

Beechcraft SERVICE LETTER

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IMPORTANCE OF COMPLYING WITH BRITAIN SERVICE BULLETIN A-003.

MODELS AFFECTED: All Model 23, A23, 35-33, 35-A33, 35-B33, 35-C33, 35, A35, B35, C35, D35, E35, F35, G35, H35, J35, K35, M35, N35, P35, S35, 95-55, 95-A55, 95-B55, 95, B95, B95A and D95A airplanes equipped with BEECHCRAFT New-Matic Autopilot.

Are you having autopilot difficulties? Does your autopilot fail to hold a heading or does it overshoot the omni heading or perhaps porpose on pitch axis? These actions are disconcerting to say the least. They are not, however, the results of a major autopilot malfunction.

Brittain Industries, Inc., has issued Service Bulletin A-003 dated 11-19-64 which suggests taping of servo piston seals to prevent leakage around the pneumatic servo seal to cylinder mating surface.

Recent field experience points out the need for compliance with this bulletin now that cold weather has arrived. The neoprene material of the seal tends to cold flow and seal leakage follows. On several airplanes it was found that mechanics attempted to adjust autopilot

components when flight difficulties were encountered without much success and in some cases components have been changed. On taping of seals and readjustment of the autopilot, operation was found to be excellent.

We strongly suggest that Brittain Service Bulletin A-003 be complied with immediately to preclude the possibility of autopilot malfunctioning due to seal leakage.

In troubleshooting an autopilot it is necessary that a particular sequence be followed in order to cut down troubleshooting time and to correct trouble rather than to compensate for it. The following sequence of steps should be used in troubleshooting all reported malfunctions:

TROUBLESHOOTING

I. Ground Checks

A. Pneumatic System

1. Check systems for leaks and if any leaks are found, fix them before proceeding with any additional checks.
2. Connect vacuum source and check vacuum pressures.
3. Check shunt valve for pneumatic center.
4. Check main sleeve valve for pneumatic center.
5. Check pitch control for center, first without altitude hold and then with altitude hold.
6. Check "V" adjustment.

B. Electro-Pneumatic System

1. Bench check amplifier with TS-105 test unit.
2. Install amplifier and recheck electrical centering of turn balance control.
3. Check heading sensor and zero heading adjust.
4. Check "Nav-Sens".

THE OPERATION, CARE AND MAINTENANCE OF AN AIRPLANE IS THE OWNERS RESPONSIBILITY. AS CONDITIONS WARRANT, BEECH AIRCRAFT CORPORATION ISSUES SERVICE BULLETINS AND SERVICE LETTERS RECOMMENDING MODIFICATIONS AND OPERATIONAL PROCEDURES TO ENABLE THE OWNER TO GET THE MAXIMUM UTILITY AND SAFETY FROM HIS AIRPLANE.

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II. Flight Check Adjustment

- A. Check turn angle for 15 to 18 degrees.
- B. Check decay rate adjustment.
- C. Check autopilot for normal operation on all models.

NOTE (For Pilot's)

It is very important on turning off the autopilot that ALL sections of the autopilot be shut off:

1. Disengage altitude hold by pushing altitude hold knob "in".
2. Turn off electrical system by rotating mode selector knob to "Off" position.
3. Turn off pneumatic system by pushing autopilot knob "in".