

# SPACE SHUTTLE MISSIONS SUMMARY

FLT NO.	ORBITER	CREW (8) 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			
<b>STS 61-A</b> (STS-30) SEQ FLT # 22 KSC-22 PAD 39A-22	OV-99 Challenger (Flight 9) Spacelab D-1 Flight 4th Spacelab Flight LM (3) OMS PODS LPO1 - 8 RPO3 - 7 FRC9 - 9	<p><b>CDR:</b> Henry W. Hartsfield (Flt 3 - STS-4 &amp; STS 41-D) P104/R8/V5/M8</p> <p><b>PLT:</b> Steven R. Nagel (Flt 2 - STS 51-G) P105/R64/V23/M59</p> <p><b>M/S:</b> James F. Buchli (Flt 2 - STS 51-C) P106/R52/V24/M48</p> <p><b>M/S:</b> Guion S. Bluford (Flt 2 - STS-8) P107/R22/V25/M21</p> <p><b>M/S:</b> Bonnie J. Dunbar P108/R79/F7</p> <p><b>P/S:</b> Reinhard Furrer (Germany) P109/R80/M73</p> <p><b>P/S:</b> Ernst Messerschmid (Germany) P110/R81/M74</p> <p><b>P/S:</b> Wubbo J. Ockels (Netherlands) P111/R82/M75</p> <p>MCC FCR-1 (9)</p> <p><b>FLIGHT DIRECTORS:</b> Asc/Ent - G. E. Coen Ld/O 1 - L. S. Bourgeois O 2 - G. A. Pennington O 3 - C. R. Knarr MOD - D. R. Puddy</p>	KSC 39A 303:17:00:00Z 12:00:00 PM EST (P) 12:00:00 PM EST (A) Wednesday 1 10/30/85 (3)	EDW 17, LAKEBED (EDW 16, LKBD 12) 9:44:51 AM PST Wednesday 2 11/06/85 (4) <u>X</u> RANGE: 69 NM <u>OR</u> B DIR: AR 2 <u>AIM</u> PT: NOM PLS - EDW SLS - KSC ALS - NOR AOA - NOR AOA WX - NONE TAL - ZARAGOZA (SELECTED) TAL WX - MORON MANUAL TAL - KOLN/BONN NLGTD: 4767 FT 310:17:44:59Z VEL: 178 KGS HDOT: -7.8 FPS BRK INIT: 111 KGS <u>A</u> VE BRK <u>DE</u> CEL: 7.5 FPS/S <u>W</u> HEELS <u>STOP</u> : 310:17:45:40Z 10133 FT <u>ROLL</u> OUT: 8304 FT 49 SEC <u>W</u> INDS: OH, 1R KNOTS OFFICIAL: OH, 0X <u>D</u> ENS <u>ALT</u> : 2539 FT <u>FLT</u> <u>D</u> URATION: 7:00:44:51 168:44:51 <u>S/T</u> : 139:15:36:25 <u>OV</u> -099: 62:07:55:07 <u>D</u> ISTANCE: 2,501,290 sm	104/104 109% 100/89/ 65/104/ 102/73/ 67 1 = 2023 (4) 2 = 2020 (5) 3 = 2021 (5) MLGTD: 1829 FT 310:17:44:51Z VEL: 213 KGS 203 KEAS HDOT: -1.2 FPS TD NORM 195: 2549 FT VELOC: 147.96°E	BI-022  MTR: HPM  CASE: LWC  ET-24  LWT-17  ET BR/UP 188K 1:00:57 MET  ET IMPACT LAT: 59.97°S LONG: 147.96°E	56.998° (4)	STANDARD INSERTION  <u>POST</u> OMS-2 178.99 X 175.51 NM  <u>G</u> LOMR <u>DE</u> PLOY 179.62 NM	O16-29 (4)	<p><b>CARGO:</b> 31911 lbs</p> <p><b>CHARGEABLE:</b> 30519 lbs</p> <p><b>DEPLOYABLE:</b> 150 lbs GLOMR GAS</p> <p><b>NON-DEPLOY:</b> 27330 lbs</p> <p><b>MIDDECK:</b> 2164 lbs</p> <p><b>RETURNED:</b> 30732 lbs</p> <p><b>SHUTTLE ACCUMULATED WEIGHTS:</b> <u>DE</u>PLOYED: 244745 lbs <u>NON-DE</u>PLOYED: 335869 lbs <u>CARGO</u> TOTAL: 666686 lbs</p> <p><b>PERFORMANCE MARGINS (LBS):</b> FPR: 4897 FUEL BIAS: 851 FINAL TDDP: 6222 RECON: 6219</p> <p><b>PAYLOAD:</b> Spacelab D-1/LM (Germany)</p> <p><b>EXPERIMENTS:</b> WL - 6 Material Science Exps PK - 3 optical diagnostic facilities (process chamber) MD - Media (material science), elliptical mirror heating facility, high precision thermostat facility BW - Life Sciences VS- Vestibular sled BR - Biorack NAVES - (Nav Exp) ME - Materials Exp GLOMR (DPLY)</p> <p>4 CRYO TANK SETS  RMS 16 (S.N. 302) Used for waste water dump monitor</p>	KSC W/D: OPF 35, VAB 4, PAD 14 = 53  <u>LAUNCH</u> POSTPONEMENTS: None.  <u>LAUNCH</u> SCRUBS: None.  <u>LAUNCH</u> DELAYS: None.  TAL WX: Zaragoza, Moron, and Ben Guerir go.  <u>FLIGHT</u> DURATION CHANGES: None.  <u>FIRSTS</u> : - First flight with redesigned MPS 17" disconnect primary seal. - First flight with full nosewheel steering. - First flight with 8 crewmembers. - First flight with POCC overseas (Munich). Spacelab D-1 flight with objective science and implications of microgravity.  <u>EVENTS</u> : - GLOMR deployed at 12:34:00 MET (rev 9). - Long duration gravity gradient attitude (9 - 12 hours per day).  <u>SIGNIFICANT ANOMALIES</u> : - Fuel cell 1 condenser exit temperature oscillated. - Cryo hydrogen tank 1 control pressure failed. - RRCS helium leg A operated on secondary. - RRCS helium leg B failed closed. - APU 1 gearbox GN2 P high. - Smoke detector B in avionics bay triggered false alarms. - S-Band antenna switched late. - Primary L RCS thruster L2L injector heater failed on. - RMS deploy micrositches for shoulder manipulator positioning pedestal went to zero. - Stream of particulate matter hit Orbiter. - WCS fan separator 1 fails. - LH SRM center and aft field joint gas leaks to primary O-rings (blowby).  RADIATORS DEPLOYED #11 (stowed for 23 hours in -ZLV +YVV)

