

# IAS Calibration Analysis

Test Date/Time: 2020/11/09 14:11

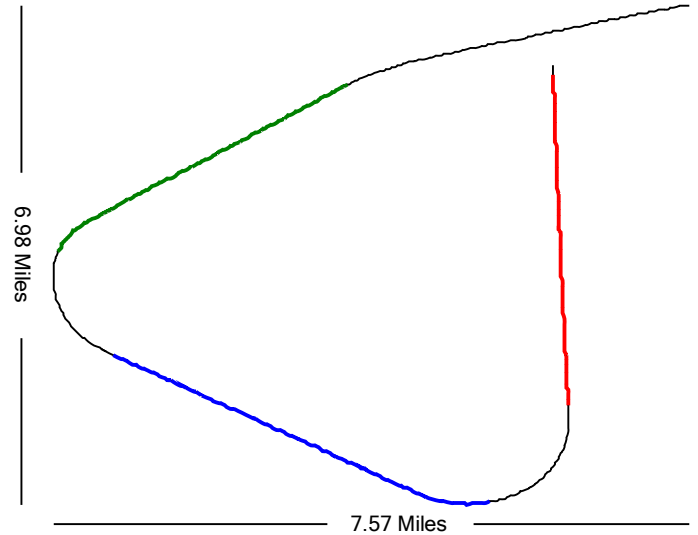
**Notes:**

IAS calibration flight test started 11/9/2020 2:19:05 PM

Analysis run 11/9/2020 3:21:16 PM.

50 MPH 99%  
100 MPH 92%  
200 95%

(1% added to each bracket over values used on 11/7/20)  
(almost same results)



**SUMMARY:** At an average indicated airspeed of 107 MPH your airspeed is reading 1 MPH, or 0.9%, lower than it should.

Flight speed analysis: Each of the three legs was flown at a very consistent airspeed. The IAS for Leg 1 (in green) was between 97&110; leg 2 (in blue) between 103&112; and leg 3 (in red) between 103&111 MPH. The average RPM was 3,096.

Calculations: The average ground speed for the three legs was 116 MPH. The triangle course zeros out the effect of wind speed and direction. Therefore, the actual TAS is also 116 MPH.

Next we use the average indicated airspeed of 107 MPH, the outside air temperature (69°F), indicated altitude (3,480 Feet), and altimeter setting (QNH) (30.28 "Hg) to calculate the TAS based on the IAS. This value is 114 MPH.

Subtract the TAS based on the IAS from the actual true air speed:  $114 - 116 = -2$  MPH. This means that the indicated airspeed is reading too low.

Use the TAS difference (-2 MPH), the outside air temperature, indicated altitude, and altimeter setting (QNH) to determine the IAS correction factor. This value is 1 MPH, or 0.9%. Consult your EFIS manual for instructions on how to bias the IAS value so that it displays 0.9% higher.

Leg	Color	Distance	Heading	IAS	IAS Var.	IAS StdDev	GS	GS Var.	GS StdDev	TAS	TAS Var.	TAS StdDev
1	Green	4.19 Miles	236	106	4.15	2.04	104	3.54	1.88	114	4.53	2.13
2	Blue	4.99 Miles	115	108	4.07	2.02	125	3.94	1.98	116	4.16	2.04
3	Red	4.64 Miles	358	106	2.52	1.59	119	4.11	2.03	114	2.59	1.61

	Average
OAT	69°F
Indicated Altitude	3,480 Feet
Altimeter Setting (QNH)	30.28 InchesOfMe

# IAS Calibration Analysis

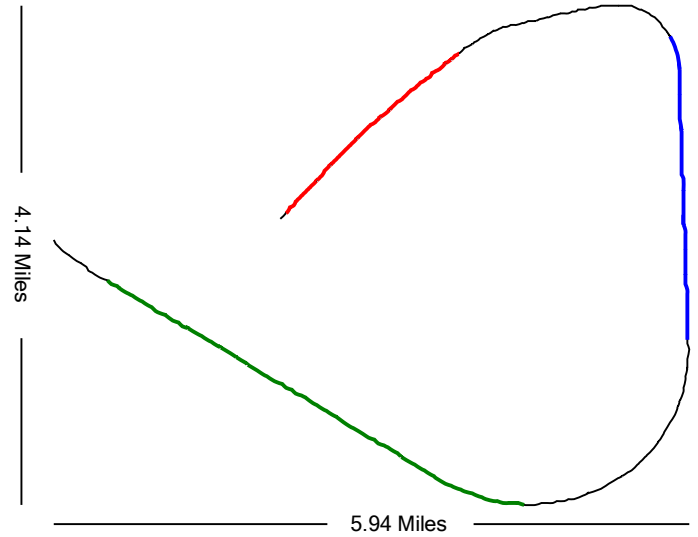
Test Date/Time: 2020/12/03 16:12

**Notes:**

IAS calibration flight test started 12/3/2020 4:10:22 PM

Analysis run 12/4/2020 11:44:17 AM.

50 MPH 100%  
 100 MPH 93%  
 200 96%



**SUMMARY:** At an average indicated airspeed of 119 MPH your airspeed is reading 2 MPH, or 1.7%, higher than it should.

Flight speed analysis: Each of the three legs was flown at a very consistent airspeed. The IAS for Leg 1 (in green) was between 109&121; leg 2 (in blue) between 111&123; and leg 3 (in red) between 123&128 MPH. The average RPM was 3,133.

Calculations: The average ground speed for the three legs was 121 MPH. The triangle course zeros out the effect of wind speed and direction. Therefore, the actual TAS is also 121 MPH.

Next we use the average indicated airspeed of 119 MPH, the outside air temperature (45°F), indicated altitude (3,112 Feet), and altimeter setting (QNH) (30.15 "Hg) to calculate the TAS based on the IAS. This value is 124 MPH.

Subtract the TAS based on the IAS from the actual true air speed: 124 – 121 = 3 MPH. This means that the indicated airspeed is reading too high.

Use the TAS difference (3 MPH), the outside air temperature, indicated altitude, and altimeter setting (QNH) to determine the IAS correction factor. This value is 2 MPH, or 1.7%. Consult your EFIS manual for instructions on how to bias the IAS value so that it displays 1.7% lower.

Leg	Color	Distance	Heading	IAS	IAS Var.	IAS StdDev	GS	GS Var.	GS StdDev	TAS	TAS Var.	TAS StdDev
1	Green	4.33 Miles	116	116	10.54	3.25	141	11.39	3.38	121	9.91	3.15
2	Blue	2.52 Miles	356	118	10.54	3.25	121	17.63	4.2	123	12.24	3.5
3	Red	2.1 Miles	230	125	1.41	1.19	99	0.88	0.94	130	1.16	1.08

	Average
OAT	45°F
Indicated Altitude	3,112 Feet
Altimeter Setting (QNH)	30.15 InchesOfMe