



2 May 2019

Mr. Timothy Monville
National Transportation Safety Board

MEMO: MPS-19-023

SUBJECT: 1A175/FC8467 Fixed Pitch Propeller Performance Estimation:
Cessna 175, N7622M,
File #:(MPS: 2019-07, NTSB: ERA19LA143)

NTSB requested McCauley to assist in estimating the performance of the 1A175/FC8467 related to an accident investigation. A single scenario was analyzed for performance capabilities. Table 1 lists NTSB provided aircraft and flight conditions for analysis.

Elevation (ft)	422
Temperature (F)	68
Dew Point (F)	45
Altimeter (mm Hg)	30.39
Engine	Continental GO-300-A
Engine Rating	175Hp at 2400 prop RPM

Table 1: Provided Flight Conditions

For the analysis scenario, the theoretical true airspeed was calculated for the given flight conditions from Table 1 that would allow the propeller to achieve the rated engine RPM. The calculated results are recorded in Table 2.

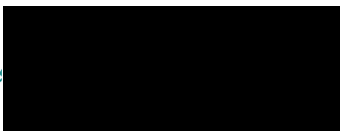
Airspeed (ktas)*	95-100
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***Notes regarding calculation:**

1. The 1A175 uses RAF 6 airfoils. The estimating code has no RAF 6 data. A generic airfoil approximation was used.
2. The estimating code produces a level flight estimate. Climb or descent rate can alter the results.
3. Fixed pitch props limit engine RPM, impacting power available. This can exaggerate errors when iterating for equilibrium.

Table 2: Condition 1 Results

Respectfully,



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