



Flight Data Monitoring

One of the benefits of so-called glass cockpit avionics is that a tremendous amount of the information we generate can be digitally captured and recorded. Flight Data Monitoring (FDM) systems make it infinitely easy to collect and allow both you and the computer to monitor information in real time and review it more carefully after the fact.

The FDM dataset can include anything from a simple smartphone-generated flight track to a complete avionics record that provides everything from engine parameters to control surface deflections. While GA aircraft don't use the same sophisticated data recorders most air carriers have, many modern

avionics systems can offer something pretty close for our purposes. This capability can be really useful both for piloting and for monitoring the health and well-being of your aircraft. Here's how.

Pilots can use online programs, apps, and tools that allow you to overlay your personal flight data on a sectional, instrument, or approach chart. This technique provides a clear picture of how precisely you flew the planned track, or how well you tracked the localizer and/or glideslope on an instrument approach. It also lets you see how well you did during the en route phase with such tasks as holding altitude or heading, following noise abatement procedures, proficiency work (e.g., stall recovery practice), or flying a proper traffic pattern. By comparing your actual performance with the ideal values depicted on the chart or flight plan, you can pinpoint specific areas for improvement in your practice sessions, both with and without an instructor. In training, a CFI can use FDM readouts to make debriefs more interactive and more accurate, as well as to identify areas for additional explanation, practice, or emphasis.

As noted, FDM can also provide extremely helpful data on

the health and well-being of your aircraft. With FDM you can see what every parameter is doing, and see how it compares with other parameters throughout the flight. You can analyze the meaning of the various readings and trends, and plot key parameters in a time series over multiple flights or years. This kind of information can save you a lot of money, and it can give your AMT a head start on identifying and fixing the real issue. Less trial-and-error translates pretty quickly to lower shop bills.

Here's the bottom line: Information is a powerful tool. FDM can help you identify ways to be a better pilot, and show you ways to improve the mechanical condition of your airplane. Use it!

