

NTF Test 215 - Common Research Model

Run Log

Series	Config	Trips	Tails	Data Type	α (deg)	φ (deg)	ReC (million)	Temp (°F)	Mach Number				WOZ	Tare Run	Date	Remarks
									0.00	0.70	0.85	0.87				
Research Test Matrix																
10	1	On	Off	FPD	A2s	0	5.0	120		40			988	29	30-May-13	Upright FA polar, void pt 796 (alpha OS and PB), BWOZ pt 797
'	'	'	'	'	A1e	180	'	'		41			'	'	30-May-13	Inverted FA polar, TT low (116F to 120F)
'	'	'	'	'	A1s	'	'	'			42		'	'	30-May-13	Inverted FA polar
'	'	'	'	'	A2e	0	'	'			43		'	'	30-May-13	Upright FA polar, TT override (max 123F)
'	'	'	'	'	A2	'	'	'				44	'	'	30-May-13	TT override (max 126F)
'	'	'	'	'	A4	'	'	'			45,47		'	'	30-May-13	Repeats (43,45,47), TT override on R45 and R47 (max 124F)
'	'	'	'	'	'	'	'	'		46,48			'	'	30-May-13	Repeats (40,46,48), FWOZ pt 988
11	1	On	Off	FPD	A2	0	5.0	120		50			1023	29	31-May-13	Pitch-pause, ATS OS and PB at lower alphas (<1°)
'	'	'	'	CFP	CSair	'	'	'		51			'	'	31-May-13	Continuous sweep, 0.1 deg/sec
'	'	'	'	FPD	A2	'	'	'			52		'	'	31-May-13	Pitch-pause, TT override (max 125F)
'	'	'	'	CFP	CSair	'	'	'			54		'	'	31-May-13	Continuous sweep, 0.1 deg/sec, void run 53 (ATS kick-out)
13	3	On	0	FPD	A2s	0	5.0	120		65			1558	62	4-Jun-13	Upright FA polar, BWOZ pt 1558
'	'	'	'	'	A1e	180	'	'		66			'	'	4-Jun-13	Inverted FA polar, 0.5 deg alpha OS and PB
'	'	'	'	'	A1s	'	'	'			67		'	'	4-Jun-13	Inverted FA polar, -1.5 deg alpha OS
'	'	'	'	'	A2e	0	'	'			68		'	'	4-Jun-13	Upright FA polar, RM trip at 10.5 deg, ID12 taken at low Mach
'	'	'	'	'	A2	'	'	'				69	'	'	4-Jun-13	RM trip at 11 deg, polar restarted at 4.25 deg (DAS sources offline), void pts 1662-1663
'	'	'	'	'	A4	'	'	'			70,73		'	'	4-Jun-13	Repeats (68,70,73), 0 deg alpha OS and oscillation on R73
'	'	'	'	'	'	'	'	'		72,74			'	'	4-Jun-13	Repeats (65,72,74), void run 71 (skipped), FWOZ pt 1750
14	3	On	0	FPD	A2	0	5.0	120		77			1787	62	4-Jun-13	Pitch-pause, strut seal pressures invalid from this run forward
'	'	'	'	CFP	CSair	'	'	'		78			'	'	4-Jun-13	Continuous sweep, 0.1 deg/sec, 10Hz Neff filter on balance, AoA, and Kulite
'	'	'	'	FPD	A2	'	'	'			79		'	'	4-Jun-13	Pitch-pause
'	'	'	'	CFP	CSair	'	'	'			81		'	'	4-Jun-13	Continuous sweep, 0.1 deg/sec
12	2	On	Off	FPD	A2s	0	5.0	120		88			1969	86	5-Jun-13	Upright FA polar, BWOZ pt 1969
'	'	'	'	'	A1e	'	'	'		89			'	'	5-Jun-13	Inverted FA polar, -2 deg alpha OS and PB
'	'	'	'	'	A1s	'	'	'			90		'	'	5-Jun-13	Inverted FA polar
'	'	'	'	'	A2be	'	'	'			91		'	'	5-Jun-13	Upright FA polar, 0 deg alpha OS and PB
'	'	'	'	'	A2b	'	'	'				92	'	'	5-Jun-13	
'	'	'	'	'	A4	'	'	'			93,95		'	'	5-Jun-13	Repeats (91,93,95), 0 deg alpha OS on R95
'	'	'	'	'	'	'	'	'		94,96			'	'	5-Jun-13	Repeats (88,94,96), FWOZ pt 2148
15	1	On	Off	FPD	A2s	0	5.0	120		100			2248	98	6-Jun-13	Upright FA polar, BWOZ pt 2248
'	'	'	'	'	A1e	180	'	'		101			'	'	6-Jun-13	Inverted FA polar, OS at -2.5 deg, LH Kulite shift from this point during the series
'	'	'	'	'	A1s	'	'	'			102		'	'	6-Jun-13	Inverted FA polar, brief RCS Neff dropout in middle of run, void pt 2297
'	'	'	'	'	A2be	0	'	'			103		'	'	6-Jun-13	Upright FA polar, pitch OS and PB at 0 deg
'	'	'	'	'	A2b	'	'	'				104	'	'	6-Jun-13	Pitch OS and PB at 0 deg, ATS dropouts, TT override (124F max)
'	'	'	'	'	A4	'	'	'			105,108		'	'	6-Jun-13	Repeats (103,105,108), 0 deg alpha OS, void run 106
'	'	'	'	'	'	'	'	'		107,109			'	'	6-Jun-13	Repeats (100,107,109), 0 deg alpha OS

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									0.00	0.70	0.85	0.87				
19	1	On	Off	FPD	A6	0	5.0	120		111			2477	98	6-Jun-13	Mach 0.75, BWOZ pt 2477
'	'	'	'	'	'	'	'	'		113			'	'	6-Jun-13	Mach 0.77, void run 112
'	'	'	'	'	'	'	'	'		116			'	'	6-Jun-13	Mach 0.79, void runs 114-115
'	'	'	'	'	'	'	'	'			118		'	'	6-Jun-13	Mach 0.80, void run 117
'	'	'	'	'	'	'	'	'			121		'	'	6-Jun-13	Mach 0.82, void runs 119-120
'	'	'	'	'	'	'	'	'			123		'	'	6-Jun-13	Mach 0.83, void run 122
'	'	'	'	CFP	CSairb	'	'	'			124		'	'	6-Jun-13	Mach 0.83, continuous sweep, 0.1 deg/sec
'	'	'	'	FPD	A6	'	'	'			125		'	'	6-Jun-13	Mach 0.85
'	'	'	'	CFP	CSairb	'	'	'			126		'	'	6-Jun-13	Mach 0.85, continuous sweep, 0.1 deg/sec
'	'	'	'	'	'	'	'	'			127		'	'	6-Jun-13	Mach 0.75, continuous sweep, 0.1 deg/sec
'	'	'	'	'	'	'	'	'			131		'	'	6-Jun-13	Mach 0.80, continuous sweep, 0.1 deg/sec, void runs 128-130
'	'	'	'	'	'	'	'	'			132		'	'	6-Jun-13	Mach 0.79, continuous sweep, 0.1 deg/sec
'	'	'	'	'	'	'	'	'			134		'	'	6-Jun-13	Mach 0.83, continuous sweep, 0.1 deg/sec, void run 133
'	'	'	'	'	'	'	'	'			135		'	'	6-Jun-13	Mach 0.77, continuous sweep, 0.1 deg/sec, FWOZ pt 2572
3	1	Off	Off	FPD	A3as	0	19.8	-182		139			2685	98	11-Jun-13	Upright FA polar, BWOZ pt 2612, NF trip at 9.5 deg
'	'	'	'	'	A1e	180	'	'		140			'	'	11-Jun-13	Inverted FA polar
'	'	'	'	'	A1s	'	'	'			141		'	'	11-Jun-13	Inverted FA polar
'	'	'	'	'	A3be	0	'	'			142		'	'	11-Jun-13	Upright FA polar, FWOZ pt 2684, PM trip at 6 deg, ESPs OOT for this run
'	'	'	'	'	A3b	'	'	'				144	2687/2784	'	11-Jun-13	BWOZ pt 2687, PM trip at 6 deg, average of WOZ pts 2687 and 2784 used for these runs
'	'	'	'	'	A4b	'	'	'			145,147		'	'	11-Jun-13	Repeats (142,145,147)
'	'	'	'	'	'	'	'	'			146,148		'	'	11-Jun-13	Repeats (139,146,148), FWOZ pt 2784
5	1	Off	Off	FPD	A3cs	0	19.8	-250		151				98	11-Jun-13	Upright FA polar, BWOZ pt 2849
'	'	'	'	'	A1e	180	'	'		152			'	'	11-Jun-13	Inverted FA polar
'	'	'	'	'	A1s	'	'	'			153		'	'	11-Jun-13	Inverted FA polar
'	'	'	'	'	A3ce	0	'	'			154		'	'	11-Jun-13	Upright FA polar, P2 trip at 2 deg (no data above that alpha), OS and PB at 0 deg
'	'	'	'	'	A6	'	'	'			155		'	'	11-Jun-13	Extra run to check FAS temperature control fix
'	'	'	'	'	A1s	180	'	'			158		2913	'	13-Jun-13	Inverted FA polar, runs completed after cooldown from -70F (-90 DS)
'	'	'	'	'	A3de	0	'	'			159		'	'	13-Jun-13	Upright FA polar, PTH at 6 deg alpha due to dynamics
'	'	'	'	'	A3a	'	'	'				161	3026	'	13-Jun-13	OS and 0.06 PB at 6.5 deg, PTH at 8 deg alpha due to dynamics
'	'	'	'	'	A6	'	'	'			162,164		'	'	13-Jun-13	Repeats (154,159,162,164,166), 5 deg point not taken on R164 (lost EF7)
'	'	'	'	'	'	'	'	'			163,165		'	'	13-Jun-13	Repeats (151,155,163,165)
'	'	'	'	'	A3de	'	'	'			166		'	'	13-Jun-13	Repeat polar to get above 6 deg, PM trip at 6 deg alpha, void pt 3025, FWOZ pt 166
7	2	Off	Off	FPD	A3cs	0	19.8	-250		224			5031	218	15-Jul-13	Upright FA polar, BWOZ pt 5031, this set run under P/R control
'	'	'	'	'	A1e	180	'	'		225			'	'	15-Jul-13	Inverted FA polar
'	'	'	'	'	A1s	'	'	'			226		5092	'	15-Jul-13	Inverted FA polar
'	'	'	'	'	A3de	0	'	'			227		'	'	15-Jul-13	Upright FA polar, PM trip going to 7 deg, FWOZ pt 5092
'	'	'	'	'	A3a	'	'	'				228	5159	'	15-Jul-13	PM and AF trip going to 7 deg, BWOZ pt 5093
'	'	'	'	'	A7	'	'	'			229,231		'	'	15-Jul-13	Repeats (227,229,231)
'	'	'	'	'	'	'	'	'			230,232		'	'	15-Jul-13	Repeats (224,230,232), FWOZ pt 5159
16	1	Off	Off	FPD	A3cs	0	19.8	-250		235			5346	98	16-Jul-13	Upright FA polar, BWOZ pt 5192 on R234, this set run under P/R control
'	'	'	'	'	A1s	180	'	'		236			'	'	16-Jul-13	Inverted FA polar
'	'	'	'	'	A1e	'	'	'			237		'	'	16-Jul-13	Inverted FA polar
'	'	'	'	'	A3ce	0	'	'			238		'	'	16-Jul-13	Upright FA polar
'	'	'	'	'	A3a	'	'	'				239	'	'	16-Jul-13	PTH after 5.5 deg due to dynamics
'	'	'	'	'	A7	'	'	'			240,242		'	'	16-Jul-13	Repeats (238,240,242)
'	'	'	'	'	'	'	'	'			241,243		'	'	16-Jul-13	Repeats (235,241,243), FWOZ pt 5346

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									0.00	0.70	0.85	0.87					
1	1	Off	Off	FPD	A3cs	0	30.0	-250		244			5441	98	16-Jul-13	Upright FA polar, BWOZ pt 5347, stopped at 6 deg (dynamics), this set under P/R control	
'	'	'	'	'	A1s	180	'	'		245			'	'	16-Jul-13	Inverted FA polar	
'	'	'	'	'	A1e	'	'	'			246		'	'	16-Jul-13	Inverted FA polar	
'	'	'	'	'	A3ee	0	'	'			247		'	'	16-Jul-13	Upright FA polar, PTH at 5.5 deg	
'	'	'	'	'	A3a	'	'	'				248	'	'	16-Jul-13	Drive vibration trip after 0.5 deg, FWOZ pt 5441 on R249	
'	'	'	'	'	A1s	180	'	'		250			5523	'	16-Jul-13	Inverted FA polar, BWOZ pt 5442	
'	'	'	'	'	A3ee	0	'	'			251		'	'	16-Jul-13	Upright FA polar, NE/PM trip at 6 deg	
'	'	'	'	'	A3a	'	'	'				252	'	'	16-Jul-13	PM trip at 6 deg, roll jumping around +/- 0.3 deg during run	
'	'	'	'	'	A7	'	'	'		253,255			'	'	16-Jul-13	Repeats (247,251,253,255), roll jumping +/- 0.7 deg during runs, roll drive left on, FWOZ pt 5523	
'	'	'	'	'	'	'	'	'		254			'	'	16-Jul-13	Repeats (244,254), roll left on for repeat run	
8	3	Off	0	FPD	A3cs	0	19.8	-250		260			5578	62	22-Jul-13	Upright FA polar, BWOZ pt 5578, this set under P/R control	
'	'	'	'	'	A1s	180	'	'		261			'	'	22-Jul-13	Inverted FA polar	
'	'	'	'	'	A1e	'	'	'			262		5703	'	22-Jul-13	Inverted FA polar	
'	'	'	'	'	A3ee	0	'	'			263		'	'	22-Jul-13	Upright FA polar	
'	'	'	'	'	A3e	'	'	'				264	'	'	22-Jul-13		
'	'	'	'	'	A7	'	'	'			265,267		'	'	22-Jul-13	Repeats (263,265,267), P2 pump trip at 3.2 deg for R265 - paused and finished run	
'	'	'	'	'	'	'	'	'		266,268			'	'	22-Jul-13	Repeats (260,266,268), FWOZ pt 5703	
4	3	Off	0	FPD	A3cs	0	19.8	-182		278			5788	62	22-Jul-13	Upright FA polar, BWOZ pt 5788, this set under P/R control, Neff scan rate at 80 Hz for this set	
'	'	'	'	'	A1s	180	'	'		279			'	'	22-Jul-13	Inverted FA polar	
'	'	'	'	'	A1e	'	'	'			280		5909	'	22-Jul-13	Inverted FA polar, PM trip before starting polar	
'	'	'	'	'	A3ee	0	'	'			281		'	'	22-Jul-13	Upright FA polar	
'	'	'	'	'	A3e	'	'	'				282	'	'	22-Jul-13		
'	'	'	'	'	A7	'	'	'			283,285		'	'	22-Jul-13	Repeats (281,283,285), void pts 5871 and 5872 in R283 (tripped going to last point)	
'	'	'	'	'	'	'	'	'		284,286			'	'	22-Jul-13	Repeats (278,284,286), FWOZ pt 5909	
VMD Wind-Off Polars																	
10	1	On	Off	VMD	vmdair	0	0.0	104	39				N/A	29	30-May-13		
'	'	'	'	'	'	'	'	'	105	49				'	'	30-May-13	
13	3	On	0	VMD	vmdair	0	0.0	100	64				1523	62	4-Jun-13		
'	'	'	'	'	'	'	'	'	101	75				'	'	4-Jun-13	
12	2	On	Off	VMD	vmdair	0	0.0	99	87				1934	86	5-Jun-13		
'	'	'	'	'	'	'	'	'	87	97				'	'	5-Jun-13	
15	1	On	Off	VMD	vmdair	0	0.0	97	99				2213	98	6-Jun-13		
'	'	'	'	'	'	'	'	'	102	110				'	'	6-Jun-13	
3	1	Off	Off	VMD	vmdcryo	0	0.0	-188	138				2257	98	11-Jun-13	Completed at 60 RPM	
'	'	'	'	'	'	'	'	'	-174	149				'	'	11-Jun-13	Completed at 60 RPM
5	1	Off	Off	VMD	vmdcryo	0	0.0	-245	150				N/A	98	11-Jun-13	Completed at 60 RPM	
'	'	'	'	'	'	'	'	'	-233	167				'	'	13-Jun-13	Completed at 60 RPM
7	2	Off	Off	VMD	vmdcryo	0	0.0	-219	223				4993	218	15-Jul-13	Completed at 60 RPM	
'	'	'	'	'	'	'	'	'	-239	233				'	'	15-Jul-13	Completed at 60 RPM
16	1	Off	Off	VMD	vmdcryo	0	0.0	-219	234				5192	98	16-Jul-13	Completed at 60 RPM	
1	1	Off	Off	VMD	vmdcryo	0	0.0		249				5441	98	16-Jul-13	Completed at 60 RPM	
8	3	Off	0	VMD	vmdcryo	0	0.0	-250	259				N/A	62	22-Jul-13	Completed at 60 RPM	
'	'	'	'	'	'	'	'	'	-245	269				'	'	22-Jul-13	Completed at 60 RPM
4	3	Off	0	VMD	vmdcryo	0	0.0	-167	277				N/A	62	22-Jul-13	Completed at 60 RPM	
'	'	'	'	'	'	'	'	'	-178	287				'	'	22-Jul-13	Completed at 60 RPM

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									0.00	0.70	0.85	0.87				
Off-Matrix Runs																
20	1	Off	Off	FPD	A4	0	5.0	120			176		4313	98	10-Jul-13	Pitch/roll control
											177				10-Jul-13	Pitch/roll control, dummy run at Mach 0.7 at 33.78 psi prior to run
											178				10-Jul-13	Pitch/roll control, dummy run at Mach 0.7 at 33.78 psi prior to run
20	1	Off	Off	FPD	A2as	0	5.0	120		202			4564	98	11-Jul-13	BWOZ pt 4387 (R201), series completed on pitch/roll control
					A1e	180				203					11-Jul-13	Inverted FA polar
					A1s						204				11-Jul-13	Inverted FA polar, void pts 4435-4438
					A2ae	0					205				11-Jul-13	
					A2a							206			11-Jul-13	
					A4						207,209				11-Jul-13	Repeats (205,207,209)
										208,210					11-Jul-13	Repeats (202,208,210), FWOZ pt
20	1	Off	Off	FPD	A4	0	5.0	120			211		4565	98	11-Jul-13	400 Hz and 12 sec acquisition, pitch/roll control for this set
											212				11-Jul-13	Dummy run at Mach 0.7 at 33.78 psi prior to run
											213				11-Jul-13	Dummy run at Mach 0.7 at 33.78 psi prior to run

Alpha Sweep Schedules

A2s: -3 to 1 by 1, 1.5 to 6 by 0.25, 6.5 to 11 by 0.5 (all ID14)
 A2a: -3 to 1 by 1, 1.5 to 5.5 by 0.25
 A2as: -3 to 1 by 1, 1.5 to 5.5 by 0.25 (all ID14)
 A2ae: -3 to 1 by 1, 1.5 to 5.5 by 0.25 (all ID14 with ID12 at end)
 A2e: -3 to 1 by 1, 1.5 to 6 by 0.25, 6.5 to 11 by 0.5 (all ID14 with ID12 at end)
 A2be: -3 to 1 by 1, 1.5 to 6 by 0.25, 6.5 to 8 by 0.5 (all ID14 with ID12 at end)
 A2b: -3 to 1 by 1, 1.5 to 6 by 0.25, 6.5 to 8 by 0.5
 A1s: -2.5 to 1.5 by 0.5 (all ID14)
 A1e: -2.5 to 1.5 by 0.5 (all ID14 with ID12 at end)
 A2: -3 to 1 by 1, 1.5 to 6 by 0.25, 6.5 to 11 by 0.5
 A4: 0, 0.5, 1 to 4 by 0.25, 4.5, 5 (repeat polar)
 A6: 0 to 5 by 0.5
 A7: -1, 0 to 5 by 0.5
 A3as: -3 to 0 by 1, 0.5, 1 to 5 by 0.25, 5.5 to 10 by 0.5 (all ID14)
 A3b: -2 to 0 by 1, 0.5, 1 to 5 by 0.25, 5.5 to 10 by 0.5
 A3be: -2 to 0 by 1, 0.5, 1 to 5 by 0.25, 5.5 to 10 by 0.5 (all ID14 with ID12 at end)
 A3cs: -2 to 0 by 1, 0.5 to 8 by 0.5 (all ID14)
 A3ce: -2 to 0 by 1, 0.5, 1.5 to 5 by 0.25, 5.5 to 8 by 0.5 (all ID14 with ID12 at end)
 A3de: -2 to 0 by 1, 0.5, 1 to 5 by 0.25, 5.5 to 8 by 0.5 (all ID14 with ID12 at end)
 A3ee: -2 to 0 by 1, 0.5, 1 to 5 by 0.25, 5.5 (all ID14 with ID12 at end)
 A3a: -2 to 0 by 1, 0.5 to 8 by 0.5
 A3e: -2 to 0 by 1, 0.5 to 5.5 by 0.5
 A4b: 0, 0.5, 1 to 4 by 0.25, 4.5, 5
 vmdair: -3 to 1 by 1, 1.5 to 6 by 0.25, 6.5 to 11 by 0.5
 CSair: -6.4 to 3 at 0.1 deg/sec, continuous sweep, pitch/roll values
 CSairb: -7.0 to -1.5 at 0.1 deg/sec, continuous sweep, pitch/roll values

Configuration Key

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

Data Type Key

FPD: Force, pressure, and deformation data, timed 2 sec data point @ 50Hz
 CFP: Continuous force and pressure data
 VMD: Video model deformation wind-off data

Acronym Key

BWOZ: Beginning wind-off zero
 FWOZ: Final wind-off zero
 FA: Flow angularity
 FAS: Facility automation software
 TT: Tunnel free-stream temperature
 OOT: Out of tolerance
 DS: Deep structure
 PTH: Pitch to home
 OS: Overshoot
 PB: Pitch back
 P/R: Pitch/roll