

## GII™- G550™ (ATA 27): FOD Prevents Flaps from Retracting to Full Up Position

By Customer Support Large-Cabin Mechanical Systems Group

When a flight crew selected the Flap Handle to the Up position, the flaps retracted, but stopped short of full up. The amber "Flaps Failed" Crew Alerting System (CAS) message and the blue "Flap/Stab Maint Req'd" CAS message then displayed.

The crew selected flaps to 10 degrees, the flaps responded to the commanded setting, and the CAS messages extinguished. The handle was again selected to Up, but when the flaps approached full up, they stopped and the CAS messages displayed again. At that point, the flight crew requested assistance in solving the issue.

Resetting the Flap/Stab Electronic Control Unit (FSECU) did not resolve the issue. The crew was advised that something mechanical was probably causing the issue and had to be investigated. The flight crew elected to continue on to a scheduled destination that was close to a Gulfstream Service Center.

A conference call was held with the operator's Director of Maintenance, their area Field Service Representative (FSR), and the local FSR where the aircraft was going to be landing. After learning that maintenance had been done on the aircraft prior to the flight, including flap actuator lubrication, it was surmised that maybe some type of Foreign Object Debris (FOD) could be causing the issue. It did not appear to be a system issue, since the flaps would work in all other settings. The local FSR was asked to meet the aircraft to inspect the flaps for possible FOD issues before committing to send a Maintenance Repair Team.

When the FSR arrived at the airport, the aircraft was already parked. He and the pilot inspected the flaps and found a piece of FOD inside the left flap "A" track well (see photograph). The FOD was removed, and the flaps were restored to normal operation with no CAS messages noted. The aircraft then continued on with the remainder of its missions. →



**FOD in the left Flap A Track prevented full up operation.**

## GIV™ /G300™ /G400™ (ATA 76): Left Engine Idle Is Erratic

By Denny George, Customer Support Large-Cabin Mechanical Systems Group

A GIV operator contacted Technical Operations with the following issue: After several flights, the left engine idle was erratic – between 49.2% and 51.3% HP RPM. The limit for the TAY 611-8 is 48.0% to 49.0% HP RPM. All other engine functions were within normal limits, and flight and approach idle readings were within limits.

After reviewing the information provided by the operator, it was recommended to complete a ground run to verify the issue with the left engine. The left engine ground idle was checked per Aircraft Maintenance Manual (AMM) 71-00-00 Engine Operational Test, Step B. (18). The initial idle reading was 47.8% HP RPM; after warming the engine and following procedures, stabilized idle was recorded at 49.9% HP RPM. The flight and approach idle readings were checked per AMM 73-02-00. No defects were noted, other than ground idle staying above 49.0% HP RPM. The decision was made to adjust the ground idle within established limits and perform a functional check flight. The ground idle adjuster was turned ¼-turn counterclockwise to achieve 48.6% HP RPM.

After the functional check flight, the ground idle was fluctuating between 49.2% and 51.6% HP RPM. Prior to making any further adjustments or changing parts, the engine rigging was verified. During this investigation, each time the throttle was brought back to idle (slowly or with force), the idle rig pin slotted arm at the Fuel Flow Regulator (see photo below for rig point no. 9) did not always line up cleanly with the rig pin hole. *Continued*