What is an AD?.

AD stands for Airworthiness Directive. The AD is the most serious airworthiness maintenance document. An AD is issued by the FAA when a dangerous situation has developed with a component or system within the aircraft that could cause the loss of life. These can be identified by an accumulation of service difficulty reports filed by mechanics and repair stations, or by the manufacturer after observing a failure rate that is indicative of problems.

ADs have many different requirements such as time by date requirements, time by aircraft hours requirements, time by component/part in service requirements, number of cycles, an inordinate number of failures or the need for premature overhaul/service. The AD may allow time for the aircraft to operate before compliance is required, or it could require that the aircraft be grounded immediately. ADs can be placed on the engine or the airframe and are applied to an aircraft by model and serial number.

Some ADs can be complied with by inspection and some are complied with by removing a part/component from service and replacing it with an approved part/component. An AD issued by the FAA usually has the support of the aircraft manufacturer of the part/component or the manufacturer can create the AD through an application to the FAA.

An AD contains an identification of the aircraft by model and serial number while an identification of the part or component is done by the part number and/or drawing which is often referenced in the service or parts manual for the aircraft. The AD outlines what to look for, what form of tests are required for the inspection, and the approved method of complying. An alternative method of compliance can be petitioned from the FAA and eventually approved for the fleet.

Older aircraft can have numerous ADs and verifying compliance can be tedious. Logbook entries are notoriously scant on information and tracking down the compliance of multiple or repetitive ADs is difficult. The AD search is a primary item to review when buying a new aircraft.