

SPACE SHUTTLE MISSIONS SUMMARY

FLT NO.	ORBITER	CREW (7) TITLE, NAMES & EVA'S	LAUNCH SITE, LIFTOFF TIME, LANDING SITES, ABORT TIMES	LANDING SITE/ RUNWAY, CROSSRANGE LANDING TIMES FLT DURATION, WINDS	SSME-TL NOM-ABORT EMERG THROTTLE PROFILE ENG. S.N.	SRB RSRM AND ET	ORBIT		FSW	PAYLOAD WEIGHTS, PAYLOADS/ EXPERIMENTS	MISSION HIGHLIGHTS (LAUNCH SCRUBS/DELAYS, TAL WEATHER, ASCENT I-LOADS, FIRSTS, SIGNIFICANT ANOMALIES, ETC.)
							INC	HA/HP			
STS 51-B (STS-24) SEQ FLT # 17 KSC 17 PAD 39A-17	OV-099 Flight 7 Challenger Spacelab 3 SECOND SPACELAB FLIGHT LM (2) OMS PODS LPO1 - 6 RPO4 - 1 FRC9 - 7	CDR: Robert F. Overmyer (Flt 2 - STS-5) P73/R10/V13/M10 PLT: Frederick D. Gregory P74/R59/M54 M/S: Don L. Lind P75/R60/M55 M/S: Norman E. Thagard (Flt 2 - STS-7) P76/R20/V14/M19 M/S: William E. Thornton (Flt 2 - STS-8) P77/R24/V15/M23 P/S: Taylor Wang P78/R61/M56 P/S: Lodewijk Van den Berg P79/R62/M57 :C FCR-1 (7) FLIGHT DIRECTORS: Asc/Ent - T. C. Lacefield Ld/O 1 - G. E. Coen O 2 - W. D. Reeves O 3 - G. A. Pennington MOD - E. F. Kranz	KSC 39A 119:16:02:18Z 12:00:00 PM EDT (P) 12:02:18 PM EDT (A) Monday 4 4/29/85 (5) LAUNCH WINDOW: 3 Hours (CREW WORKDAY) PLS-EDW SLS-KSC TAL-ZARAGOZA (Selected) TAL WX-MORON MANUAL TAL-BONN MAX Q = 700 M = 1.31 SRB SEP: 2:25.88 MET MECO: 8:34.96 MET ET SEP: 8:53.05 MET OMS-1: 10:35 MET 132 Seconds OMS-2: 46.15 MET 147.5 Seconds	EDW 17, LAKEBED (EDW 11, LKBD 7) 9:11:04 AM PDT Monday 2 5/6/85 (1) XRANGE: 274 NM ORB DIR: AL 2 AIM PT: NOM MLGTD: 1576 FT 126:16:11:04Z VEL: 209 KGS 204 KEAS HDOT: -2 FPS TD NORM 195: 2386 FT NLGTD: 5528 FT 126:16:11:16Z VEL: 159 KGS HDOT: -7.1 FPS BRK INIT: 106 KGS AVE BRK DECEL: 7.1 FPS/S WHEELS STOP: 126:16:12:03Z 9893 FT ROLLOUT: 8317 FT 59 SEC WIND: 5H, 0 X KNOTS OFFICIAL: 5H, 2R DENS ALT: 3400 FT FLT DURATION: 7:00:08:46 168:08:46 S/T: 106:10:24:56 OV-099: 47:08:24:50 DISTANCE: 2,900,000 sm	104/104 109 100/94/ 65/104/ 103/72/ 65 1 = 2023 (2) 2 = 2020 (3) 3 = 2021 (3) M 3 EOM WEIGHT: 213795 X CG: 1084.1 WEIGHT: 213499 X CG: 1085.4	BI-016 MTR: HPM CASE: LWC ET-17 LWT-10 ET RPT 220K 1:01:12 MET ET BR/UP 195K 1:01:42 MET ET IMPACT LAT: 57. 1°S LONG: 150.8°E	57.004° (3) START: END: MAX:	STANDARD INSERTION INSERTION ALTITUDE: POST OMS-2 191.74 X 189.37 NM DEORBIT 192 X 189 NM VELOCITY 25857 FPS RANGE 4264 NM	OI-4 (5) CARGO: 31377 lbs CHARGEABLE: 30748 lbs DEPLOYED: 105 lbs (NUSAT) NON-DEPLOYED: 30341 lbs MIDDECK: 302 lbs RETURNED: 30,427 lbs SHUTTLE ACCUMULATED WEIGHTS: DEPLOYED: 191474 lbs NON-DEPLOYED: 249342 lbs CARGO TOTAL: 511910 lbs PERFORMANCE MARGINS (LBS): FPR: 4887 FUEL BIAS: 849 FINAL TDDP: 2536 RECON: 3609 SPACELAB 3/LM: MPSS VWFC AFT ATMOS BTS DEMS FES GFFC IONS MICG RAHF-VT (Monkeys & Rats) UMI VCGS GAS (Deployable): - NUSAT (deployed) - GLOMR (failed to deploy) UMS 4 CRYO TANK SETS NO RMS	KSC W/D: OPF 31, VAB 4, PAD 15 = 50 AFTER STS 51-E (TDRS-B/TELESAT-1) WAS SCRUBBED, CHALLENGER WAS ROLLED BACK TO THE VAB AND PAYLOAD WAS CHANGED TO SPACELAB 3. LAUNCH POSTPONEMENT: None. LAUNCH SCRUBS: None. LAUNCH DELAYS: - 2M18S delay due to an LPS failure at T-4 minutes (lost GPC FEP). TAL WX: Zaragoza and Moron go. FLIGHT DURATION CHANGES: None. SIGNIFICANT ANOMALIES: - WSB 3 controller A inoperative. - Right ET door motor B inoperative. - SM onboard display data exhibited erratic values. - Right OMS pod TPS protrusion (AFRSI). - Galley did not dispense water. - APU 3 seal cavity drain line heater 3A failed. - Smoke detector in avionics bay 2A failed self test. - Right RCS thruster R4D heater failed. - S-Band upper right antenna reflected power high and upper left antenna reflected power erratic. - APU 1 fuel by-pass line heater B failed on. - Mid MCA 2 OPS status 5 indicated zero. - PLBD close sequence failed on port aft latches. - MLG brakes damaged (LH inboard rotors destroyed). - MLG dump valve leaked 3 days after landing (power left on 3 hydraulic valves which had to be replaced). - Left OB elevon tile slumping and gap filler breach. - GLOMR failed to deploy (150 lbs). - Gas leaks and erosion in both SRM nozzle-to-case joints. - Erosion to secondary O-ring on LH SRM (blowby). IFM's: S/L drop dynamics godule experiment recovered. Spacelab ION experiment recovered.	

