

5/9/2018

**FOR YOUR INFORMATION**

2018-77/3-9

1531071

To: Boeing Commercial Airplane Company

Info: FAA (AVP-1, AVP-200, AFS-200, AFS-280, AFS-900, ANM-100, SEA-ACO, SEA-AEG, AQS-230), A4A, AFA, ALPA, AMFA, APFA, ASAP, ATSG, CAPA, IAM, IBT, ICAO, ICASS, IFALPA, NTSB, PAMA, SWAPA, TWU

From: Becky L. Hooey, Director (Acting)  
NASA Aviation Safety Reporting System

Re: B737NG Throttle Sensitivity

We recently received an ASRS report describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the enclosed deidentified report.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dennis Doyle at (408) 541-2831 or email at [dennis.j.doyle@nasa.gov](mailto:dennis.j.doyle@nasa.gov)



Aviation Safety Reporting System  
P.O. Box 189 | Moffett Field, CA | 94035-0189



**ACN: 1531071**

**Time**

Date: 201803

Local Time Of Day: 1201-1800

**Place**

Locale Reference.Airport: ZZZZ.Airport

State Reference: FO

Altitude.AGL.Single Value: 0

**Environment**

Flight Conditions: VMC

**Aircraft 1**

ATC / Advisory.Tower: ZZZZ

Make Model Name: B737-800

**Component 1**

Aircraft Component: Throttle/Power Lever

**Person 1**

Function.Flight Crew: First Officer

Function.Flight Crew: Pilot Flying

ASRS Report Number: 1531071

**Events**

Anomaly.Aircraft Equipment Problem: Less Severe

Anomaly.Deviation - Procedural: Published Material / Policy

Detector.Person: Flight Crew

Result.General: None Reported / Taken

**Narrative 1**

Upon touchdown in the B737NG-800, it has been observed on more than one occasion that it is very easy to inadvertently nudge the throttles forward, out of idle, as the Pilot Flying (PF) reaches down to grab the reverse thrust levers. This can, and will cause the speed brake lever to move to the DOWN position, stowing the speed brakes, and locking out the reverse thrust levers from movement given the current aircraft logic sensing that the PF may intend to go-around. However, if the throttle movement out of idle was inadvertent and no go-around is intended, this situation has the combined negative effect of taking weight off the landing gear, reducing drag, and preventing the reverse thrust system from operating, resulting in less effective aircraft braking and increased landing distance.

Additionally, an inadvertent and virtually imperceptible nudge of the throttles out of idle upon landing is now an aircraft condition not detected by either the PF or Pilot Monitoring (PM) until either the speed brake lever moves to the DOWN position, or the reverse thrust levers will not move. The time that passes to recognize this unforeseen aircraft condition can cause several hundred or even a thousand or more feet of runway to be lost as the PF and PM detect the unanticipated aircraft configuration and initiate the corrected response to move the throttles back to idle, redeploy the speed brake lever back to the UP position, and re-acquire the reverse thrust levers and pull them to deploy the reverse thrust system. Several hundred, or even a thousand or more feet of runway landing distance can be critical at many of the airports and in many of the environmental conditions we fly into.

The force needed to inadvertently move the throttles out of idle upon touchdown is so small that it is easily undetectable by the PF. As the PF slides or moves the hand downward on the throttles toward the reverse thrust levers to grab and pull them, an inadvertent and very small force can be applied to the reverse thrust levers themselves or some other part of the throttle quadrant, moving it out of idle. The distance or throw needed to move the throttles out of idle causing this undesirable aircraft condition is very small. I would estimate .5 - 1 inch. This small distance, and the small force needed to cause the movement, is hard to detect contributing to the difficulty of immediately recognizing the aircraft's undesirable state.

In summary, the reason this event occurred on this flight and on other flights (observed by me happening to other crewmembers while I sat in the FO seat and in the jumpseat), is due to an aircraft deficiency. This deficiency can be compensated for by an aware PF, but can also be easily fixed by a modification to the aircraft's go-around logic.

Recommendations: Change the go-around logic in the B737 that moves the speed brake lever to the DOWN position and locks out reverse thrust lever movement, from throttle position "both thrust levers are retarded to IDLE", to 'both thrust levers are more than 33 degrees.' This would eliminate go-around logic activation for small, inadvertent movement of the throttles out of idle, as a greater throw of the throttles would be required for go-around logic to be employed. Add a note or caution in the LANDING section of the B737 Operating Manual to advise pilots of this possibility, and offer prevention techniques to minimize its occurrence. Adopting these recommendations may prevent a runway overshoot in the future.

### **Callback 1**

The reporter stated that this happened to him and has seen it several times, the inadvertent throttle movement during landing when reaching for the reverser handle. The reporter stated that during final approach, and just touching down, the go-around logic is that if the throttles are moved out of idle detent. Aircraft thinks the pilot intends to go-around and therefore spoilers will retract, the reversers will be locked out, the air/ground switch is still in air mode, (due to the spoilers retracting), and so the aircraft thinks it's still flying. The reporter stated that it becomes very chaotic until you realize what is actually happening. The reporter also stated that you start running out of runway very quickly.

The reporter stated that if the go-around logic was changed to, instead of just throttle movement, to throttle movement of more than 33 degrees to determine a go-around was intended, this would mitigate this inadvertent throttle movement issue. The reporter also stated that it would be helpful if the Flight Manual had information of the potential inadvertent throttle movement and a procedure to deal with it.

### **Synopsis**

B737-800 First Officer reported it is very easy to inadvertently nudge the throttles forward, out of idle, during landing causing the spoilers and reversers not to operate normally.