TAWS TODAY

WHY YOUR CUSTOMER NEEDS TO BE INSTALLING SOONER, NOT LATER

BY GARY PICOU

With the creation of a Homeland Security Department, hiring of a horde of security screeners and the doubly redoubled efforts to prevent terrorist inflicted wounds on people, much of the media has probably missed the FAA and industry's efforts to find and eliminate, "The real killers."

As dramatic and horrific as man-made crashes are, the death toll aboard aircraft is far greater from daily hazards of terrain, weather, and collision. Since the Wright Flyer plopped down into a sand dune in 1903, damaged beyond repair, Controlled Flight Into Terrain (CFIT) has been the leading cause of accidents.

The avionics industry (that would be us, fellow AEA members and associates) has it within our power to reduce CFIT accidents. It's called Terrain Awareness Warning System (TAWS). TAWS will be required for most cabin class turbine aircraft by March of 2005.

But why wait?

We can think of one very important reason to have your customers install a TAWS system in 2003 instead of 2004 and 2005. It can save their lives.

Customers whose last known position is a debris field on the side of a mountain do not make return visits. Heck, they don't pay their bills, either. They are bad for business.

Sadly, the easiest sales tool, safety, is often the hardest one to explain. Like insurance, the only time people are happy to pay for safety is when disaster is staring them in the face.

So we have the intervention of our regulatory body to thank for making us safer. The TAWS mandate will force the customers to buy. But unlike paying your taxes on April 15, there are good reasons NOT to wait until the deadline. The availability factor will probably become the most critical path item.

The laws on TAWS

There are two equipment requirements dictated by the regulations. We'll deal specifically with retrofit, because aircraft manufactured after

CLASS A AND B SUMMARY REQUIREMENTS

TAWS CLASS	OPERATING RULE	PAX SEATS (MIN)	FLTA	PDA	GPWS DO-161A	FMS/RNAV OR GPS	TERRAIN DISPLAY MANDATORY	TERRAIN/ AIRPORT DATABASE
A	121	See Note	YES	YES	1-6	FMS OR GPS	YES	YES
A	135	>9	YES	YES	1-6	GPS	YES	YES
B	135	6-9	YES	YES	1,3,6	GPS	NO	YES
B	91	= or >6	YES	YES	1,3,6	GPS	NO	YES

March 29, 2002 were shipped with TAWS on board.

Operators of any Part 121 aircraft, that uses turbine engines, must have Class A TAWS installed by March 29, 2005.

Part 135 operators, with six to nine seats, are required to have Class B TAWS, while 10 or more seats requires Class A.

For us GA types, part 14 CFR 91. 223 (b) says . . . "Airplanes manufactured on or before March 29, 2002. No person may operate a turbine-powered U.S. registered airplane configured with six or more passenger seats, excluding any pilot seat, after March 29, 2005, unless that airplane is equipped with an approved terrain awareness and warning system, that as a minimum, meets the requirements for Class B equipment in TSO-C151."

In a nutshell, if we are not carrying those souls for hire, we don't need to pony up the extra $50,000 for Class A.

Class distinction

To briefly review, there are two types of TAWS systems in existence. Class A, which was pioneered by Honeywell, as Enhanced Ground Proximity Warning System, or EGPWS, is the top of the line system, interfacing with Airdata, FMS, etc. I/O for an integrated system. Universal Avionics is also a market maker with their TAWS System.

Class B, as provided by Goodrich, is a GPS-based system for general aviation. Consider it compact, but full-featured.

NOTE: There is no seat threshold for part 121. All part 121 airplanes affected by the TAWS rules must install TAWS regardless of number of seats.

The "seat" number is as the aircraft is configured, not certified. What's the difference? The operator may own an airplane that is capable of nine passengers, but the interior cannot seat more than four fat-cat executives. TAWS is not required, but we certainly would want those execs protected, wouldn't we?

Installation availability

FAA records indicate that there are about 10,000 TOTAL aircraft in the category that need TAWS. The avionics shops that have secured STCs and fully tooled up for these installations are less than 10.

If every operator waits until next year to get their installation, they will be lucky to get on the schedule, at any price. Most customers are more comfortable with a shop full of bright eyed and rested workers who are working a routine, instead of 80-hour weeks to get the jobs done on schedule. The FAA is too, carefully monitoring workloads at repair stations to prevent the safety hazards associated with overwork and hurried.

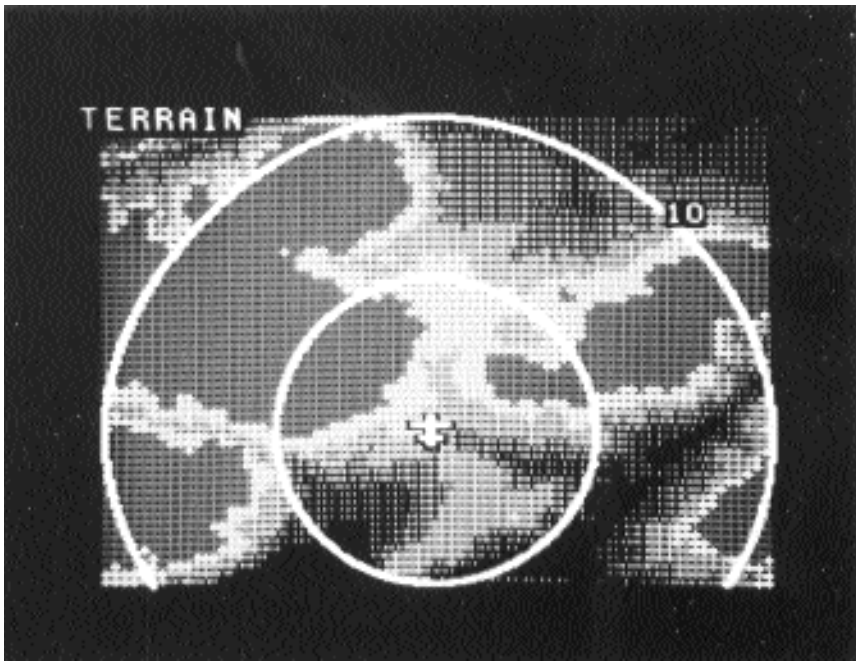
One of the busiest TAWS installers is Elliott Aviation, so they know a thing or two about TAWS. To quote Dan Frahm of Elliott Aviation, "Installation is not just a matter of slam-dunking a box in the aircraft. There is often ship-out work (interface parts and equipment that allow TAWS to communicate with other equipment). For example, symbol generators in EFIS equipped aircraft may have to be shipped to Honeywell for mods. At the 11th hour, they could be swamped, and a five-day installation can expand to 10 days."

Cost benefit

Sometimes we hesitate to buy new technology because we know for certain that the cost will drop and the capability increases just as soon as the check clears. Your customer may be thinking that the TAWS prices will drop as the deadline nears. Is this likely?

The price may come down AFTER the deadline, when there are no more airplanes to retrofit. The price may come down if several more companies enter the market, except for some small details, like the enormous cost involved in development and certifica-

Continued on following page



Goodrich Avionics Systems LandMark TAWS.

Continued from page 31

tion. Like a small market, with a sales curve that will drop off drastically in 2005. Barriers to the business means a new entrant to the TAWS marketplace doesn't make business sense (but then, Aviation doesn't seem to make business sense sometimes).

This is a case where third-party will accept TAWS information, and improvements to the features will continue, but the basic TAWS must be on board.

Class B TAWS, with a cost of less than $20,000, is a good value for the benefit received. Your customer would certainly want to pay top dollar, for any system, at the moment the props slice through the tree-tops.

Maybe an operator is considering a trade in air machines before '05. Talk them into making the TAWS upgrade. The TAWS buying decision isn't like buying new tires before the lease expires on the Lincoln; when faced with two identical aircraft, one with and one without TAWS, the TAWS-equipped aircraft will always be a better value. Who will want an aircraft that will have to be downed for installation in a few months? In addition, potential buyers will be asking themselves, "If they 'deferred' the TAWS, what else have they 'deferred' to cut costs?"

About that extension . . .

Over the years, we have seen many cases of extensions and waivers being granted to aircraft operators. These are to prevent hardship and for the convenience of both the FAA and the operators. Mode S is a good example. The deadline was extended, and waivers are routinely granted to operators who don't see a need to have one of these transponders. It's common sense, because the ground infrastructure isn't in place for much benefit and increase in safety is not an issue.

Do you think that the FAA will be lenient on TAWS? We doubt it. The reason is that TAWS provides a demonstrated increase in safety margin. What person in or out of government would want to be responsible for granting a waiver, and have that airplane involved in a CFIT accident? Who would want that on their conscience, let alone their record? It's like saying that you can wait until later to begin using your seatbelt. Later may be too late.

Summation

As avionics professionals, with a keen interest in providing the best service for our customers, as well as keeping them alive, it is our responsibility to open up the Rolodex and make a few calls. You know who the operators are with more than six seats. We hope that you now understand the importance of front-loading your hangar with TAWS installations.

Perhaps you are hesitant in making those calls because you have never done a TAWS installation? No problem, simply log onto Resource One at www.aea.net, and look up the aircraft type in the database to see who has the installation data available.

Even if you don't feel like tackling an installation, you can always refer them to a fellow AEA member that can. Your customer will be grateful for your assistance. TAWS is one of those things that we can do which will, and has, saved lives. q