MORE THAN JUST A MOTTO

They died in the treetops, in the fog, on snow-shrouded mountain peaks, in swamps, in fields. Short of the runway, beyond the runway, far from a runway.

The first generation of airline pilots who banded together to create this union had some very real and personal reasons to do so—to stop pilot-pushing, improve airline safety, and make their chosen profession one worth choosing. And to live long enough to not die with their boots on.

More than *half* of ALPA's founders—the Key Men—died in aviation accidents. And that was *after* they had met in secret and taken extraordinary steps to create the Air Line Pilots Association with the motto Schedule with Safety.

Improving aviation safety has always been at the core of ALPA's existence—at the root of ALPA's operations and goals—since the Association was founded 75 years ago. The motto of ALPA's founders continues to be as vital today as it was yesterday. Improving safety for the benefit of our members and, of course, our passengers, as well as our cargo loads, remains at the top of ALPA's regulatory, representational, and legislative agendas.

Years after the Key Men formed ALPA, airline pilots eventually not only had to deal with safety concerns that arose from neglect, greed, or ignorance, they also had to thwart the desperate or evil intent of other men bent on using airline operations for their own violent purposes. The Association rose to the challenge of ensuring that aviation *security* joined Schedule with *Safety* as a top priority.

For the past 75 years, ALPA has either worked single-handedly or played a key part in government/industry cooperative efforts to improve aviation safety and security—in the air and on the ground. To name just a few of ALPA's premier safety and security accomplishments, the Association was involved in

- developing the first air traffic control centers,
- getting passed stringent One Level of Safety regulations that affect all airline passengers (covering all airliners with 10 passenger seats or more),
- creating improved regulations covering passenger airliner emergency evacuations,
- forming federally mandated anti-skyjacking strategies,
- developing safer procedures for transporting hazardous materials aboard airliners, and
- developing airline safety management systems in Canada.

Many of ALPA's greatest safety "victories" are not spoken of or publicized outside of the Association's walls. These accomplishments are our efforts to prevent other parties from trying to decrease the margin of airline safety. In fact, many bad ideas have been abandoned in their earliest stages because of the perception that "ALPA would never stand for that." The latest appears to be an airline's plan to request an exemption from flight- and duty-time regulations.

Today, ALPA is the world's largest non-governmental aviation safety organization. Hundreds of Association members, backed up by the professional staff of ALPA's Engineering and Air Safety and other ALPA Departments, serve their fellow airline pilots and the traveling public in their roles as ALPA safety representatives.

The Association's goals have sometimes taken decades to achieve—but with gratifying results.

Bringing about federal certification standards for airline airports—i.e., FAR Part 139—took 30 years; nearly that much time passed between ALPA's first push for an airborne collision avoidance system and when TCAS became required equipment in airliner cockpits.

In addition to the sweeping, fundamental improvements to airline safety and security such as those listed above, ALPA's "No Job Too Big or Too Small" approach to safety and security concerns has tweaked the U.S. air transportation system for the better in thousands of ways. For example,

- a pilot calls ALPA to report runway edge lights burned out at a particular airport; ALPA contacts the airport management to get them fixed;
- a pilot alerts ALPA that a radio frequency or navaid identifier is not represented properly on a navigation chart; an ALPA staff member coordinates with the chart publisher to correct the error during the next charting cycle; and
- a pilot reports to ALPA that security screening is not being conducted properly at a particular airport concourse; an ALPA staffer makes a discreet phone call to resolve the issue.

The following pages show just a few of the pieces of equipment, procedures, institutions, programs, and other protections in today's cockpits, at today's airports, on today's airplanes—safety enhancements that many of us might not realize we have because of the ceaseless efforts of this union, this brotherhood of pilots who fly the line, our ALPA.—*Jan W. Steenblik, Technical Editor*

MORE THAN JUST A MOTTO

ALPA Shapes Modern AIRPORTS…

ALPA pushed for 30 years to require U.S. airports having scheduled airline service to provide specified aircraft rescue and firefighting (ARFF) capabilities, a plan for controlling wildlife hazards on the airport, a formal disaster plan, and much more.

ALPA lobbied long, hard, and successfully for Terminal Doppler Weather Radar (TDWR) to significantly improve windshear detection capability in airport terminal areas.

Runway safety areas that ALPA has aggressively promoted have made a big difference in the outcome of takeoff and landing incidents and accidents. Where terrain, space limitations, or other constraints have prevented runway safety areas from being built to full length, "crushable concrete" that ALPA has enthusiastically supported has safely stopped airplanes in the overrun.

High-visibility, unambiguous, standardized signs and markings are vital to preventing runway incursions and other mishaps—and ALPA has been intimately involved for decades in developing and testing better signs and markings.

Land-and-hold-short operations (LAHSO)—SOIR in Canada—conducted with conservative safety restrictions set by ALPA permit improved airport capacity without reducing the margin of safety.

Runway distance-to-go markers clearly convey information important for takeoff or landing, whatever the runway visibility—which is why ALPA worked so long to get them on civil airports.

The centerline approach light system, invented by Capt. Ernie Cutrell, who received ALPA's first Air Safety Award, gives pilots directional guidance and bank angle reference at night and in bad weather.

Full-scale airport emergency drills conducted every 3 years are among the requirements placed on air carrier airports, thanks to ALPA.

Frangible structures, such as approach light stanchions, can minimize the damage to an aircraft striking them versus one hitting an unyielding structure. ALPA activists have led the way in reducing the nonfrangible hazards on airports.

Runway grooving and timely cleaning of contaminated runways are important to keeping landings and takeoffs safe; some ALPA pilot safety activists devoted years of their time to this cause.

Visual approach slope indicator (VASI) and precision approach path indicator (PAPI) systems near runway touchdown zones provide important visual guidance to pilots during landing approach, which ALPA supported.

Runway edge lights and runway end identifier lights (REILS) are among the lights that pilots are used to seeing on airports at night and which came into being because ALPA pushed for them.

Precision instrument approach guidance, such as the instrument landing system (ILS), give pilots highly precise vertical and lateral guidance to the runway, especially in low visibility, thus dramatically reducing the rate and severity of landing accidents. No stakeholder has worked harder than ALPA to get more precision approaches to air carrier runways.

MORE THAN JUST A MOTTO

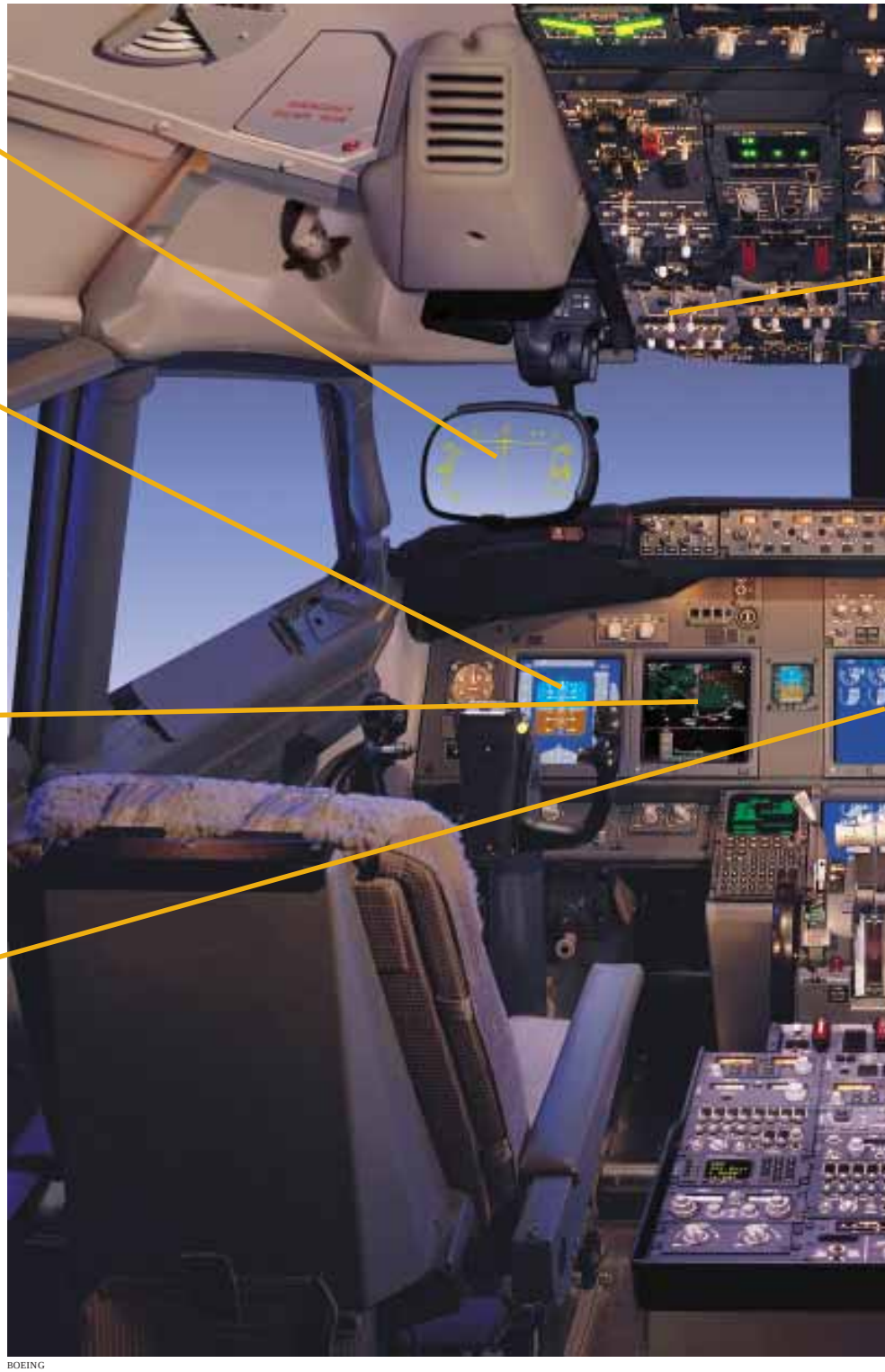
ALPA Ensures COCKPITS Serve Pilots…

Pilots who fly airliners equipped with a head-up display (HUD) can hand-fly Category 3B takeoffs and 3A landings. ALPA pilots worked tirelessly for decades to make airline HUDs a reality and provided line pilot input to HUD symbology.

The standard T instrument arrangement, albeit modified in electronic flight instrument displays, puts critical information in the same place in every airliner, because ALPA members, alarmed by haphazard panel layouts, did something about it.

ALPA vigorously supported and helped optimize the Terrain Awareness and Warning System, also known as the Enhanced Ground Proximity Warning System (TAWS/EGPWS), which has dramatically reduced a former major cause of fatal airline accidents—controlled flight into terrain (CFIT).

Because ALPA pilots tenaciously investigated a CFIT accident, airline cockpits now have instrument comparators to alert pilots when the captain's and the first officer's altimeters, airspeed indicators, compasses, and other instruments don't agree; comparators also are vital components of autopilots and autoland systems.



BOEING

The ubiquitous cockpit voice recorder (CVR) and flight data recorder (FDR), vital to accident investigation and thus accident prevention, are in airline cockpits because of ALPA—which also continues to fight to prevent their abuse.

Cockpit weather radar, which airlines originally resisted buying, is one of pilots' key tools for staying out of harm's way in convective weather—another safety system that ALPA insisted be made mandatory in airliners.

ALPA played a pivotal role in getting reinforced cockpit doors installed in U.S. and Canadian airliners since Sept. 11, 2001, improving pilots' protection against potential hostile intruders.

The traffic alert and collision avoidance system (TCAS), which ALPA activists sought since the 1950s, has greatly increased pilots' awareness of other air traffic and virtually eliminated midair collisions involving airliners.

Terrain contours depicted in color on navigation charts—a safety enhancement for which ALPA pushed—increase pilots' situational awareness and help prevent controlled flight into terrain.

Takeoff warning horns—another "tombstone technology" for which ALPA fought—have alerted flight crews that the airplane was not properly configured for takeoff.

MORE THAN JUST A MOTTO

ALPA Steers AIRCRAFT DESIGN AND OPERATIONS…

ALPA campaigned successfully to protect airliner fuel tanks against lightning strikes.

U.S. noise abatement procedures for takeoff and landing were standardized after years of ALPA pushing against ill-considered procedures dictated by local airports.

Improved standards and procedures for ground deicing and antiicing fluids were the result of work by ALPA air safety representatives over a period of several years.

ALPA has worked closely with the FAA and airlines for several years to implement Flight Operations Quality Assurance (FOQA) programs, in which data are downloaded from digital flight data recorders—with protections for flightcrew members against punitive action. The data provide ALPA, the airline, and the FAA with a gold mine of information for discovering safety concerns and trends before they lead to accidents.

Emergency evacuation tests are more realistic now because ALPA pushed for changes to certification test requirements.

A 1986 ALPA campaign led to the FAA's adopting the ABCD category system for master minimum equipment lists (MMELs), which establish the maximum length of time each specified item or system may remain inoperative.

Capt. Ed Miller (United) is the ALPA activist to thank for several years of effort that brought pilots better international detection and reporting of volcanic ash clouds that can down multiengine jets.

ALPA's 1973 Project S.T.O.P. (Safe Transport of People) and subsequent efforts led to new regulations and safer shipment of hazardous materials (hazmat).

AIRBUS

"Fasten seatbelt" signs in passenger airliners are there because ALPA spent 8 years fighting for them, after a passenger was seriously injured by turbulence on a flight.

Many model-specific airframe fixes were the direct result of ALPA's dogged involvement in long, painstaking investigations of accidents.

RNAV and RNP procedures to improve airspace system capacity, efficiency, and safety reflect many years of careful attention and input from a number of ALPA pilot safety activists.

Being able to talk directly to an air route traffic control center (ARTCC) is possible because ALPA pushed for it; in the early days, pilots had to obtain enroute clearance changes via their airline dispatcher.

Procedures and equipment requirements for extended twin-engine operations (ETOPS) were made at ALPA's insistence to maintain a high level of safety before airworthiness authorities permitted flights at increasingly greater distances from a suitable landing airport.

Improved standards for seat strength and flammability resistance of cabin materials are among the many results of the Association's decades of effort to improve airliner cabin safety and crashworthiness.

Visual descent points (VDPs) for nonprecision approaches were the brainchild of ALPA, which got them onto nav charts.

Windshear detection equipment and proper pilot training for escaping microbursts have virtually eliminated windshear accidents—primarily thanks to Capt. Bill Melvin (Delta), ALPA's determined windshear expert.

The distance between exits on passenger airliners cannot exceed 60 feet, because ALPA pushed back against a manufacturer's proposal to increase the gap.

Safe introduction of airspace system changes such as reduced vertical separation minima (RVSM) in international and domestic airspace came about because ALPA representatives inserted line pilots' perspective and concerns into the process.

MORE THAN JUST A MOTTO

ALPA Supports Line PILOTS…

ALPA helped create and remains a staunch supporter of the ASRS and ASAP voluntary, nonpunitive reporting programs, which have enabled flightcrew members to provide, without fear of retribution, tremendous amounts of detailed information about safety issues.

As the largest, strongest pilots union in the world, ALPA vigorously defends the captain's authority to make safety decisions about operating the aircraft, thus protecting all members of the crew and their passengers.

The ALPA Aeromedical Office helps members with physical and emotional health issues and with airman medical certification issues, dealing directly with the FAA every day.

After an incident or accident, help for ALPA flightcrew members is only a phone call away via the ALPA Worldwide Accident/Incident Hotline, staffed 24/7.

ALPA has played a crucial role in developing and improving AQP and other advances in flight crew training, such as those dealing with windshear, upset recovery, and Line-Oriented Flight Training (LOFT), which make today's airline pilots the best trained ever.

Crew resource management (CRM), developed with strong ALPA support and input, has helped flightcrew members maximize their ability to communicate and work together as a highly effective team. A number of pilots have attributed their escape from a harrowing emergency to good CRM.

The FFDO program, which ALPA got Congress to enact despite tremendous White House opposition, enables qualified, highly trained flightcrew members to carry a firearm to defend the airliner.

Additional ALPA Support For Members:

- HIMS Program for substance abuse
- Critical Incident Response Program for post-traumatic stress
- Legal support in discipline and enforcement cases
- Expert accident investigation teams
- Professional Standards Committees