

Aviation Industry Racing Against Fast Expanding Air Traffic, Control

Editor's note: Following is the second of a series of five articles dealing with overcrowding of the nation's airways.

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Washington—UPI—The aviation industry and the federal government are engaged in a massive assault on the air safety problems resulting from growing congestion of the airways.

It is a grim race between fast-expanding air traffic and development of new methods to control that traffic safely.

The goal is two-fold: To plug some of the bigger holes in the present air traffic control system, which is 30 years behind the times.

To establish a brand-new control system that will handle not only current traffic, but also the transportation—less than two years away.

The first goal appears to be more difficult than the second. A commercial airliner takes off every five seconds. The job of protecting that kind of traffic volume with makeshift, stopgap methods is tougher than long-range planning for airways of the future.

System Modernized
The loophole-plugging action consists mainly of a \$246 million program for partial modernization of the air traffic control system. It is under the direction of the Civil Aeronautics Ad-

ministration, which already has compressed it from an original five-year project to three years. In addition, CAA has asked Congress for more money, including \$132 million for a radar navigation and communications system called "Vortac."

With its initial \$246 million authorization, CAA is buying:—Surveillance radar to speed up approaches and landings at 70 airports. 40 now have such equipment.

—Precision approach radar and instrument landing systems for 191 airports.

—Surface radar detectors for 70 airports—equipment which enables control towers to monitor and speed up ground traffic.

—New approach lighting for more than 200 airports.

Even this emergency program, however, is too far in the future to handle traffic of today, next week or even six

months from now. And under the prodding of the airlines, the military and the pilots union, CAA is now taking a look at its own operations to see if it can utilize more efficiently the procedures and equipment it already has.

Air Delays Reduced
Recently, a special committee composed of representatives from the airlines, armed forces, CAB, CAA and the Airline Pilots Association (ALPA) studied air traffic control operations at LaGuardia Airport in New York City.

The group found that in one 30-day period, scheduled flights in and out of LaGuardia were delayed a total of 850 hours.

The committee recommended certain procedural changes and personnel instruction. In the next 30 days, under almost identical weather and traffic conditions, delays at LaGuardia were cut to 230 hours.

"This shows what can be done with existing techniques and equipment," an ALPA official told the United Press. "The biggest bottleneck to safe movement of air traffic is located at the airports themselves."

Even such steps as led to the LaGuardia improvement are admittedly stopgap, however. So are proposals by APLA to revise many air traffic regulations in order to reduce drastically the number of flights in which pilots are told to fly under "visual

flight rules" and take the entire responsibility for avoiding other traffic. Under "instrument flight rules," air traffic control centers assume the responsibility of keeping flights safely separated.

Present Method Archaic
But adding to instrument flight operations merely makes a bad situation worse. The basic trouble with the air traffic control system is that the 26 control centers must keep track of some 3,000 daily flights with an archaic manual system.

As each instrument flight moves from one controlled airspace to another, a controller passes a slip of paper representing that flight to a second controller. He stacks the slip on a rack in front of him. It is his job to keep all his slips properly spaced so there is no danger of collision. For each slip represents a multimillion dollar aircraft moving scores of passengers at varying altitudes at five miles a minute.

This manual system of "slip-passing" becomes an almost superhuman task in bad weather and in heavy traffic moving in and out of airports. And this is where the plans for the future come in. They are being blueprinted by two special government groups:

—The Air Coordinating Committee, composed of representatives of nine federal departments. This group is reading a report known as SWG 13 (Spec-

ial Working Group 13) which will contain recommendations for improving the air traffic situation for both the immediate and long-range future.

—President Eisenhower's Aviation Facilities Planning Group, headed by Edward P. Curtis of Eastman Kodak. About May, 1, this group will issue a long range, comprehensive plan for controlling air traffic of the future.

From these two reports will come the major solutions for the air traffic problem. Their contents are still secret, but it is known that they will call for all-electronic control of air traffic through the following means:

—Long-range radar to enable control centers to monitor the movements of all aircraft—private and military.

—Giant electronic brains which will take the place of the present manual system of traffic control. Into these brains will be fed the various flight plans filed by pilots and approved by control centers. The brains then would automatically compute commercial flight paths so air-

liners would arrive at destinations at exactly the right moment to avoid "stacking." Any variance from original flight plans such as a pilot reporting delay because of a balky engine,

would automatically be fed into the brains which would promptly set up a new flight path.

—Communication recording devices for cockpits, so that pilots will not be distracted by the heavy volume of verbal reports that now take place between control towers and planes in flight.

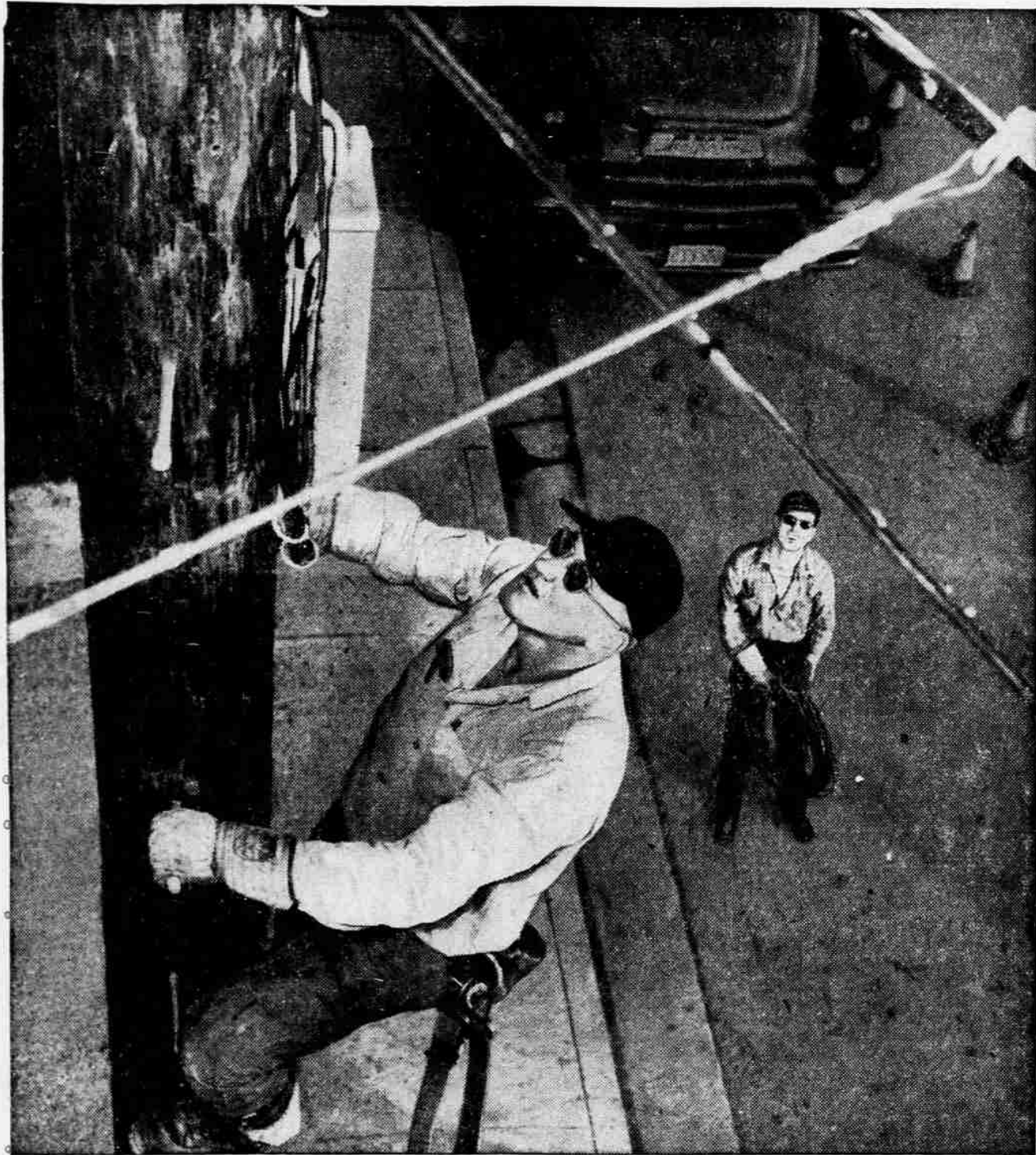
Experts say an all-electronic system is badly needed for the air traffic of today. When the giant jets start flying, it will become an absolute "must."

Tomorrow: Are modern planes built safely? Why do new planes develop mysterious "bugs?"

TV GIVES ASSIST

Tokyo—UPI—Kazuo Satake, catcher for the Kokutetsu baseball Swallows, got an assist from television Sunday. Satake collided with a runner at home plate and the TV announcer reported that he suffered two broken teeth. A dentist, watching the game at home, promptly called the stadium and offered to open up his office to treat the ball player.

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