

NTF Test 197 - Common Research Model

Run Log

Series	Config	Trips	Tails	Data Type	α (deg)	φ (deg)	ReC (million)	Tem (°F)	Mach Number								WOZ	Tare Run	Date	Remarks	
									0.70	0.75	0.80	0.83	0.85	0.86	0.87	0.88					0.92
Research Test Matrix																					
11	1	On	Off	FPD	A2FA	0	5.0	120	39								266	15	13-Jan-10	Upright flow angularity polar	
					A1inv	180			40											13-Jan-10	Inverted flow angularity polar
					A2	0				41										13-Jan-10	Pitch-to-home @ 7 deg alpha, void pt 339
											42									13-Jan-10	Trip on RM @ 10.5 deg alpha, Void pt 361
												43								13-Jan-10	Trip on RM @ 11.5 deg alpha, void pt 390
					A2FA								44							13-Jan-10	Upright flow angularity polar, trip on RM @ 10.5 deg alpha
					A1inv	180							45							13-Jan-10	Inverted flow angularity polar
					A2	0								46						13-Jan-10	Trip on RM @ 10.5 deg alpha
															47					13-Jan-10	Alarm on YM @ 9 deg, trip on RM @ 10 deg alpha
					A2b											48				13-Jan-10	Alarm on YM @ 3.75 deg
					A2b												49			13-Jan-10	
					A4				50,52											13-Jan-10	Repeats
11.1	1	On	Off	CFP	A5airE	0.0	5.0	120	61					62				612	15	14-Jan-10	Acquired DDAS @ 12.8 kHz, pitched at 0.1 deg/s
														63						14-Jan-10	Increased DDAS rate to 25.6 kHz
12	2	On	Off	FPD	A2FA	0	5.0	120	69									645	65	14-Jan-10	Upright flow angularity polar
					A1inv	180			70											14-Jan-10	Inverted flow angularity polar
					A2	0				71										14-Jan-10	Pitch-to-home @ 7 deg alpha, void pt 339
											72									14-Jan-10	Trip on RM @ 10.5 deg alpha
												73								14-Jan-10	Trip on RM @ 11.5 deg alpha, void pt 390
					A2FA								74							14-Jan-10	Upright flow angularity polar, trip on RM @ 10.5 deg alpha
					A1inv	180							75							14-Jan-10	Inverted flow angularity polar
					A2	0								76						14-Jan-10	Trip on RM @ 10.5 deg alpha
															77					14-Jan-10	Alarm on YM @ 9 deg, trip on RM @ 10 deg alpha
					A4				78, 80					79, 81						14-Jan-10	Repeats
13	3	On	0	FPD	A2FAB	0	5.0	120	87									979	83	15-Jan-10	Upright flow angularity polar
					A1inv	180			88											15-Jan-10	Inverted flow angularity polar
					A2B	0				89										15-Jan-10	Trip on RM @ 12 deg alpha
											90									15-Jan-10	
												91								15-Jan-10	Trip on RM @ 10 deg alpha
					A2FAB								92							15-Jan-10	Upright flow angularity polar, trip on RM @ 10.5 deg alpha
					A1inv	180							93							15-Jan-10	Inverted flow angularity polar
					A2B	0								94						15-Jan-10	Trip on RM @ 10.5 deg alpha
															95					15-Jan-10	Trip on YM @ 10.5 deg
					A4				96,98					97,99						15-Jan-10	Repeats
4	3	Off	0	FPD	A3aFA	0	19.8	-182	103									1453	83	20-Jan-10	Upright flow angularity polar, Pitch-to-home @ 8 deg
					A1inv	180			104											20-Jan-10	Inverted flow angularity polar
					A1invA								105							20-Jan-10	Inverted flow angularity polar
					A3bFAa	0							106							20-Jan-10	Upright flow angularity polar, trip on PM @ 6 deg alpha
					A3b										107					20-Jan-10	Trip on PM @ 6 deg
					A4c				108,110				109,111							20-Jan-10	Repeats
5	3	Off	0	PSP	A6	0	19.8	-250	116									1473	83	26-Jan-10	
														117						26-Jan-10	
															118					26-Jan-10	
5	3	Off	0	PSP	A6	0	19.8	-250	123									1556	83	27-Jan-10	Ttemp @ -253 deg F
													124							27-Jan-10	
															125					27-Jan-10	
16	3	On	0	PSP	A6	0	5.0	120	129									1625	83	28-Jan-10	
													130							28-Jan-10	

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Alpha Sweep Schedules

A1inv: -1.5 to 1.5 by 0.5 (end flow angularity)
 A1inva: -1.5 to 1.5 by 0.5 (begin flow angularity)
 A2: -3.0 to 1.0 by 1.0; 1.5 to 4.0 by 0.25; 4.5 to 12 by 0.5
 A2B: -3.0 to 1.0 by 1.0; 1.5 to 5.0 by 0.25; 5.5 to 12 by 0.5
 A2FAB: -3.0; -2.0; -1.5 to 1.5 by 0.5; 1.75 to 5.0 by 0.25; 5.5 to 12 by 0.5 (begin flow angularity)
 A3a1: -3 to 0 by 1, 0.5 to 3 by 0.5, 3.25 to 5 by 0.25, 5.5
 A3a3: -3 to 0 by 1, 0.5 to 3 by 0.5, 3.25 to 5 by 0.25, 5.5
 A3a4: -3 to 0 by 1, 0.5 to 2 by 0.5, 2.25 to 5 by 0.25, 5.5
 A3aFA: -3.0; -2.0; -1.5 to 1.0 by 0.5; 1.25 to 3.0 by 0.25; 3.5 to 10 by 0.5 (begin flow angularity)
 A3aFA2: -3.0; -2.0; -1.5 to 3.0 by 0.5; 3.25 to 5.0 by 0.25; 5 to 5.5 by 0.5 (begin flow angularity)
 A3aFA3: -3.0; -2.0; -1.5 to 2.0 by 0.5; 2.25 to 5.0 by 0.25; 5 to 5.5 by 0.5 (begin flow angularity)

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Data Type Key

FPD: Force, pressure, and deformation data, timed 2 sec data point @ 50Hz
 CFP: Continuous force and pressure data
 PSP: Pressure sensitive paint images, force, and pressure data

**Other Notes

Configuration Key

- 1: Wing/Body (WB)
- 2: Wing/Body/Pylon/Nacelle (WBPN)
- 3: Wing/Body/Horizontal Tail (WBT)

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									0.70	0.75	0.80	0.83	0.85	0.86	0.87	0.88				
A3b: -2.0; -1.0; 0; 0.5; 1.0 to 3.0 by 0.25; 3.5 to 10 by 0.5																				
A3b1: -2.0; -1.0; 0 to 3.0 by 0.5; 3.25 to 5 by 0.25; 5.5 to 8 by 0.5																				
A3b3: -2.0; -1.0; 0 to 3.0 by 0.5; 3.25 to 5 by 0.25																				
A3b4: -2.0; -1.0; 0 to 2.0 by 0.5; 2.25 to 5 by 0.25																				
A3bFAa: -2.0 to 1.0 by 0.5; 1.25 to 3.0 by 0.25; 3.5 to 10 by 0.5 (end flow angularity)																				
A3bFAB: -2.0 to 3.0 by 0.5; 3.25 to 5.0 by 0.25; 5.5 to 8 by 0.5 (end flow angularity)																				
A3bFAB2: -2.0 to 3.0 by 0.5; 3.25 to 5.0 by 0.25 (end flow angularity)																				
A3bFAB3: -2.0 to 2.0 by 0.5; 2.25 to 5.0 by 0.25 (end flow angularity)																				
A4: 2.0 to 5.0 by 0.25																				
A4c: 1.0 to 3.0 by 0.25																				
A4d: 3.0 to 5.0 by 0.25																				
A4e: 2.0 to 5.0 by 0.25																				
A5cryo: Continuous Pitch @ 0.1 deg/sec from 0.5 to 5.0																				
A6: 0 to 4.0 by 1.0																				