solicitors



now's the time
for improving*

Do-it-yourself . . . or have it done but
come to **Independent** for the cash
you **need right now** . . . for paint . . .
trees and plants . . . a garage . . . a patio
or a pool . . . even new golf clubs!

LOANS FOR ANY USEFUL PURPOSE

* Improve your home and increase its value

HOW LITTLE IT COSTS WHEN YOU COME TO
YOUR **INDEPENDENT FINANCE COMPANY**

INDEPENDENT

FINANCE CORPORATION LIMITED

OAKVILLE

PORT CREDIT

103 George Street
845-3803

361 Kerr Street
845-2888

65 Lakeshore Road East
274-2358

A. M. Masson

R. M. Mason

L. G. Crosier

OFFICES OPEN Monday—Thursday 9:00 - 5:30 Fridays 9:00 - 7:00