

CASE STUDY 5

WINGLETS AND LOW POWER APPROACHES

EVENT

FDS were asked by one customer to investigate a case where action taken to reduce fuel consumption had led to an unexpected change in flight characteristics on the approach to landing.

The customer advised FDS they had experienced a high number of “Low Power on Approach” events for their aircraft.

INVESTIGATION

FDS identified that occurrences of this event varied significantly by aircraft. When FDS plotted data for aircraft with winglets against similar aircraft (within the fleet) without the cause became obvious.

FDS’ comparison chart below shows that the event rate for the aircraft with winglets was over twice as high as the event rate for aircraft without winglets.

FDS also discovered that the “Speedbrake in Approach” event occurred over three times as often on aircraft with winglets compared to those without.

SOLUTION/CONCLUSION

It is common knowledge that winglets reduce drag and save fuel, but FDS believe their effect on speed control may previously have been underestimated. Proactive use of FDM raises awareness of the impact that reduced drag has on speed control.