

Tips for Testing Speed Mods

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Introduction

- Method
- Conditions
- Results of Aero South Tailwheel Fairing test
- Data analysis
- Safety
- Conclusion

Method

- Determine a baseline
- Test under the conditions you intend to operate in
- Keep as many parameters constant as possible
- Change 1 thing at a time
- Trim and be patient
- WOT, Fixed RPM
- Sweep Mixture from Rich to Lean
- Plot True Airspeed versus Fuel Flow
- A curve is better for determining small changes than a point

Ideal Flight Test Conditions

- Day VFR
- Stable airmass:
 - High pressure
 - Temperature inversions
 - Stratocumulus clouds
 - Above Cu, not below
- Calm winds
- Away from mountains

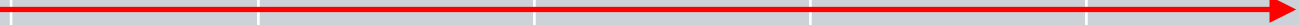


Aero South Tailwheel Fairing

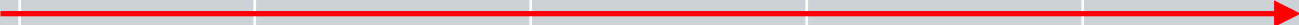


Example Data Card

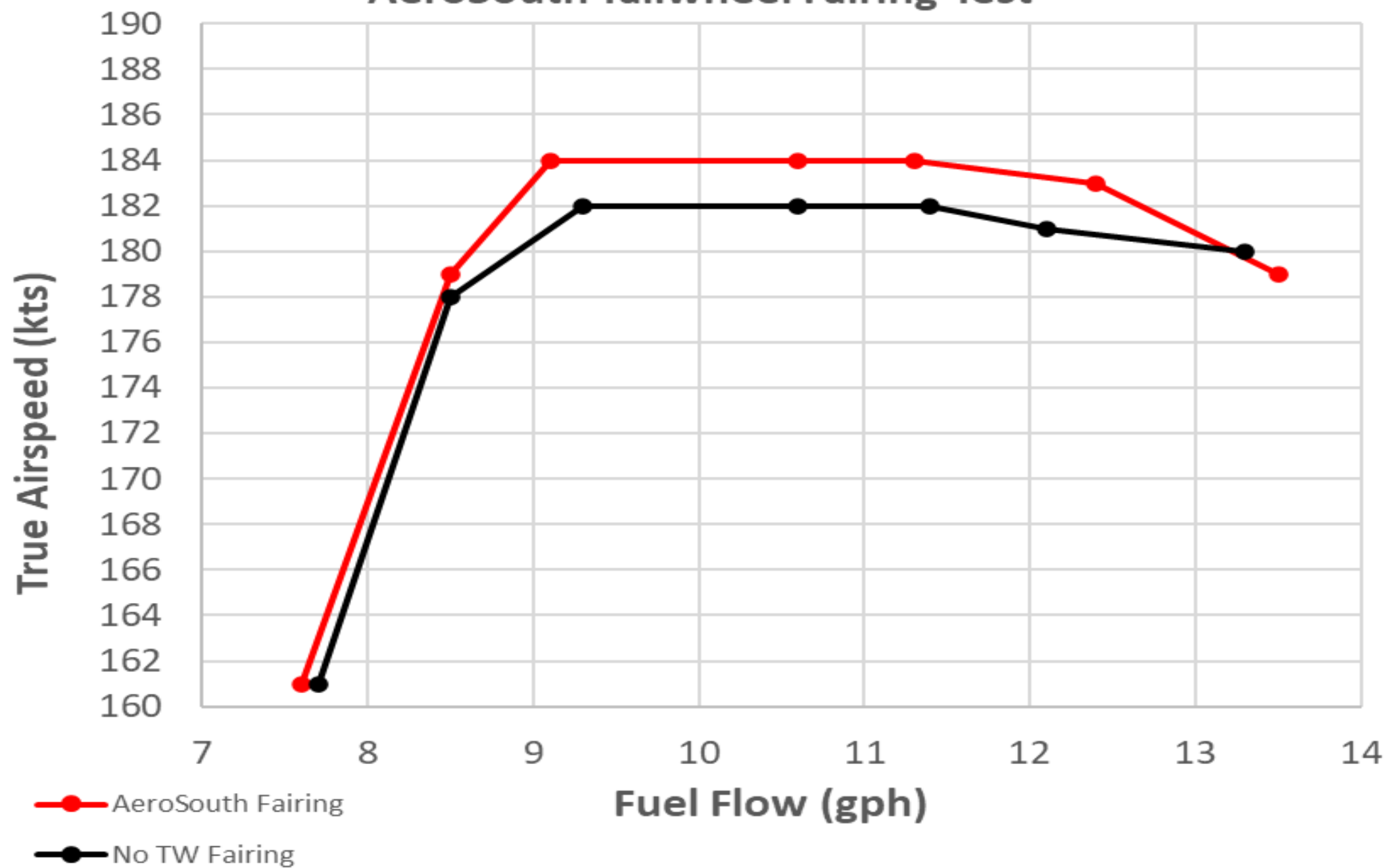
AeroSouth Tailwheel Fairing

Aircraft	N71NS	Date	6/14/2026	Press Alt	8500'	OAT	4 C
Fuel Start	36.1 gal	Fuel End	34.1 gal	MAP	22.5 inHg	RPM	2500
TAS	179	184	184	184	184	179	161
Fuel Flow	13.5	12.4	11.3	10.6	9.1	8.5	7.6
	Rich of Peak						Lean of Peak

No Tailwheel Fairing

Aircraft	N71NS	Date	6/14/2026	Press Alt	8500'	OAT	3 C
Fuel Start	36.3 gal	Fuel End	34.0 gal	MAP	22.5 inHg	RPM	2500
TAS	180	181	181	182	182	178	161
Fuel Flow	13.3	12.1	11.4	10.6	9.3	8.5	7.6
	Rich of Peak						Lean of Peak

AeroSouth Tailwheel Fairing Test



Safety

- Airspace
- Terrain
- Traffic
- Safety pilot / data recorder
- Engine handling / cooling considerations



Conclusion

- A TAS v Fuel Flow curve provides more confidence than a point
- Be patient and trim
- Wait for good conditions
- Test under operational conditions
- Consider other airspace users and nonparticipants

Questions ?