

Gates Learjet 35 and 36 Series Aeroplanes

---

**AD/LEARJET 35/15**

**Automatic Flight Control  
Systems - Inspection and Modification**

**9/80**

Applicability: All models 35, 36, 35A, 36A with S/Nos. 35-001 and subsequent and 36-001 and subsequent.

Requirement: Conduct the following inspections to assure capability of manually overriding the Automatic Flight Control Systems:

1. Energize the aircraft electrical system by applying 28 VDC electrical power.
2. Roll Axis
  - (a) On aircraft equipped with FC-110 autopilot, remove the electrical power from the FC-110 Autopilot Computer. Open the computer and identify the Roll Calibration Board. On the Roll Calibration Board, temporarily install, in parallel with R18 (82 ohm) resistor, a 39 ohm, one watt resistor. Restore the electrical power and engage the autopilot with the control wheel centered and verify that the roll slip clutch breakaway occurs by rotating the control wheel briskly (45 degrees per second) in both directions. If slippage is not verified, remove the capstan and adjust to proper torque per the appropriate Gates Learjet Service Manual. Return Autopilot Computer to original configuration and accomplish a functional check of the autopilot.
  - (b) On aircraft Models 35, 35A, 36 and 36A, conduct the following inspection of the FC-200 autopilot roll axis to assure capability of manually overriding that axis of Automatic Flight Control Systems:

Check and adjust the roll capstan slip clutch for proper torque in accordance with the appropriate Gates Learjet Service Manual.

3. Yaw Axis

Effective on all models:

Check and adjust the yaw capstan slip clutch torque (primary and secondary where applicable) in accordance with the appropriate Gates Learjet Service Manual.

4. Pitch Axis

Effective on Models 35, 35A, 36 and 36A aircraft and aircraft incorporating Gates Learjet Kits AAK 71-12 or AMK 80-3 (torquers):

With the autopilot disengaged, turn on both stall warning switches and move the control wheel forward and aft at a rapid rate (one second - stop to stop). Note the drag associated with control movement. Turn off the stall warning switches and repeat the rapid fore and aft movement. Note the decrease in drag, which is an indication that the electric disconnect clutch functions properly by disconnecting the drag of the pitch servo (torquer) from the control system.

SCHEDULE OF AIRWORTHINESS DIRECTIVES

5. Submit a major defect report (MDR) to the local Airworthiness office if any out of tolerance of roll, yaw or pitch axis capstan slip torque is evident.
6. To assure proper operation of the Stall Warning Accelerometer Unit, perform an inspection of the Stall Warning Accelerometer in accordance with appropriate Gates Learjet Service Bulletin SB 35, 36-27-12.
7. Submit a major defect report (MDR) to the local Airworthiness office if any discrepancy is discovered during the paragraph 6 inspection.

Compliance: Paras. 2a, 3, 4 & 6 - Within 50 hours time in service after 25 August 1980.

Para. 2(b) - Within 100 hours time in service after 25 Aug. 1980.

Background: In conjunction with the Gates Learjet Corporation, the Federal Aviation Administration is currently in the process of a review of the adequacy of the certification basis of Lear aircraft, including the adequacy of the certification rules applicable to these type aircraft. While this review is still in its initial stages, preliminary information developed as a result of joint FAA and Gates Learjet Corporation flight evaluations has evidenced characteristics of these aircraft at the limits of their operating envelope which in combination with presently approved operating procedures could adversely affect safety of flight. In light of the foregoing, immediate adoption and effectiveness of this AD is necessary to assure safe operation of the affected aircraft.

This AD has been formulated from the FAA produced directive.

The Flight manual amendments specified in the FAA Directive have been actioned separately.

FAA have requested details of any discrepancies found during the inspections hence the request for MDRs to be submitted. The MDRs will be collated by this Department and forwarded to the FAA.