

normal operation.

Automation Management

Automation management is the control and navigation of an aircraft by means of the automated systems installed in the aircraft. One of the most important concepts of automation management is simply knowing when to use it and when not to.

Ideally, a pilot first learns to perform practical test standard (PTS) maneuvers and procedures in the aircraft manually, or hand flying. After successfully demonstrating proficiency in the basic maneuvers, the pilot is then introduced to the available automation and/or the autopilot. Obviously, in some aircraft, not all automated systems may be disengaged for basic flight. The purpose of basic flight without automation is to ensure the pilot can hand fly the maneuver when necessary.

Advanced avionics offer multiple levels of automation, from strictly manual flight to highly automated flight. No one level of automation is appropriate for all flight situations, but to avoid potentially dangerous distractions when flying with advanced avionics, the pilot must know how to manage the course indicator, the navigation source, and the autopilot. It is important for a pilot to know the peculiarities of the particular automated system in use. This ensures the pilot knows what to expect, how to monitor for proper operation, and promptly take appropriate action if the system does not perform as expected.

At the most basic level, managing the autopilot means knowing at all times which modes are engaged and which modes are armed to engage. The pilot needs to verify that armed functions (e.g., navigation tracking or altitude capture) engage at the appropriate time. Automation management is a good place to practice the callout technique, especially after arming the system to make a change in course or altitude. Callouts are verbalizations of particular flight guidance automation mode changes. In an attempt to reduce the risk for mode confusion some operators have required flight crews to callout all flight guidance automation mode changes as a means of forcing pilots to monitor the Flight Mode Annunciator (FMA).

Chapter Summary

This chapter focused on aeronautical decision-making, which includes SRM training, risk management, workload or task management, SA, CFIT awareness, and automation management. Factors affecting a helicopter pilot's ability to make safe aeronautical decisions were also discussed. The importance of learning how to be aware of potential risks in flying, how to clearly identify those risks, and how to manage them successfully were also explored.