



NTSB MEMORANDUM FOR RECORD

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National Transportation Safety Board

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Summary of downloaded Garmin G3000 data and runway markings
NTSB Accident Number: ERA21LA065

The following information was gathered from the data downloaded from the Garmin G3000. This data was plotted and discussed via phone conversation with Piper Aircraft.

- On December 11, 2020, the airplane was examined, and data was downloaded from the SD card and the Garmin Flight Deck G3000. The data was sent to NTSB and Piper.
- Touchdown + 1 second: There was a right lateral acceleration followed immediately by a left lateral acceleration and a corresponding decrease in heading and track.
- Touchdown + 3 seconds: There was a notable difference between heading and track.
- Touchdown + 5 seconds: Lateral acceleration reversed to the right and was accompanied by an increase in heading and little change in track.
- Touchdown + 6 seconds: The airplane departed the left side of the runway while still experiencing rightward lateral acceleration.
- Touchdown + 8 seconds: Airplane heading 001°; Airplane track 342°. The difference between heading and track indicate that the airplane was sliding/skidding to the left.
- The airplane came to rest on a 359° heading about 20 feet from the runway edge.



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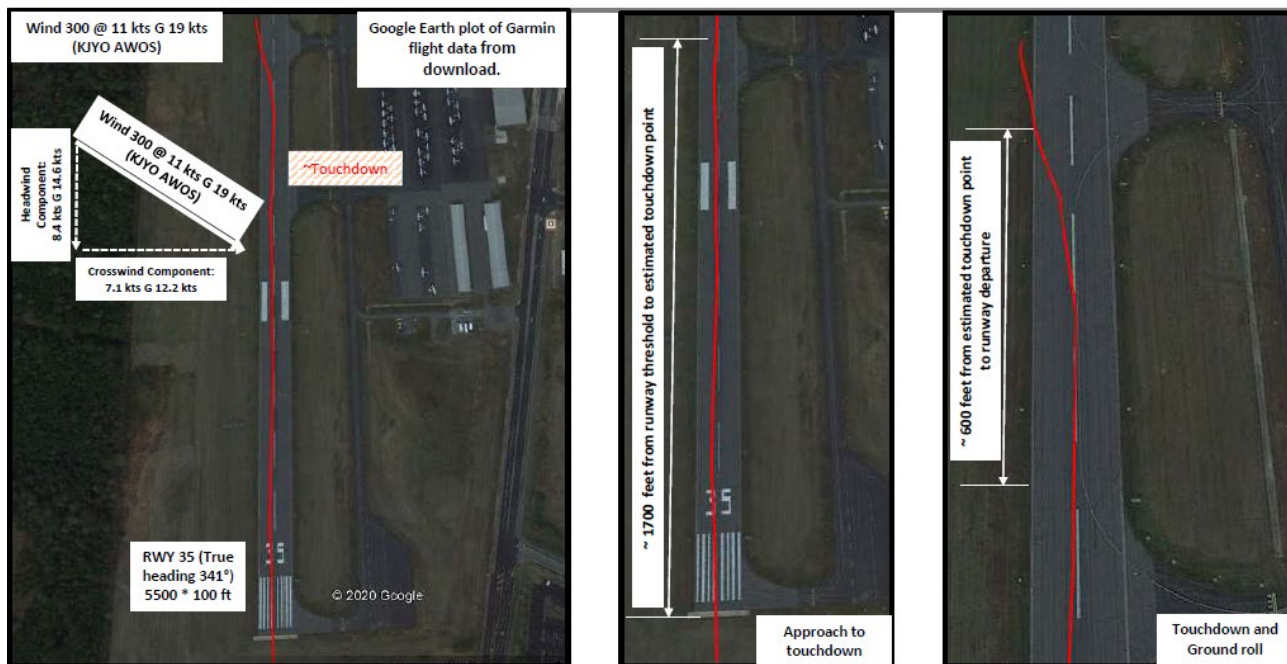


Figure 1: Google Earth plot of downloaded Garmin data

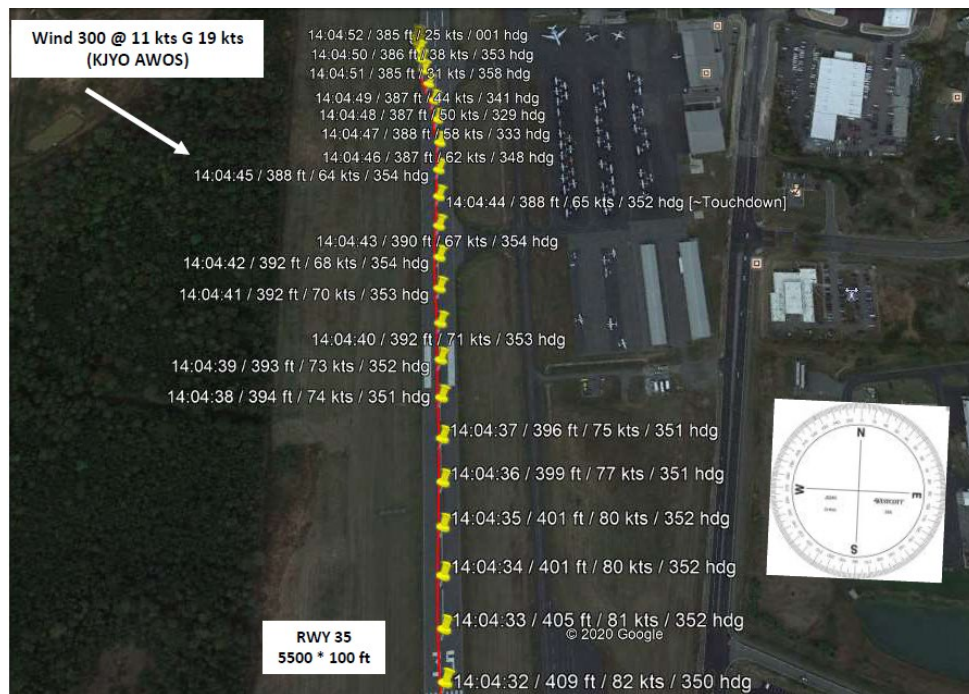


Figure 2: Google Earth plot of airplane landing speeds and heading data from G3000



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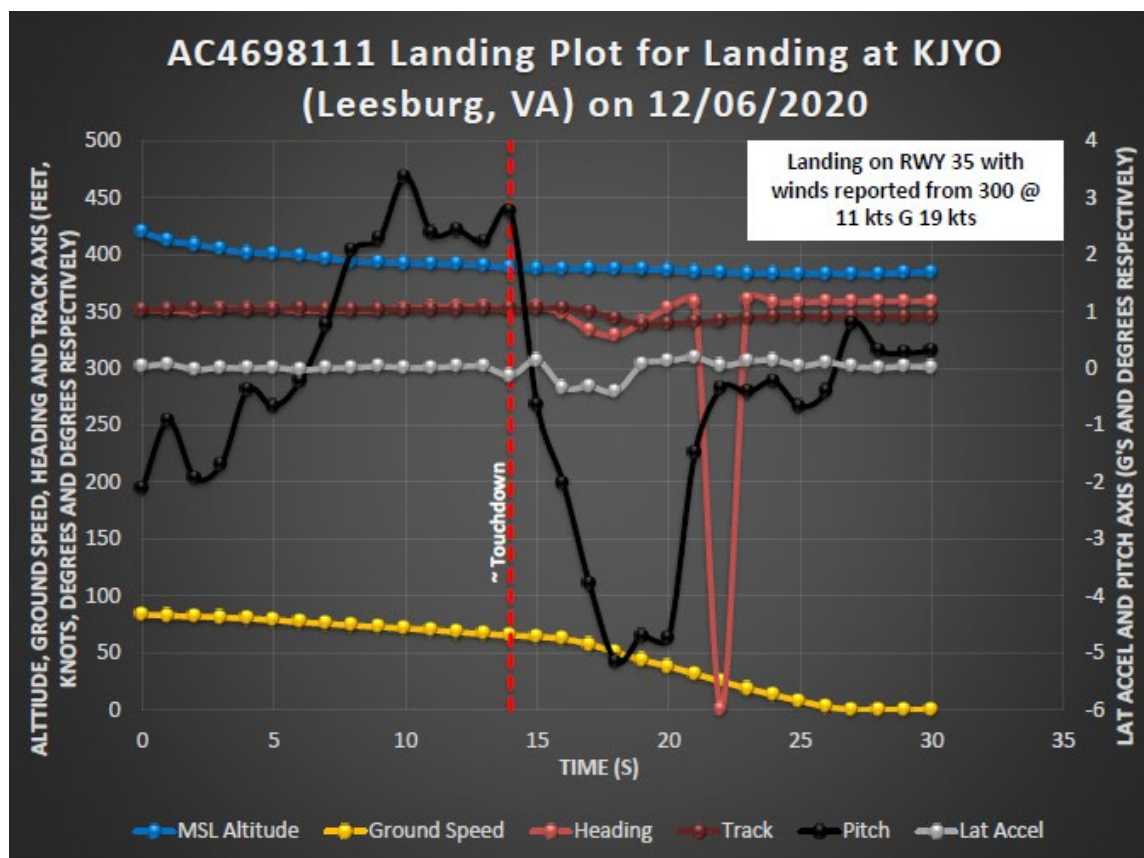


Figure 3: Graph plot of landing heading and track information showing skid

The following information was gathered from review of runway markings and discussed via phone conversation with Piper Aircraft.

- The runway markings indicate that the airplane deviated left shortly after touchdown at which point the right main landing gear (RMLG) tire appeared to lock up. The skid mark from the RMLG tire began a few feet right of the runway center line, and continued to the point at which the airplane departed the runway.
- A skid mark from the nose landing gear (NLG) tire began almost immediately after the start of the skid mark produced by the RMLG tire.
- The NLG skid mark ended prior to the airplane departing the runway's left edge.
- A skid mark from the left main landing gear (LMLG) tire began shortly before the skid mark produced by the NLG ended and continued to the point at which the airplane departed the runway.



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- The ground tracks through the grass indicate that the airplane was sliding, with the nose of the airplane deviated to the right of the direction of travel.

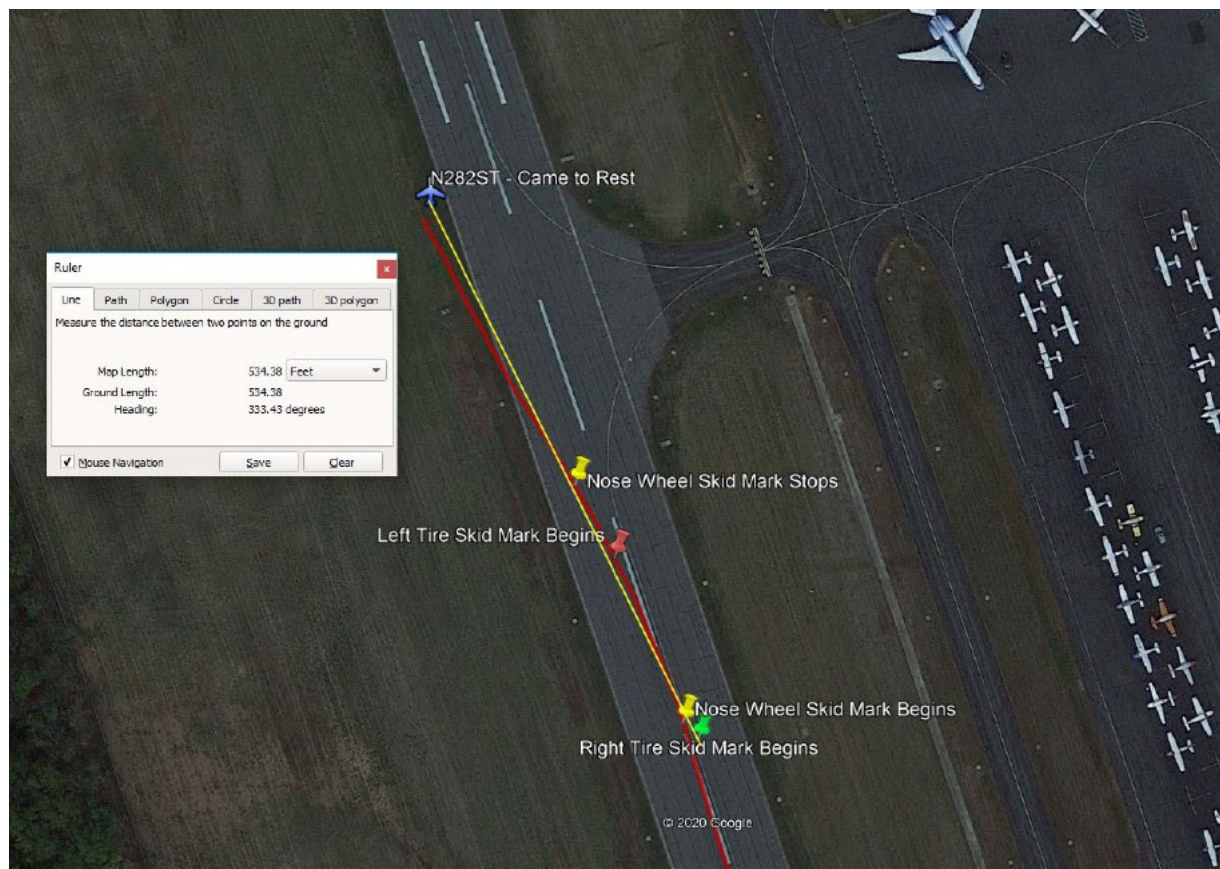


Figure 4: Google Earth view of skid mark locations and incident flight ground track