



MEMORANDUM FOR RECORD

Timothy W. Monville
Sr. Air Safety Investigator
Office of Aviation Safety-Eastern Region

Date: January 8, 2026

Subject: ERA24FA104

As part of the on-scene investigation, a parked vehicle, Toyota Avalon, that was immediately adjacent to the impacted residences was inspected and found to have 2 parallel slash marks; one in the trunk and one on the left rear portion near the side panel (Figure 1). The center of the slashes measured 2.125 ft apart.



Figure 1 Annotated Picture Showing the 2 Parallel Slash marks in a Vehicle

Further review of the site revealed the angle between the edge of the roof immediately adjacent to the accident site and the ground near the main impact was 22.7° . The angle between the initial impact on the top of the roof and the ground near the main impact was not determined.

Using a propeller slash formula, based on the propeller having 3 propeller blades, a groundspeed of 120 knots immediately before impact and the distance between the slash marks of 2.125 ft, the calculated engine rpm was about 1,907 (Figure 2).

<u>Input Data</u>									
Ground/Air Speed =	120	kts							
RPM =									
Blade Count =	3								
Distance between strike marks =	2.125	ft.							
Impact Angle with surface =	0	deg	Set angle = 0 if using groundspeed, if non-zero then speed is aircraft airspeed						
<u>Unknown</u>									
Ground/Air speed =	0	kts							
RPM =	1906.824								
Distance between strike marks =	#DIV/0!	ft.							

Figure 2 Propeller Slash Calculations Showing Calculated Engine RPM

Using the same calculator with 3 propeller blades, an engine rpm of 1,907, a distance between propeller slash marks of 2.125 ft, and an angle of 22.7°, the calculated airspeed was about 130 knots (Figure 3).

<u>Input Data</u>									
Ground/Air Speed =		kts							
RPM =	1907								
Blade Count =	3								
Distance between strike marks =	2.125	ft.							
Impact Angle with surface =	22.7	deg	Set angle = 0 if using groundspeed, if non-zero then speed is aircraft airspeed						
<u>Unknown</u>									
Ground/Air speed =	130.088	kts							
RPM =	0								
Distance between strike marks =	0	ft.							

Figure 3 Propeller Slash Calculations Showing Calculated Airspeed