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Airbus to Make Cockpit Changes

By ANDY PASZTOR

ISTANBUL -- European jet manufacturer Airbus, expanding cockpit automation across its entire model lineup, is introducing a new feature to help planes fly close to each other in busy airspace without triggering airborne-collision warnings.

Slated to be phased in over the next few years, the move underscore the company's commitment to increasingly rely on automation -- without requiring any pilot commands -- in order to reduce the hazards of midair collisions. It also illustrates how most segments of the airline industry, particularly some previously skeptical pilot groups, over the years have come to accept that Airbus design philosophy.

The planned software changes to flight-control computers were outlined earlier this week by a senior Airbus test pilot at a European safety conference here. The goal, according to Claude Lelaie, is to allow aircraft to climb or descend within 1,000 feet of each other -- typically during cruise and while following instructions from air-traffic controllers -- without triggering collision warnings that otherwise would disrupt flight paths by requiring planes take immediate evasive action.

The Airbus official said such warnings, called collision-avoidance advisories, frequently prompt pilots to overreact by making their planes climb or dive too steeply or for to long. Such responses can injure passengers and inadvertently create dangerous conflicts with other nearby traffic.

Data gathered by Airbus indicates that roughly half of all midair-collision warnings occur when jets are merely changing altitudes quickly, but there isn't a danger of a collision. The warnings stem from current cockpit systems that mistakenly project that aircraft cruising toward each won't level off in time to maintain different assigned altitudes.

Airlines told Airbus, a unit of European Aeronautic Defence & Space Co., they were "fed up with all the nuisance" warnings, Mr. Lelaie told the conference sponsored by the Flight Safety Foundation

To eliminate the problem, the new feature will kick in, on its own, to smoothe out aircraft flight paths and ensure that computers aboard converging planes automatically communicate with each other about intended trajectories. Planes headed toward each other will automatically reduce vertical speeds as they approach assigned altitudes.

With airliners and business jets now routinely cruising with less vertical separation than before in heavily-used airspace, and sometimes coming even closer together during airport approaches or departures, the new Airbus feature is intended to enhance safety by preventing unnecessary warnings that can distract pilots.

The safeguards will work even if only one of two planes near each other has the updated Airbus system. The result will be "less stress for the crews" and fewer "unnecessary traffic perturbations,"

according to Mr. Lelaie. French accident investigators identified the basic problem and urged fixes as early as 2003

In addition to installing revised software on newly-built planes within the next two or three years, Airbus later intends to encourage airlines to retrofit the new systems on existing fleets

The announcement follows many years of separate Airbus efforts to automate aircraft responses to impending collisions. In 2006, Airbus sparked some controversy by announcing automated cockpit systems that would take evasive action, on their own, in the event pilots failed to react to aural and visual midair-collision warnings. Some pilot groups initially were cool or outright opposed to the concept, arguing that it limited the crew's authority to deal with emergencies.

But the controversy has largely died down, as pilots increasingly embraced the earlier changes as important safety backups. Those systems already are flying on Airbus A380 superjumbo jets, and are slated to be installed on all newly-built Airbus aircraft in coming years.

In explaining the latest concept to pilots and airlines, however, Mr. Lelaie said in an interview that "there has been no major opposition" and the design changes have been "well received by the industry."

Yet today's flight-control revisions go well beyond previous Airbus automation initiatives, because activation of the new safety feature no longer will depend on what pilots do or fail to do. The plane's flight-management computer and autopilot effectively will take over whenever midair-collision warnings pop up in the cruise phase of flight. Cockpit instruments will make pilots aware of what's happening, though they won't have a role in adjusting the aircraft's trajectory.

Meanwhile, Airbus engineers also continue to pursue what they envision as a failsafe automation feature to prevent airliners, regardless of the circumstances, from flying into mountains, buildings or other obstacles on the ground. Such ground-collision prevention systems would have important application, among other things, for fatigued pilots, hijacked aircraft and malfunctioning onboard instruments or systems.

The hurdles, however, for devising highly-reliable software for such applications, and then getting safety regulators to give the green light, are more difficult than any automated flight-control scheme Airbus has ever developed. Nevertheless, Mr. Lelaie said the company continues to work actively on the issue.