

Why Should You Use a DER?

BY GREG WILSON
AVIONICS CERTIFICATION SERVICES

As a pilot, and an FAA Designated Engineering Representative (DER), I am continually monitoring the avionics marketplace to stay in touch with what is happening with the development of new avionics systems and to stay current with regulatory requirements—FAA mandates, Airworthiness Directives, new regulations, the evolving major alterations regulations, the list goes on and on!

With technology expanding at an exponential rate, never before has the pilot had available so many options regarding aircraft alterations. These options often bring with them a more complex decision-making process involving critical time lines and financial considerations. This often results in a situation where the down time for the aircraft alteration becomes even more critical.

The complexity of these decisions ranges from the straightforward, easily defined alteration, to the very complex multi-faceted alteration requiring good planning and coordination to achieve your aircraft alteration plans. Faced with complex equipment upgrade decisions, the owner operator must carefully weigh the costs associated with aircraft down time, and loss of use of the

aircraft during the alteration.

The value of the average aircraft has increased so dramatically over the last several years that many pilots/owners/operators must find ways to minimize the alteration down time and associated costs. The monthly lease costs for an aircraft generally run 1 percent of the aircraft's value per month. This means the costs associated with down time, loss of use, and potential loss of business, works out to be several thousand dollars per week. If an aircraft is purchased that's valued between \$500,000 and \$1.5 million, financed at 7 percent, the per day interest costs alone range between \$55 per day to \$163 per day, not to mention the inconvenience and loss of business because the aircraft is not available.

During the alteration, the aircraft is down anywhere from a few days to weeks, depending on the alteration. The shop develops the major alteration field approval package (typically a 337), contacts their local Flight Standards District Office (FSDO) to coordinate the FSDO signing-off on the alteration and returning the aircraft to service. Unfortunately the FSDO has limited resources, and all too often this can mean delays in returning the aircraft to service.

One solution to this costly situation is for the shops to use the services of an FAA DER to review and approve the installation design data. Many shops complain that DERs are too expensive, driving up the cost of the installation and putting the shop in a non-competitive position. If one objectively weighs the cost of a DER against the extra days of down time, it quickly becomes clear that the cost effective approach would be to utilize a DER. Additionally, FAA DERs can often mitigate potential problems before these problems surface and delay approval of the installation. Depending on the alteration, the DER can approve most, if not all, of the substantiating data, and the alteration facility can return the aircraft to service.

You as an owner/operator should consider this the next time you take your aircraft to the shop. As part of the transaction you might want to encourage the shop to use an FAA DER. Run the numbers yourself and think about the loss of use and potential loss of business. I think you will quickly see that it makes a lot of sense to use FAA DERs to reduce the down time of your aircraft. ■