

# The Dutch Safety Board

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**Occurrence #:** 2004172 **Classification:** Serious incident

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## FACTUAL INFORMATION

Date of the occurrence:	18-09-2004	POB flight crew:	2
Place of occurrence:	Amsterdam Airport Schiphol	Flight experience captain:	1340 hours of which
Aircraft registration:	G- BMDK		513 hours on type
Aircraft model:	Piper PA-34 Seneca	POB passengers:	None
Type of aircraft:	Twin engine propeller aircraft	Injuries:	None
Type of flight:	Freight operation	Lighting conditions:	Daylight
Phase of operation:	Taxi		
Damage:	Substantial		

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## The flight and the occurrence

After the aircraft (PA-34) had landed on runway 22, the crew obtained clearance from the ground controller to taxi to the R-apron on the southwestern part of Amsterdam Airport Schiphol (See map on page 3). On this platform a Boeing 747 (B747) was parked for which a spare part was on board the PA-34. After the PA-34 had vacated runway 22 halfway to the left side, the PA-34 had to taxi via taxiway G to cross runway 22 as well as runway 18L, after which it had to taxi via taxiway E1 closely behind the beginning of runway 24. The PA-34 then had to continue via taxiway A - parallel to runway 24 - to the R-apron. Runway 24 was one of the take-off runways through which several aircraft were waiting at the beginning of runway 24 for take-off clearance. The PA-34 was guided by the ground controller to the R-apron. Taxiing aircraft on Amsterdam Airport Schiphol normally follow standard taxi routes. After vacating runway 22, the crew received clearance to cross runways 22 and 18L, by which the ground controller also issued a warning about 'jet blast'.<sup>1)</sup> On taxiway S7 a B747 was waiting for clearance to line up on runway 24; behind it was a Boeing 737 (B737).



*Damage to the right-hand engine propeller blades*



*Damage to the right-hand wingtip*

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<sup>1)</sup> Strong exhaust air from jet engines.

In consultation with the ground controller the tower controller requested the crew of the B737 to move a bit forward in order to make more clearance for the PA-34. The PA-34 then received permission to pass behind the B737 and in front of an Airbus A320. While the PA-34 continued taxiing both the B747 as well as the B737 received clearance to line up in sequence on runway 24. When the PA-34 passed behind the B737 it was struck by 'jet blast' from the B737. As a consequence the right-hand wingtip and the right-hand propeller of the PA-34 touched the ground which caused substantial damage to the PA-34.

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## Investigation & Analysis

The ground controller is responsible for traffic control on the aprons and the taxiways. One of his tasks is to issue taxi instructions. When necessary the ground controller will give instructions to avoid collisions between aircraft. In the document "tasks and responsibilities – ground controller" no guidance is provided how to deal with the prevention of problems with 'jet blast'.

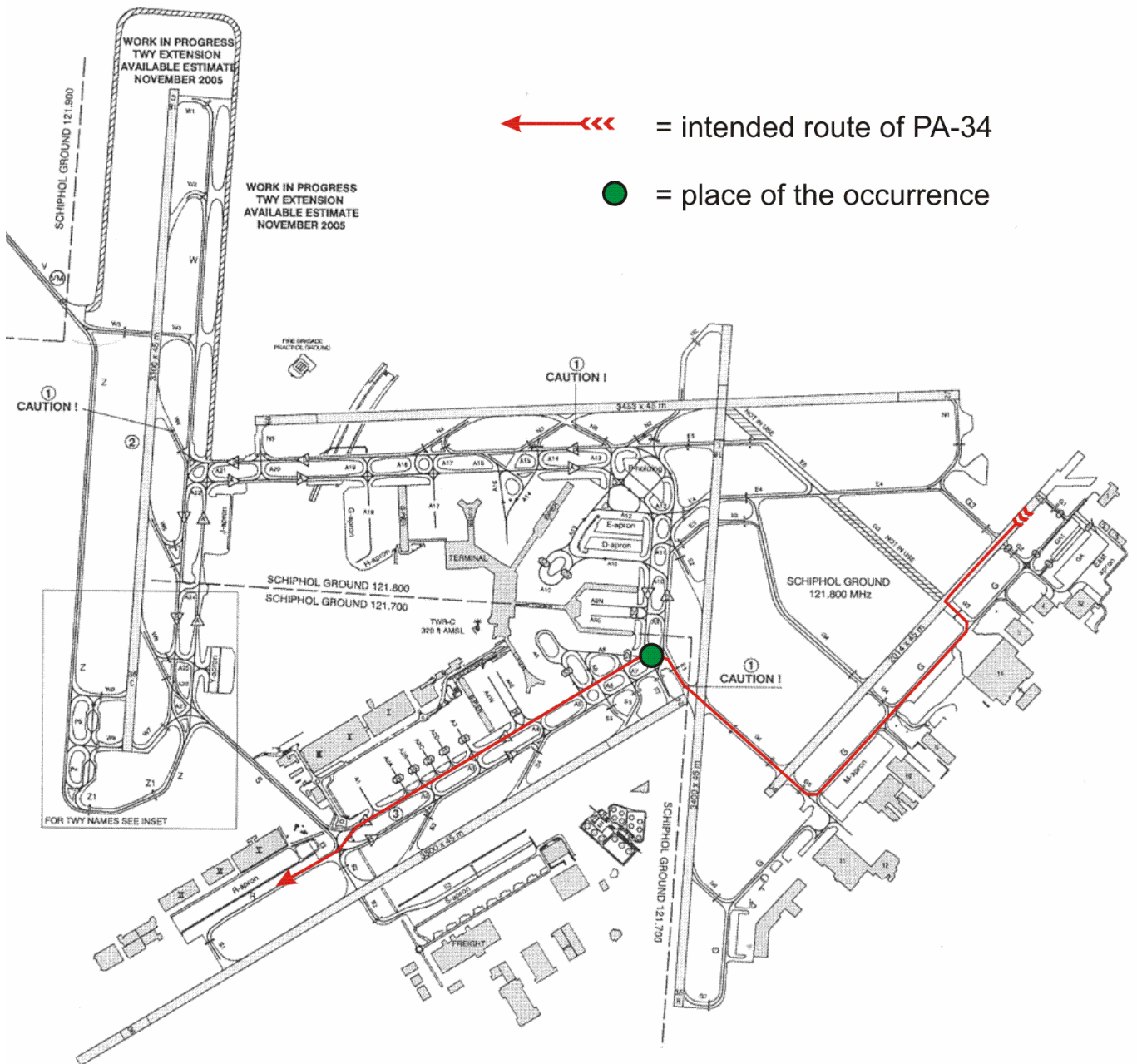
While the PA-34 was taxiing, the tower controller kept the B747 waiting for line up on taxiway S7 to avoid 'jet blast' to the PA-34 when it should pass the beginning of runway 24. At the same time the ground controller issued a warning regarding 'jet blast' to the crew of the PA-34.

After the B737 was asked to move forward towards the preceding B747 to make clearance for the PA-34, the B737 made a (non standard) turn: first towards taxiway E1 and then back to the beginning of runway 24. After the crew of the PA-34 received permission to taxi behind the B737 and in front of the Airbus 320, the crew of the PA-34 stopped short and subsequently deviated from the yellow taxiway centerline in order to create more clearance between the PA-34 and the B737. The PA-34 was then struck by the 'jet blast' from the B737 and according to the crew of the PA-34 possibly also by 'jet blast' from the B747. Both the B747 as well as the B737 had just received clearance (from the tower controller) to line up on runway 24 in sequence and increased thrust on their engines.

Clearance was created by the ground controller for the PA-34 to pass between the waiting aircraft, but the judgment if this passage was possible from a 'jet blast' point of view was left to the crew of the PA-34. Apparently the crew of the PA-34 assumed that permission to continue taxiing between the waiting aircraft also implemented a safe guard against 'jet blast', which – in view of the limited clearance for passage – might be regarded as an underestimation of 'jet blast'.

Possibly the damage to the PA-34 due to the 'jet blast' was also caused by the non standard turn of the B737 while moving up in order to make clearance for the PA-34. Apparently the crew of the B737 did not feel comfortable so close to and directly behind the B747. By making the turn the B737 took a position slightly to the side of the B747. Although the crew of the B737 was informed that a light aircraft would pass behind (and this was confirmed by the crew) this was insufficiently taken into account when selecting more thrust.

From the data which was provided to Air Traffic Control the Netherlands (LVNL) by Amsterdam Airport Schiphol (AAS) it appeared that the PA-34 would be parked on the General Aviation K-platform of Schiphol-East; that's why runway 22 was assigned for landing. General aviation traffic is normally planned on the K-platform. In the case under consideration the company who dispatched the flight had not informed AAS that the aircraft had to deliver a part on the R-platform. If AAS had been informed about this, another runway for landing could have been assigned in cooperation with LVNL. After the PA-34 had vacated runway 22 the crew requested to proceed to the R-platform with regard to the deliverance of a package. By then the ground controller could only honor the request by providing guidance to the R-platform. This explains the long taxi route that was traveled by the PA-34.



Note: This report has been published in English and Dutch language. If there are differences in interpretation the Dutch text prevails.