

Tay 611-8C EEC Software Upgrade Program

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Revision made on 12/16/09, 16:11

The fleet retrofit to version T5.1 software is progressing rapidly. Despite some early delays due to administrative issues we are pleased to advise that over 75% of the fleet have now been upgraded. The incorporation of this change was via Rolls-Royce Service Bulletin Tay 73-1738 which introduced software to T5.1 standard and the program for incorporation was launched at the end of 2008. This version corrects various misleading maintenance messages and some nuisance messages and the details of the changes can be found on the website under G450/EIS Updates/“EEC T5.0 Software Improvements”.

An anomaly of T5.1 has been observed on a few aircraft in which operators may inadvertently induce red indications on the engine instruments and the flight controls synoptic page while operating the thrust reversers. The thrust reversers will continue to operate as commanded but the affected engine will be limited to idle forward thrust when stowed. This happens during ground operations only and typically appears during taxi when the T/R is being used to reduce taxi speed

Detail:

The red “REV” indication (see figure 1) on the LP RPM Gauge and a flashing “red reverser” (see figure 2) indication on the Flight Controls Synoptic (with no associated CAS message) may occur if the following two conditions in combination are met:

- Repeated deployment of the reversers in succession (deploy - stow - deploy) (see figure 3) with less than ten (10) seconds pause between the end of the “stow” and the start of the “deploy” cycle.
- Delay in the movement of the thrust reverser levers between the “stow” and “deploy” positions.

When this condition is encountered, idle to maximum reverse thrust is available but forward thrust is limited to idle power only.

The EEC believes it has detected a T/R inadvertent deploy due to a subtle difference in timing between the EEC and TRCU. The timing is unique to T5.1 software due to the use of microswitches in the TQA to initiate the deploy signal to the EEC. The condition

always allows continued use of the T/R's, but the affected engine is limited to idle thrust as a precaution against the hazardous condition it believes exists.

Gulfstream and Rolls-Royce are working on a permanent solution, but in the interim the following operational guidance is offered. When using the reversers during taxi to regulate taxi speed or when using the reversers to decelerate after landing, the movement of the reverse levers from forward thrust to the idle reverse detent or higher and back to forward thrust should be a crisp movement of the levers. Do not delay in either direction when moving the thrust reverse levers between stow and deploy positions. Intentionally delay approximately 10 seconds between thrust reverser “stow” command and the next “deploy” command.

Should the red “REV” icon in the LP RPM gauge and flashing “red reverser” indication on the Flight Controls Synoptic occur, the corrective action is to shut down the engine and to restart it. Once running, perform a normal thrust reverser check on the affected engine.

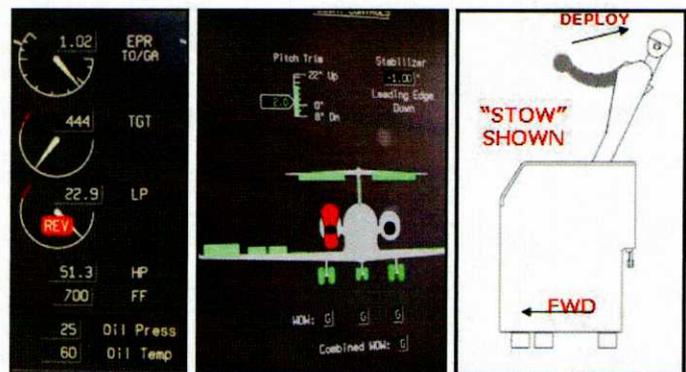


Figure 1

Figure 2

Figure 3