

DUNCAN INTELLIGENCE

Unforgettable People—Legendary Service • Edited by Joe Austin • Winter 2000

Is Your Autopilot Developing A Mind Of Its Own?

Just as we need our sense of sight to fly an aircraft, an autopilot needs to know what attitude the aircraft is at and the rate of change in attitude to compute a proper response. The vertical gyro acts as the “eyes” of the autopilot. If this information is missing, the autopilot will give a “hard-over” response in whatever direction drive is required. If the gyro is sluggish or slow, the rate information will not be correct for the autopilot and the result will be wing-rock or pitch porpoise. This symptom is usually fairly slow and constant. The attitude information is electrically picked off slip rings in the gyro by brushes. If the contact between brush and slip ring becomes intermittent due to tension or resistive contact, the autopilot interprets this as change in attitude and attempts to respond accordingly, resulting in jittery or rapid oscillation. Depending on the gyro installed there may also be Service Bulletins addressing this problem.

For more info, contact Larry Troyer in LNK at 800.223.4277, E-mail Larry at larry_troyer@duncanaviation.com or contact Pete Kilmartin in BTL at 800.525.2376, E-mail Pete at pete_kilmartin@duncanaviation.com

Check Your Start Fuel Nozzle

If your Hamilton-Sundstrand APU won't start, one of the first things to check is the start fuel nozzle. Refer to maintenance manual for procedure.

Pressurization System Squawks

In the past few months, we have seen an increase in pressurization squawks from customers. Cessna designed the pressurization system to supply a constant supply of air, then regulate the outgoing air to provide the required amount of pressurization. All Citation models have an in-flight check that can be performed with just a few steps and switch positions. The problem has often been traced to the incoming air system, the outflow system or an excessive cabin leak rate. Doing the few steps that are listed in the maintenance manual will only detect that there is a problem, further troubleshooting may be required to determine the defective component. Call us for the specific steps for your model of aircraft.

For more info, contact Joe Austin in BTL at 800.525.2376, E-mail Joe at joe_austin@duncanaviation.com or contact Ed Johnson in LNK at 800.223.4277, E-mail Ed at ed_johnson@duncanaviation.com

Pratt & Whitney 545A Engine Bulletin

Pratt & Whitney released bulletin # 30101R1 in November requiring the P3 bellows to be changed every 600 hours. Rupture of the bellows indicates a sudden change in ITT. Three bellows are required per engine.

Freon System Upgrades

Most Citations have freon air conditioning systems installed as factory options or an after market installation. Unless your system was installed in the last two years, it probably uses R-12 freon. Fort Worth Airworks has developed a kit that upgrades your system to R-134a freon. The kit also works with a Keith Products installation with a few extra components. No structural work is required. Upgrading is desirable because of future difficulty in acquiring R-12.

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Minimum Equipment List

FAR 91.213 states that no person may take off in an aircraft (turbine-powered) with inoperative instruments or equipment installed unless you have an approved Minimum Equipment List (MEL). All “equipment” can mean things as minor as a reading light in the cabin or a broken static wick. Master Citation MELs can be downloaded off the Internet at www.faa.gov/fsdo/btr/mmel1. A MEL must also have a “Letter of Approval” from your local District office to be in complete compliance. These two items must be kept on your aircraft during operation.

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AVIATION



For Citation technical info, we have the experts. Our Citation Team consists of tech reps and technicians with experience in airframe/engine, interior/exterior completions, avionics installations, component repair and parts.

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