Synopsis

On 21 April 2017, a Boeing 777 took off from Amsterdam Airport Schiphol in the Netherlands. During the initial climb, the flight crew was informed by Air Traffic Control that probably a tail strike had occurred. The crew decided to treat the event as an actual tail strike and returned to Schiphol. After landing, it appeared that a tail strike had occurred, but that the wear of the tail skid shoe was within limits and no immediate repair was necessary.

At an early stage of the investigation, it was found that an incorrect weight had been entered in the Electronic Flight Bag[3] and that insufficiently applied takeoff power (referred to as thrust setting) probably had caused the tail strike. The Dutch Safety Board (DSB) investigated similar occurrences of insufficient thrust settings in the past and recommended European Union Aviation Safety Agency (EASA) in 2018[4] among others to start the development of specifications and the establishment of requirements for an autonomous Takeoff Performance Monitoring System.

Takeoff performance related occurrences have been taking place for many years.[5] Although most of these occurrences had no serious consequences for the involved passengers or the aeroplane, almost all of them had the potential for a catastrophic accident if the available runway length was only marginally shorter or in combination with an engine failure. The serious incident described in this report is a further example of this global problem. Airlines have made efforts to improve operational procedures for reduced thrust takeoffs in an effort to reduce the number of occurrences. These efforts, however, have not resulted in the necessary reduction of the number of incidents worldwide.

The investigation into this serious incident answers the following two questions: What caused the tail strike? What are the latest global developments regarding measures taken to reduce the number of takeoff performance related occurrences?