PAYLOAD FLIGHT ASSIGNMENTS
NASA MIXED FLEET

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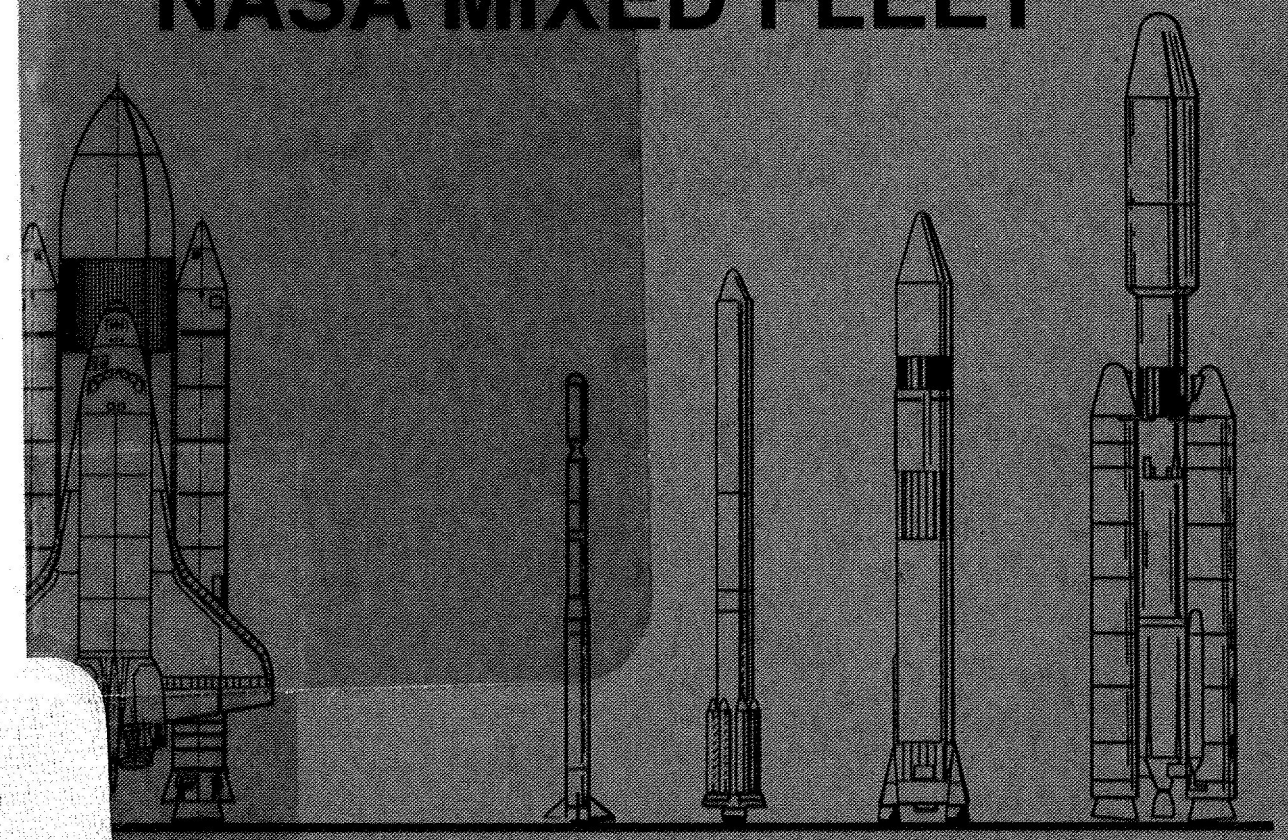

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JANUARY 1989

PAYLOAD FLIGHT ASSIGNMENTS

NASA MIXED FLEET

JANUARY 1989

SUBMITTED BY

JERRY J. FITTS
DIRECTOR, TRANSPORTATION SERVICES OFFICE

APPROVED BY

RICHARD H. TRULY
ASSOCIATE ADMINISTRATOR FOR SPACE FLIGHT

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MIXED FLEET MANIFEST NOTES

- THIS MANIFEST INCLUDES PAYLOAD ASSIGNMENTS FOR SHUTTLE AND EXPENDABLE LAUNCH VEHICLE (ELV) FLIGHTS THROUGH FISCAL 1994.

- THE MANIFEST SERVES AS A BASELINE FOR PLANNING PURPOSES. FIRM PRIMARY AND COMPLEX SECONDARY SHUTTLE PAYLOAD ASSIGNMENTS ARE MADE DURING THE FORMAL INTEGRATION PROCESS AT APPROXIMATELY 19 MONTHS PRIOR TO LAUNCH. OTHER SECONDARY PAYLOAD ASSIGNMENTS ARE FORMALIZED BETWEEN 12 TO 5 MONTHS PRIOR TO LAUNCH.

- FOR THE FIRST TIME, THE MANIFEST INCLUDES COMPLEX SECONDARY PAYLOADS CARRIED IN THE SHUTTLE CARGO BAY. SECONDARY PAYLOADS CARRIED IN THE CREW COMPARTMENT ARE SHOWN ONLY FOR FLIGHTS ON WHICH THEY ARE FORMALLY ASSIGNED. THESE PAYLOADS ARE IDENTIFIED IN THE PAYLOAD REQUESTS, SECTION 5.0.

- THROUGHOUT THIS DOCUMENT, PENDING REQUIREMENTS ARE NOTED "FOR NASA PLANNING PURPOSES."

- THE MANIFEST SUPPORTS THE COMMERCIAL SPACE INITIATIVE ANNOUNCED WITH THE NATIONAL SPACE POLICY, FEBRUARY 11, 1988, AS FOLLOWS:

  - THE INDUSTRIAL SPACE FACILITY (ISF) IS MANIFESTED AS A FULLY REIMBURSABLE PAYLOAD UNDER A PRE-EXISTING AGREEMENT.

  - THE SPACEHAB IS MANIFESTED CONSISTENT WITH THE NASA/SPACEHAB AGREEMENT SIGNED IN AUGUST 1988.

MIXED FLEET MANIFEST NOTES

(CONTINUED)

THE COMMERCIALLY DEVELOPED SPACE FACILITY (CDSF) WILL BE MANIFESTED WHEN THE GOVERNMENT'S LEASE ARRANGEMENTS ARE COMPLETE.

ALL OF THE ABOVE ARE SUBJECT TO FURTHER NEGOTIATIONS WITH THE APPROPRIATE COMMERCIAL ORGANIZATIONS. SPECIFIC MANIFESTING DECISIONS WILL DEPEND ON COMMERCIAL CUSTOMER DEMAND.

- IT IS INTENDED THAT THIS MANIFEST WILL BE UPDATED ON A QUARTERLY BASIS.
- FOR FURTHER INFORMATION PLEASE CONTACT:

TRANSPORTATION SERVICES OFFICE
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SUMMARY

BY FISCAL YEAR

YEAR	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	TOTAL
			SHUTTLE FLIGHTS*				
PAYLOADS							
NASA	2.00	5.57	5.54	8.79	8.57	8.50	38.97
DOD	3.00**	3.00	2.66	0.25	2.00	2.00	12.91
ALL OTHER	--	0.43	0.80	2.96	3.43	2.50	10.12
TOTAL	5.00**	9.00	9.00	12.00	14.00	13.00	62.00
			EXPENDABLE LAUNCH VEHICLE (ELV) FLIGHTS				
VEHICLE CLASS							
SMALL	2	--	1	3	2	2	10
MEDIUM	1	2	2	2	3	3	13
INTERMEDIATE	1	2	--	3	--	--	6
TOTAL	4	4	3	8	5	5	29

NOTES:

* EQUIVALENT SHUTTLE FLIGHTS
** TOTAL FLIGHTS, PLANNED AND FLOWN

SUMMARY

BY CALENDAR YEAR

YEAR	CY 1989	CY 1990	CY 1991	CY 1992	CY 1993	CY 1994	TOTAL
			SHUTTLE FLIGHTS*				
PAYLOADS							
NASA	4.57	5.00	5.23	9.10	8.57	9.50	41.97
DOD	2.00	4.00	1.66	1.25	2.00	2.00	12.91
ALL OTHER	0.43	--	2.11	1.65	3.43	2.50	10.12
TOTAL	7.00	9.00	9.00	12.00	14.00	14.00	65.00
			EXPENDABLE LAUNCH VEHICLE (ELV) FLIGHTS				
VEHICLE CLASS							
SMALL	2	--	2	3	2	2	11
MEDIUM	2	1	2	3	3	2	13
INTERMEDIATE	1	2	1	2	--	--	6
TOTAL	5	3	5	8	5	4	30

NOTES:

* EQUIVALENT SHUTTLE FLIGHTS.

SECTION 2.0

SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
29	FEB 89 DISCOVERY	28.5 160	5 5	TDRS-D	IUS	SHARE SE-83-09 PCG-III-01 PM-01 CHROMEX SE-82-08 AMOS-01 IMAX-01	C:CAPT. M. L. COATS (CAPT., USN) P:JOHN E. BLAHA (COL., USAF) MS:JAMES F. BUCHLI (COL., USMC) MS:R. C. SPRINGER (COL., USMC) MS:JAMES P. BAGIAN (M.D.)
30	89 4 28 ATLANTIS	28.9 160	5 4	MAGELLAN	IUS	FEA-01 MLE AMOS-02	C:DAVID M. WALKER (CAPT., USN) P:RONALD J. GRABE (COL., USAF) MS:NORMAN E. THAGARD (M.D.) MS:MARY L. CLEAVE (PH.D.) MS:MARK C. LEE (MAJ., USAF)
28	89 7 1 COLUMBIA	XX X	5 X	DOD			C:BREWSTER H. SHAW (COL., USAF) P:R. N. RICHARDS (CDR., USN) MS:DAVID C. LEESTMA (CDR., USN) MS:J. C. ADAMSON (LT. COL., USAF) MS:MARK N. BROWN (MAJ., USAF)
33	89 8 10 DISCOVERY	XX X	5 X	DOD			C:FREDERICK D. GREGORY (COL, USAF) P:S. DAVID GRIGGS (RADM., USNR) MS:F. STORY MUSGRAVE (M.D.) MS:KATHRYN C. THORNTON (PH.D.) MS:MANLEY CARTER, JR. (CAPT., USN)

NOTE: IN THE MISSION INTEGRATION PROCESS, EFFICIENCY AND INTEGRITY ARE ENHANCED IF FLIGHT NUMBERS ARE MAINTAINED AFTER ASSIGNMENT AT 19 MONTHS BEFORE LAUNCH. WITH MANIFEST CHANGES, NUMERICAL SEQUENCE OF EARLY FLIGHTS IS NOT MAINTAINED.

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
34	89 10 12 ATLANTIS	34.3 160	5 4	GALILEO	IUS		C:DONALD E. WILLIAMS (CAPT., USN) P:MICHAEL J. MCCULLEY (CMDR., USN) MS:SHANNON W. LUCID (PH.D.) MS:ELLEN S. BAKER (M.D.) MS:FRANKLIN R. CHANG-DIAZ (PH.D.)
32	89 11 13 COLUMBIA	28.5 190	5 5*	SYNCOM IV-05 LDEF-1R	UNIQUE	IMAX-02	C:DANIEL BRANDENSTEIN (CAPT.,USN) P:JAMES WETHERBEE (LT. CMDR., USN) MS:BONNIE J. DUNBAR (PH.D.) MS:DAVID LOW (M.S.-AERONAUTICS) MS:MARSHA IVINS (B.S.-AEROSPACE)
31	89 12 11 DISCOVERY	28.5 310 X 330	5 5	HST		ICBC	C:LOREN J. SHRIVER (COL., USAF) P:CHARLES F. BOLDEN (COL., USMC) MS:STEVEN A. HAWLEY (PH.D.) MS:BRUCE MCCANDLESS II (CAPT, USN) MS:KATHRYN D. SULLIVAN (PH.D.)
36	90 2 1 ATLANTIS	XX X	5 X	DOD			
35	90 3 1 COLUMBIA	28.5 190	7 9*	ASTRO-01 BBXRT-01	IG+2 PAL TAPS		C:JON A. MCBRIDE (CAPT., USN) P:GUY S. GARDNER (COL., USAF) MS:JOHN LOUNGE (M.S-ASTROPHYSICS) MS:JEFFREY A. HOFFMAN (PH.D.) MS:ROBERT A. R. PARKER (PH.D.) PS:RONALD A. PARISE (PH.D.) PS:SAMUEL T. DURRANCE (PH.D.)

* PLANS TO EXTEND TO 10 DAYS

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
37	90 4 5 DISCOVERY	28.5 243	5 5	GRO		SSBUV-01	
38	90 5 10 ATLANTIS	XX X	5 X	DOD			
40	90 6 7 COLUMBIA	39.0 160	7 8	SLS-01	LM	GAS BRIDGE	
39	90 7 19 DISCOVERY	57.0 140	7 7	CIRRIS (DOD) IBSS (DOD) STP-01 (DOD)	PALLET SPAS HH-M		
41	90 10 5 ATLANTIS	28.5 160	5 4	ULYSSES	IUS/PAM		
42	90 11 1 COLUMBIA	33.4 175	7 7	STARLAB (DOD)	LM+1P		
43	90 12 10 DISCOVERY	28.5 160	5 5	TDRS-E	IUS	SSBUV-02	
44	91 1 31 ATLANTIS	28.5 160	7 7	TSS-01 GPS-01 (DOD)	MPESS+PAL PAM-D2	PMG-01 ASP EOIM-3-1/ TEMP2A-02	

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
45	91 2 21 COLUMBIA	28.5 160	7 10	IML-01	LM		
46	91 3 28 DISCOVERY	XX X	5 X	DOD			
47	91 5 2 ATLANTIS	57.0 135	5 7	ATLAS-01	IG+2 PAL		
48	91 7 1 DISCOVERY	44.0 160	7 7	S/L-J	LM		
49	91 8 1 ATLANTIS	28.5 160	5 7	GPS-02 (DOD) EURECA-1L LAGEOS-02	PAM-D2 EURECA-A IRIS	MSL-03 LDSFD	
50	91 10 10 DISCOVERY	57.0 291	5 5	UARS			
51	91 11 14 ATLANTIS	28.5 160	5 7	SPACEHAB-01 INMARSAT-01 WAMDII	 PAM-D2 TAPS		
52	91 12 19 COLUMBIA	44.0 160	7 10	S/L-D2	LM + USS		
53	92 3 2 OV105	28.5 160	6 7	GEOSTAR-01 EURECA-1R	PAM-D2 EURECA-A	CANEX-02	

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
54	92 3 30 COLUMBIA	28.5 160	7 10*	USML-01	LM+MPESS		
55	92 5 7 DISCOVERY	57.0 160	5 7	SRL-01	PAL+MPESS	SDS-01 DEE	
56	92 5 28 ATLANTIS	28.5 160	5 7	PUR-1 USMP-01	MSL+MPESS		
57	92 6 11 OV105	57.0 135	5 7	ATLAS-02	IG+PAL	SPARTAN-02 SSBUV-03	
58	92 7 16 COLUMBIA	39.0 160	7 8	SLS-02	LM		
59	92 8 13 DISCOVERY	28.5 190	7 7	ASTRO-02	IG+2 PAL	CXH-01	
60	92 9 3 ATLANTIS	28.5 160	5 7	SHEAL ORFEUS SATCOM	UNIQUE+SP SPAS PAM-D2		
61	92 9 24 OV105	28.5 160	5 7	SPACEHAB-02 GEOSTAR-02 DOD	PAM-D2		
62	92 10 22 COLUMBIA	28.5 160	7 10*	IML-02	LM		

* PLANS TO EXTEND BEYOND 10 DAYS

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
63	92 11 10 DISCOVERY	XX X	5 X	DOD			
64	92 12 14 ATLANTIS	28.5 160	5 5	TDRS-F	IUS	SEDS	
65	93 1 11 OV105	28.5 160	5 7	ISF-01	UNIQUE	CTM HPE	
66	93 2 11 DISCOVERY	57.0 160	7 7	SRL-02	PAL+MPESS	SDS-02	
67	93 3 22 ATLANTIS	28.5 160	5 7	EURECA-2L USMP-02	EURECA-A MSL+MPESS	SFH	
68	93 4 12 OV105	28.5 160	5 7	INMARSAT-02	PAM-D2	SRAD/TPITS	
69	93 5 6 COLUMBIA	57.0 160	7 9	ATLAS-03 CRISTA	IG+PAL+SP SPAS	CSI-I (MAST-I) SSBUV-04	
70	93 6 3 DISCOVERY	28.5 160	5 5	SFU-RETR GEOSTAR-03	UNIQUE PAM-D2	CXE-01	
71	93 6 24 ATLANTIS	28.5 160	5 7	SPACEHAB-03 GP-B1	UNIQUE PALLET	CXH-02 IEH	

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
72	93 7 15 OV105	28.5 160	5 7	ISF-02	UNIQUE	CXH-03 LITE-01	
73	93 8 12 COLUMBIA	28.5 160	7 10*	USML-02	LM+MPESS		
74	93 9 2 DISCOVERY	XX X	5 X	DOD			
75	93 9 30 ATLANTIS	28.5 160	5 7	AAFE EURECA-2R USMP-03	2 PALLETS EURECA-A MSL+MPESS		
76	93 10 21 OV105	39.0 160	7 7	SLS-03	LM		
77	93 11 11 COLUMBIA	28.5 160	5 7	OMV-01 (WISP) /SPARTAN-T	UNIQUE		
78	93 12 9 DISCOVERY	XX X	5 X	DOD			
79	94 1 13 ATLANTIS	28.5 160	5 7	SPACEHAB-04 XTE	FSS	S/C GLOW	
80	94 2 3 OV105	28.5 160	5 7	ISF-03	UNIQUE	CSW-01	

* PLANS TO EXTEND BEYOND 10 DAYS

*** SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
81	94 2 24 COLUMBIA	28.5 160	7 10*	IML-03	LM		
82	94 3 24 DISCOVERY	28.5 TBD	5 5	HST-REV	PAL+FSS		
83	94 4 14 ATLANTIS	57.0 160	7 7	ATLAS-04	IG+1 PAL	CXH-04 CSW-02	
84	94 5 12 OV105	28.5 160	5 5	TDRS-G	IUS		
85	94 6 9 COLUMBIA	44.0 160	7 9	S/L-D3	LM+USS		
86	94 7 14 ATLANTIS	28.5 160	5 7	SPACEHAB-05		SSS SURFER CXH-05	
87	94 8 25 OV105	XX X	5 X	DOD			
88	94 9 22 COLUMBIA	57.0 160	7 7	SRL-03		IFCE/ESA	

* PLANS TO EXTEND BEYOND 10 DAYS

SECTION 3.0

ELV PAYLOAD FLIGHT ASSIGNMENTS

*** ELV PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989 MANIFEST

DATE YR MO	CLASS	LAUNCH VEHICLE TYPE	INCL	PAYLOAD ORBIT	LAUNCH SITE	PAYLOAD
89 06	MEDIUM	DELTA 184	99.0	SS	WSMC	COBE
89 07	SMALL	SCOUT	TBD	TBD	WSMC	MACSAT (DOD)
89 09	INTERMEDIATE	ATLAS CENTAUR 68	28.5	GSO	ESMC	FLTSATCOM-F8 (DOD)
89 09	SMALL	SCOUT	TBD	TBD	WSMC	SALT (DOD)
89 12	MEDIUM	ATLAS 50E	98.7	SS	WSMC	NOAA-D
90 02	MEDIUM	DELTA	57.0	LEO	ESMC	ROSAT
90 06	INTERMEDIATE	ATLAS CENTAUR	18.0	GTO	ESMC	CRRES
90 07	INTERMEDIATE	ATLAS I	28.5	GSO	ESMC	GOES-I
91 03	SMALL	SCOUT	TBD	TBD	TBD	USAF-1 (DOD)
91 05	MEDIUM	ATLAS 34E	98.7	SS	WSMC	NOAA-I
91 08	MEDIUM	DELTA	28.5	LEO	ESMC	EUVE
91 11	INTERMEDIATE	ATLAS I	28.5	GSO	ESMC	GOES-J
91 12	SMALL	SCOUT	TBD	LEO	TBD	SMALL EXPL-01

*** ELV PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989 MANIFEST

DATE YR MO	CLASS	LAUNCH VEHICLE TYPE	INCL	PAYLOAD ORBIT	LAUNCH SITE	PAYLOAD
92 05	INTERMEDIATE	ATLAS I	28.5	GSO	ESMC	GOES-K
92 05	SMALL	SCOUT S-215C	TBD	LEO	SMR	CRRES-01
92 06	SMALL	SCOUT	TBD	LEO	TBD	SMALL EXPL-02
92 07	MEDIUM	ATLAS 11E	98.7	SS	WSMC	NOAA-J
92 07	MEDIUM	TBD	28.7	HE	ESMC	GEOTAIL
92 09	INTERMEDIATE	TITAN III	28.5	EO	ESMC	MARS OBSERVER
92 12	SMALL	TBD	TBD	LEO	TBD	SMALL EXPL-03**
92 12	MEDIUM	TBD	28.7	HE	ESMC	WIND
93 03	MEDIUM**	TBD	28.7	GSO	ESMC	MSAT**
93 06	SMALL	TBD	TBD	LEO	TBD	SMALL EXPL-04**
93 06	MEDIUM	TBD	90.0	HE	WSMC	POLAR
93 11	MEDIUM	TITAN II	98.7	SS	WSMC	NOAA-K
93 12	SMALL	TBD	TBD	LEO	TBD	SMALL EXPL-05**

** FOR NASA PLANNING PURPOSES

*** ELV PAYLOAD FLIGHT ASSIGNMENTS ***
JANUARY 1989 MANIFEST

DATE YR MO	CLASS	LAUNCH VEHICLE TYPE	INCL	PAYLOAD ORBIT	LAUNCH SITE	PAYLOAD
94 06	SMALL	TBD	TBD	LEO	TBD	SMALL EXPL-06**
94 06	MEDIUM**	TBD	98.6	LEO	WSMC	RADARSAT**
94 09	MEDIUM	TITAN II	98.7	SS	WSMC	NOAA-L

** FOR NASA PLANNING PURPOSES

SECTION 4.0

PREVIOUS FLIGHTS

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
1	81 4 12 COLUMBIA	40.3 172	2 2	DFI	DFI PLT	OEX	C:JOHN W. YOUNG (USN, RET.) P:ROBERT L. CRIPPEN (CAPT, USN)
2	81 11 12 COLUMBIA	38.0 140	2 2	OSTA-1 DFI	PALLET DFI PLT	OEX IECM	C:JOE H. ENGLE (COL., USAF) P:RICHARD H. TRULY (CAPT., USN)
3	82 3 22 COLUMBIA	38.0 130	2 8	OSS-1 DFI	PALLET DFI PLT	IECM OEX SSIP(1) GAS TEST MLR EEVT	C:JACK R. LOUSMA (COL., USMC) P:C. G. FULLERTON (COL., USAF)
4	82 6 27 COLUMBIA	28.5 162	2 7	DOD 82-1 DFI	DFI PLT	OEX IECM MLR CFES NOSL SSIP(2) GAS(1)	C:T. K. MATTINGLY (CAPT., USN) P:H. W. HARTSFIELD (USAF, RET.)
5	82 11 11 COLUMBIA	28.5 160	4 5	SBS-C TELESAT-E	PAM-D PAM-D	GLOW SSIP(3) GAS(1)	C:VANCE D. BRAND (CIVILIAN) P:R. F. OVERMYER (COL., USMC) MS:JOSEPH ALLEN (PH.D.-PHYSICS) MS:W. B. LENOIR (PH.D.-SCIENCE)

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
6	83 4 4 CHALLENGER	28.5 150	4 5	TDRS-A	IUS	CFES MLR,NOSL GAS(3)	C:P. J. WEITZ (CAPT, USN, RET.) P:KAROL J. BOBKO (COL., USAF) MS:D. PETERSON (COL, USAF, RET) MS:F. STORY MUSGRAVE (M.D.)
7	83 6 18 CHALLENGER	28.5 160	5 6	SPAS-01 OSTA-2 TELESAT-F PALAPA-B1	 MPESS PAM-D PAM-D	CFES MLR GAS(7)	C:ROBERT L. CRIPPEN (CAPT, USN) P:F. H. HAUCK (CAPT., USN) MS:JOHN M. FABIAN (COL., USAF) MS:SALLY K. RIDE (PH.D.-PHYSICS) MS:NORMAN E. THAGARD (M.D.)
8	83 8 30 CHALLENGER	28.5 160	5 6	PDRS/PFTA OIM INSAT 1-B	 PAM-D	CFES RME GAS(4) SSIP(1)	C:RICHARD H. TRULY (CAPT., USN) P:D. C. BRANDENSTEIN (CDR, USN) MS:D. A. GARDNER (LT. CDR., USN) MS:G. S. BLUFORD (MAJ., USAF) MS:WILLIAM E. THORNTON (M.D.)
9	83 11 28 COLUMBIA	57.0 135	6 10	SPACELAB 1	LM+1P		C:JOHN W. YOUNG (USN, RET.) P:BREWSTER H. SHAW (MAJ., USAF) MS:OWEN K. GARRIOTT (PH.D.) MS:ROBERT A. PARKER (PH.D.) PS:ULF MERBOLD, ESA (PHYSICIST) PS:B. K. LICHTENBERG, MIT (PH.D)

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
10 41-B	84 2 3 CHALLENGER	28.5 165	5 8	SPAS-01A PALAPA B-2 WESTAR-6	 PAM-D PAM-D	ACES,IEF C-360c+b RME,MLR GAS(5) SSIP(1) IRT	C:VANCE D. BRAND (CIVILIAN) P:R. L. GIBSON (LT. CDR., USN) MS:BRUCE MCCANDLESS (CDR., USN) MS:ROBERT L. STEWART (MAJ., USA) MS:RONALD E. MCNAIR (PH.D.)
11 41-C	84 4 6 CHALLENGER	28.5 250	5 7	LDEF-1 SMM REPAIR	 FSS	RME,IMAX C-360b SSIP(1)	C:ROBERT L. CRIPPEN (CAPT, USN) P:FRANCIS R. SCOBEE (USAF, RET) MS:GEORGE D. NELSON (PH.D.) MS:TERRY J. HART (M.S.-ELEC ENG) MS:JAMES D. VAN HOFTEN (PH.D.)
12 41-D	84 8 30 DISCOVERY	28.5 160	6 6	OAST-1 SBS-D TELSTAR 3-C SYNCOM IV-2	MPESS PAM-D PAM-D	CFES III IMAX RME SSIP(1) CLOUDS	C:H. W. HARTSFIELD (USAF, RET.) P:M. L. COATS (LT. CDR., USN) MS:R. A. MULLANE (MAJ., USAF) MS:STEVEN A. HAWLEY (PH.D.) MS:JUDITH A. RESNIK (PH.D.) PS:C. WALKER (MCDONNELL DOUGLAS)
13 41-G	84 10 5 CHALLENGER	57.0 190	7 8	OSTA-3 ERBS LFC/ORS	PALLET MPESS	IMAX RME GAS(8) TLD APE CANEX	C:ROBERT L. CRIPPEN (CAPT, USN) P:JON A. MCBRIDE (CDR., USN) MS:KATHRYN D. SULLIVAN (PH.D.) MS:SALLY K. RIDE (PH.D.-PHYSICS) MS:D. C. LEESTMA (LT. CDR., USN) PS:MARC GARNEAU (NRCC, CANADA) PS:P. SCULLY-POWER (NAVY CIVIL.)

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
14 51-A	84 11 8 DISCOVERY	28.5 160	5 8	HS-376 RETV(2) TELESAT-H SYNCOM IV-1	2 PALLET PAM-D	DMOS RME	C:F. H. HAUCK (CAPT., USN) P:DAVID M. WALKER (CDR., USN) MS:ANNA L. FISHER (M.D.) MS:D. A. GARDNER (LT. CDR., USN) MS:JOSEPH P. ALLEN (PH.D.)
15 51-C	85 1 24 DISCOVERY	28.5 X	5 3	DOD			C:T. K. MATTINGLY (CAPT., USN) P:L. J. SHRIVER (LT. COL, USAF) MS:J. F. BUCHLI (LT. COL., USMC) MS:E. S. ONIZUKA (MAJ., USAF) MS:GARY E. PAYTON (MAJ., USAF)
16 51-D	85 4 12 DISCOVERY	28.5 250	7 7	TELESAT-I SYNCOM IV-3	PAM-D	CFES III AFE PPE/SAS SSIP(2) GAS(2)	C:KAROL J. BOBKO (COL., USAF) P:DONALD E. WILLIAMS (CDR, USN) MS:M. RHEA SEDDON (M.D.) MS:JEFFREY A. HOFFMAN (PH.D.) MS:S. DAVID GRIGGS (CAPT., USNR) PS:C. WALKER (MCDONNELL DOUGLAS) PS:E. JAKE GARN (U.S. SENATE)
17 51-B	85 4 29 CHALLENGER	57.0 190	7 7	SPACELAB 3	LM+MPESS	GAS(2)	C:R. F. OVERMYER (COL., USMC) P:F. D. GREGORY (LT. COL, USAF) MS:DON L. LIND (PH.D.) MS:NORMAN E. THAGARD (M.D.) MS:WILLIAM E. THORNTON (M.D.) PS:L. VAN DEN BERG (EG&G CORP.) PS:T. WANG (JET PROPULSION LAB.)

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
18 51-G	85 6 17 DISCOVERY	28.5 190	7 7	SPARTAN-1 MORELOS-A ARABSAT-1B TELSTAR 3-D	MPESS PAM-D PAM-D PAM-D	FEE FPE ADSF HPTE GAS(6)	C:D. BRANDENSTEIN (CAPT., USN) P:J. O. CREIGHTON (CDR., USN) MS:SHANNON W. LUCID (PH.D.) MS:S. R. NAGEL (LT. COL., USAF) MS:JOHN M. FABIAN (COL., USAF) PS:SULTAN S. AL-SAUD (ARABSAT) PS:PATRICK BAUDRY (FRANCE)
19 51-F	85 7 29 CHALLENGER	50.0 207	7 7	SPACELAB 2	IG+3P	SAREX STTP CBDE	C:C. G. FULLERTON (COL., USAF) P:ROY D. BRIDGES (COL., USAF) MS:F. STORY MUSGRAVE (M.D.) MS:ANTHONY W. ENGLAND (PH.D.) MS:KARL G. HENIZE (PH.D.) PS:LOREN W. ACTON (LOCKHEED) PS:J-D. BARTOE (NAVY CIVILIAN)
20 51-I	85 8 27 DISCOVERY	28.5 190	5 8	AUSSAT-1 ASC-1 SYNCOM IV-4	PAM-D PAM-D	PVTOS SYNCOM SALVAGE	C:JOE H. ENGLE (COL., USAF) P:R. O. COVEY (LT. COL., USAF) MS:JAMES VAN HOFTEN (PH.D.) MS:JOHN M. LOUNGE (M.S.) MS:WILLIAM F. FISHER (M.D.)
21 51-J	85 10 3 ATLANTIS	28.5 X	5 4	DOD			C:KAROL BOBKO (COL., USAF) P:R. J. GRABE (LT. COL., USAF) MS:ROBERT STEWART (COL., USA) MS:DAVID HILMERS (MAJ., USMC) PS:WILLIAM A. PAILES (MAJ., USAF)

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
22 61-A	85 10 30 CHALLENGER	57.0 175	8 7	SPACELAB D-1	LM	GLOMR	C:H. W. HARTSFIELD (USAF, RET.) P:STEVEN R. NAGEL (MAJ., USAF) MS:J. F. BUCHLI (LT. COL., USMC) MS:G. S. BLUFORD (LT. COL, USAF) MS:BONNIE J. DUNBAR (PH.D.) PS:R. FURRER (DFVLR) (GERMANY) PS:E MESSERSCHMID (DFVLR)(GERMANY) PS:W. OCKELS (DFVLR) (DUTCH)
23 61-B	85 11 26 ATLANTIS	28.5 190	7 7	EASE/ACCESS MORELOS-B SATCOM KU-2 AUSSAT-2	MPESS PAM-D PAM-D2 PAM-D	GAS(1) CFES IMAX DMOS MPSE	C:B. H. SHAW (LT. COL., USAF) P:B. D. O'CONNOR (LT COL, USMC) MS:MARY L. CLEAVE (PH.D.) MS:S. C. SPRING (LT. COL., USA) MS:JERRY L. ROSS (MAJ., USAF) PS:RUDOLFO NERI VELA (MORELOS) PS:C. WALKER (MCDONNELL DOUGLAS)
24 61-C	86 1 12 COLUMBIA	28.5 175	7 5	MSL-2 SATCOM KU-1 GAS BRIDGE	MPESS PAM-D2	HH-G1 IR-IE HPCG IBSE CHAMP SSIP(3) GAS(13)	C:R. L. GIBSON (LT. CDR., USN) P:C. F. BOLDEN (MAJ., USMC) MS:F. R. CHANG-DIAZ (PH.D.) MS:STEVEN A. HAWLEY (PH.D.) MS:GEORGE D. NELSON (PH.D.) PS:ROBERT CENKER (RCA) PS:BILL NELSON (U.S. CONGRESSMAN)

*** PREVIOUS SHUTTLE FLIGHTS ***

FLT	DATE ORBITER	INCL ALT	CRW DUR	PRIMARY PAYLOADS	CARRIER	SECONDARY PAYLOADS	CREW ASSIGNMENT
25 51-L	86 1 28 CHALLENGER	- -	7 -	SPARTAN-HALLEY TDRS-B	MPESS IUS	TIS FDE CHAMP RME SSIP(3)	C:FRANCIS R. SCOBEE (USAF, RET) P:MICHAEL J. SMITH (CDR., USN) MS:JUDITH A. RESNIK (PH.D.) MS:ELLISON ONIZUKA (MAJ., USAF) MS:RONALD E. MCNAIR (PH.D.) PS:GREGORY JARVIS (HUGHES) SFP:CHRISTA MCAULIFFE (TEACHER)
26	88 9 29 DISCOVERY	28.5 160	5 4	TDRS-C	IUS	ADSF-2 PVTOS-2 IRCFE SE-82-04 PCG-II-I-1 IEF-2 HME-1 ARC-2 MLE-1 ELRAD SE-82-05	C:F. H. HAUCK (CAPT., USN) P:R. O. COVEY (LT. COL., USAF) MS:J. M. LOUNGE (M.S-ASTROPHYSICS) MS:G. D. NELSON (PH.D-ASTRONOMY) MS:DAVID C. HILMERS (MAJ., USMC)
27	88 12 2 ATLANTIS	57.0 X	5 4	DOD			C:R. L. GIBSON (CDR., USN) P:GUY S. GARDNER (LT COL, USAF) MS:R. M. MULLANE (COL., USAF) MS:JERRY L. ROSS (LT. COL, USAF) MS:W. M. SHEPHERD (CDR., USN)

PREVIOUS SCOUT LAUNCH VEHICLE FLIGHTS

PROGRAM INITIATION DATE: 1959
LAUNCHES TO DATE: 112

FIRST FLIGHT: 1960
LAUNCH VEHICLE SUCCESSES: 98

LAST 20 FLIGHTS

LAUNCH DATE	LAUNCH VEHICLE	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
DEC 5, 1975	S-196	DAD		FAILURE
MAY 22, 1976	S-179	AIR FORCE	LEO	SUCCESS
JUN 18, 1976	S-193	GP-A	LEO	SUCCESS
SEP 1, 1976	S-197	NAVY	LEO	SUCCESS
OCT 27, 1977	S-200	NAVY	LEO	SUCCESS
APR 26, 1978	S-201	HCMM	LEO	SUCCESS
FEB 18, 1979	S-202	SAGE	LEO	SUCCESS
JUN 2, 1979	S-198	UK-6	LEO	SUCCESS
OCT 30, 1979	S-203	MAGSAT	LEO	SUCCESS
MAY 14, 1981	S-192	NOVA I	LEO	SUCCESS
JUN 27, 1983	S-205	HILAT	LEO	SUCCESS
OCT 11, 1984	S-208	NOVA-III	LEO	SUCCESS
AUG 2, 1985	S-209	SOOS-I	LEO	SUCCESS
DEC 12, 1985	S-207	AFITV	LEO	SUCCESS
NOV 13, 1986	S-199	AF POLAR BEAR	LEO	SUCCESS
SEP 16, 1987	S-209	SOOS-2	LEO	SUCCESS
MAR 25, 1988	S-206	SAN MARCO-DL	LEO	SUCCESS
APR 25, 1988	S-211	SOOS-III	LEO	SUCCESS
JUN 15, 1988	S-213	NOVA-II	LEO	SUCCESS
AUG 25, 1988	S-214	SOOS-IV	LEO	SUCCESS

PREVIOUS DELTA LAUNCH VEHICLE FLIGHTS

PROGRAM INITIATION DATE: 1959
LAUNCHES TO DATE: 182

FIRST FLIGHT: 1960
LAUNCH VEHICLE SUCCESSES: 170

LAST 20 FLIGHTS

LAUNCH DATE	LAUNCH VEHICLE	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
JUL 16, 1982	163	LANDSAT-D	SS	SUCCESS
AUG 26, 1982	164	TELESAT-F	GSO	SUCCESS
OCT 28, 1982	165	RCA-E	GSO	SUCCESS
JAN 26, 1983	166	IRAS	SS	SUCCESS
APR 11, 1983	167	RCA-F	GSO	SUCCESS
APR 28, 1983	168	GOES-F	GSO	SUCCESS
MAY 26, 1983	169	EXOSAT	HE	SUCCESS
JUN 28, 1983	170	GALAXY-A	GSO	SUCCESS
JUL 28, 1983	171	TELSTAR-3A	GSO	SUCCESS
SEP 8, 1983	172	RCA-6	GSO	SUCCESS
SEP 22, 1983	173	GALAXY-B	GSO	SUCCESS
MAR 1, 1984	174	LANDSAT-D PRIME	SS	SUCCESS
AUG 16, 1984	175	AMPTE	HE	SUCCESS
SEP 21, 1984	176	GALAXY-C	GSO	SUCCESS
NOV 14, 1984	177	NATO-3D	GSO	SUCCESS
MAY 3, 1986	178	GOES-G		FAILURE
SEP 5, 1986	180	DOD-1	LEO	SUCCESS
FEB 26, 1987	179	GOES-H	GSO	SUCCESS
MAR 20, 1987	182	PALAPA B2P	GSO	SUCCESS
FEB 8, 1988	181	DOD-2	LEO	SUCCESS

PREVIOUS ATLAS CENTAUR VEHICLE FLIGHTS

PROGRAM INITIATION DATE: 1958
LAUNCHES TO DATE: 66

FIRST FLIGHT: MAY 8, 1962
LAUNCH VEHICLE SUCCESSES: 56

LAST 20 FLIGHTS

LAUNCH DATE	LAUNCH VEHICLE	SPACECRAFT	FINAL PAYLOAD ORBIT ACHIEVED	NOTES
AUG 8,1978	AC-51	PIONEER VENUS-2	HELIO	SUCCESS
NOV 13,1978	AC-52	HEAO B	LEO	SUCCESS
MAY 4, 1979	AC-47	FLTSATCOM-2	GSO	SUCCESS
SEP 20, 1979	AC-53	HEAO 3	LEO	SUCCESS
JAN 17, 1980	AC-49	FLTSATCOM-3	GSO	SUCCESS
OCT 30, 1980	AC-57	FLTSATCOM-4	GSO	SUCCESS
DEC 6, 1980	AC-54	INTELSAT V	GSO	SUCCESS
FEB 21, 1981	AC-42	COMSTAR D-4	GSO	SUCCESS
MAY 23, 1981	AC-56	INTELSAT V	GSO	SUCCESS
AUG 6, 1981	AC-59	FLTSATCOM-5	GSO	FAILURE
DEC 15, 1981	AC-55	INTELSAT V	GSO	SUCCESS
MAR 4, 1982	AC-58	INTELSAT V	GSO	SUCCESS
SEP 28, 1982	AC-60	INTELSAT V	GSO	SUCCESS
MAY 19, 1983	AC-61	INTELSAT V	GSO	SUCCESS
JUN 9, 1984	AC-62	INTELSAT V		FAILURE
MAR 22, 1985	AC-63	INTELSAT VA	GSO	SUCCESS
JUN 29, 1985	AC-64	INTELSAT VA	GSO	SUCCESS
SEP 28, 1985	AC-65	INTELSAT VA	GSO	SUCCESS
DEC 4, 1986	AC-66	FLTSATCOM-7	GSO	SUCCESS
MAR 26, 1987	AC-67	FLTSATCOM-6		FAILURE

SECTION 5.0

PAYLOAD REQUESTS

NOTES ABOUT DATES IN THIS SECTION:

1. REQUEST DATE: THE PAYLOAD ORGANIZATION'S REQUESTED LAUNCH DATE
2. FLIGHT DATE: IF MANIFESTED, IT IS THE LAUNCH DATE SHOWN IN THE MANIFEST
   IF NOT MANIFESTED, NO DATE IS GIVEN.

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
AAFE	2 PALLETS	93 06	93 09 30	SHUTTLE	PRIMARY
AMOS-01***	MIDDECK LOCKER	89 02	89 02 23	SHUTTLE	SECONDARY
AMOS-02***	MIDDECK LOCKER	89 04	89 04 28	SHUTTLE	SECONDARY
ASP	HH-G	88 11	91 01 31	SHUTTLE	SECONDARY
ASTRO-01	IG+2 PALLETS	89 11	90 03 1	SHUTTLE	PRIMARY
ASTRO-02	IG+2 PALLETS	91 01	92 08 13	SHUTTLE	PRIMARY
ATLAS-01	IG+2 PALLETS	90 09	91 05 2	SHUTTLE	PRIMARY
ATLAS-02	IG+1 PALLET	91 09	92 06 11	SHUTTLE	PRIMARY
ATLAS-03	IG+1 PALLET	92 11	93 05 6	SHUTTLE	PRIMARY
ATLAS-04	IG+1 PALLET	93 11	94 04 14	SHUTTLE	PRIMARY
ATLAS-05**	IG+1 PALLET	94 11		SHUTTLE	PRIMARY
AXAF	UNIQUE	95 12		SHUTTLE	PRIMARY
BBXRT-01	TAPS	89 11	90 03 1	SHUTTLE	PRIMARY
BIOPLATFORM-01**	N/A	96 01		MEDIUM**	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes
*** Carried in crew compartment

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
BIOPLATFORM-02**	N/A	96 06		MEDIUM**	PRIMARY
BIOPLATFORM-03**	N/A	97 01		MEDIUM**	PRIMARY
BIOPLATFORM-04**	N/A	97 06		MEDIUM**	PRIMARY
BIOPLATFORM-05**	N/A	98 01		MEDIUM**	PRIMARY
BIOPLATFORM-06**	N/A	98 06		MEDIUM**	PRIMARY
CANEX-02	UNIQUE	85 12	92 03 2	SHUTTLE	SECONDARY
CAPL	HH-G	90 02		SHUTTLE	SECONDARY
CASSINI	CENTAUR**	96 04		TITAN IV**	PRIMARY
CIRRIS (DOD)	PALLET	89 03	90 07 19	SHUTTLE	PRIMARY
COBE	N/A	89 06	89 06	DELTA	PRIMARY
COLD-SAT**	N/A	95 12		MEDIUM**	PRIMARY
CRAF	CENTAUR**	95 08		TITAN IV**	PRIMARY
CRISTA	ASTRO-SPAS	93 05	93 05 6	SHUTTLE	PRIMARY
CRRES	N/A	90 06	90 06	ATLAS-CENTAUR	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
CRRES-01	N/A	92 05	92 05	SCOUT	PRIMARY
CSI-I (MAST-I)	PALLET	91 04	93 05 6	SHUTTLE	SECONDARY
CSW-01	HH-G	90 01	94 02 3	SHUTTLE	SECONDARY
CSW-02	HH-G	92 04	94 04 14	SHUTTLE	SECONDARY
CSW-03	HH-G	92 10		SHUTTLE	SECONDARY
CSW-04	HH-G	93 04		SHUTTLE	SECONDARY
CSW-05	HH-G	93 10		SHUTTLE	SECONDARY
CTM	HH-G	89 06	93 01 11	SHUTTLE	SECONDARY
CXE-01	UNIQUE	90 10	93 06 3	SHUTTLE	SECONDARY
CXE-02	UNIQUE	91 04		SHUTTLE	SECONDARY
CXE-03	UNIQUE	93 10		SHUTTLE	SECONDARY
CXH-01	HH-M	90 04	92 08 13	SHUTTLE	SECONDARY
CXH-02	HH-M	91 01	93 06 24	SHUTTLE	SECONDARY
CXH-03	HH-M	91 07	93 07 15	SHUTTLE	SECONDARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
CXH-04	HH-M	91 10	94 04 14	SHUTTLE	SECONDARY
CXH-05	HH-M	92 04	94 07 14	SHUTTLE	SECONDARY
CXH-06	HH-M	92 10		SHUTTLE	SECONDARY
CXH-07	HH-M	93 01		SHUTTLE	SECONDARY
CXH-08	HH-M	93 04		SHUTTLE	SECONDARY
CXH-09	HH-M	93 07		SHUTTLE	SECONDARY
CXH-10	HH-M	93 10		SHUTTLE	SECONDARY
DEE	GAS BEAM	90 10	92 05 7	SHUTTLE	SECONDARY
DOD-02	UNIQUE	89 07	89 07 1	SHUTTLE	PRIMARY
DOD-03	UNIQUE	89 08	89 08 10	SHUTTLE	PRIMARY
DOD-04	UNIQUE	90 02	90 02 1	SHUTTLE	PRIMARY
DOD-05	UNIQUE	90 05	90 05 10	SHUTTLE	PRIMARY
DOD-06	UNIQUE	90 08	91 03 28	SHUTTLE	PRIMARY
DOD-07	UNIQUE	90 11	92 09 24	SHUTTLE	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
DOD-08	UNIQUE	90 12	92 11 10	SHUTTLE	PRIMARY
DOD-09	UNIQUE	92 09	93 09 2	SHUTTLE	PRIMARY
DOD-10	UNIQUE	92 11	93 12 9	SHUTTLE	PRIMARY
DOD-11	UNIQUE	93 09	94 08 25	SHUTTLE	PRIMARY
DOD-12	UNIQUE	94 01		SHUTTLE	PRIMARY
DOD-13	UNIQUE	94 09		SHUTTLE	PRIMARY
DOD-14	UNIQUE	95 01		SHUTTLE	PRIMARY
DOD-15	UNIQUE	95 09		SHUTTLE	PRIMARY
DOD-16	UNIQUE	96 01		SHUTTLE	PRIMARY
DOD-17	UNIQUE	96 09		SHUTTLE	PRIMARY
DOD-18	UNIQUE	97 01		SHUTTLE	PRIMARY
DOD-19	UNIQUE	97 09		SHUTTLE	PRIMARY
DOD-20	UNIQUE	98 01		SHUTTLE	PRIMARY
DOD-21	UNIQUE	98 09		SHUTTLE	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
EOIM-3-02	MPESS	91 01		SHUTTLE	SECONDARY
EOIM-3-03	MPESS	92 06		SHUTTLE	SECONDARY
EOIM-3-04	MPESS	94 01		SHUTTLE	SECONDARY
EOIM-3-1/TEMP2A-02	MPESS	89 11	91 01 31	SHUTTLE	SECONDARY
EURECA-1L	EURECA-A	90 09	91 08 1	SHUTTLE	PRIMARY
EURECA-1R	EURECA-A	91 03	92 03 2	SHUTTLE	PRIMARY
EURECA-2L	EURECA-A	93 01	93 03 22	SHUTTLE	PRIMARY
EURECA-2R	EURECA-A	93 06	93 09 30	SHUTTLE	PRIMARY
EURECA-3L	EURECA-A	95 06		SHUTTLE	PRIMARY
EURECA-3R	EURECA-A	95 12		SHUTTLE	PRIMARY
EUVE	N/A	91 08	91 08	DELTA	PRIMARY
FEA-01***	MIDDECK LOCKER	89 04	89 04 28	SHUTTLE	SECONDARY
FLTSATCOM-F8 (DOD)	N/A	89 09	89 09	ATLAS-CENTAUR	PRIMARY
FR-01**	HH-G	92 06		SHUTTLE	SECONDARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes
*** Carried in crew compartment

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
FR-02**	HH-G	92 06		SHUTTLE	SECONDARY
FR-03**	HH-G	92 06		SHUTTLE	SECONDARY
FTS-DTF-01	UNIQUE	91 08	***	SHUTTLE	SECONDARY
FTS-DTF-02	UNIQUE	93 06	***	SHUTTLE	SECONDARY
GALILEO	IUS	89 10	89 10 12	SHUTTLE	PRIMARY
GEOSTAR-01	PAM-D2	91 08	92 03 2	SHUTTLE	PRIMARY
GEOSTAR-02	PAM-D2	92 02	92 09 24	SHUTTLE	PRIMARY
GEOSTAR-03	PAM-D2	92 08	93 06 3	SHUTTLE	PRIMARY
GEOTAIL	TBD	92 07	92 07	MEDIUM	PRIMARY
GOES-I	N/A	90 07	90 07	ATLAS I	PRIMARY
GOES-J	N/A	91 11	91 11	ATLAS I	PRIMARY
GOES-K	N/A	92 05	92 05	ATLAS I	PRIMARY
GOES-L	N/A	95 07		ATLAS I	PRIMARY
GOES-M	N/A	95 12		ATLAS I	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes
*** Once the FTS volume envelope, weight, power requirements and other key characteristics are defined, specific 1991 and 1993 Shuttle flight assignments are expected.

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
GP-B1	PALLET	93 07	93 06 24	SHUTTLE	PRIMARY
GP-B2**	N/A	95 01		MEDIUM**	PRIMARY
GPS-01 (DOD)	PAM-D2	91 01	91 01 31	SHUTTLE	PRIMARY
GPS-02 (DOD)	PAM-D2	91 05	91 08 1	SHUTTLE	PRIMARY
GRO	UNIQUE	90 01	90 04 7	SHUTTLE	PRIMARY
HC-10	UNIQUE	88 10		SHUTTLE	PRIMARY
HC-11	UNIQUE	88 05		SHUTTLE	PRIMARY
HC-12	UNIQUE	89 02		SHUTTLE	PRIMARY
HC-13	UNIQUE	89 06		SHUTTLE	PRIMARY
HC-14	UNIQUE	89 11		SHUTTLE	PRIMARY
HC-15	UNIQUE	90 06		SHUTTLE	PRIMARY
HC-16	UNIQUE	90 11		SHUTTLE	PRIMARY
HC-17	UNIQUE	91 06		SHUTTLE	PRIMARY
HC-18	UNIQUE	91 11		SHUTTLE	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
HPE	HH-G	89 02	93 01 11	SHUTTLE	SECONDARY
HST		89 06	89 12 11	SHUTTLE	PRIMARY
HST-REV	PALLET+FSS	93 06	94 03 24	SHUTTLE	PRIMARY
HST-REVISIT-02	PALLET+FSS	97 01		SHUTTLE	PRIMARY
IBSS (DOD)	SPAS	89 06	90 07 19	SHUTTLE	PRIMARY
IEH	HH-G	89 01	93 06 24	SHUTTLE	SECONDARY
IFCE/ESA	HH-G	91 01	94 09 22	SHUTTLE	SECONDARY
IMAX-01***	MIDDECK LOCKER	89 02	89 02 23	SHUTTLE	****
IMAX-02***	MIDDECK LOCKER	89 11	89 11 13	SHUTTLE	****
IMAX-03	ICBC	89 12	89 12 11	SHUTTLE	****
IML-01	LM	91 04	91 02 21	SHUTTLE	PRIMARY
IML-02	LM+EDO KIT	92 11	92 10 22	SHUTTLE	PRIMARY
IML-03	LM+EDO KIT	94 05	94 02 24	SHUTTLE	PRIMARY
IML-04**	LM+EDO KIT	96 01		SHUTTLE	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes
*** Carried in crew compartment
**** IMAX is manifested with appropriate primary payloads.

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
INMARSAT-01	PAM-D2	88 06	91 11 14	SHUTTLE	PRIMARY
INMARSAT-02	PAM-D2	89 03	93 04 12	SHUTTLE	PRIMARY
INTELSAT VI-01	UNIQUE	89 10		SHUTTLE	PRIMARY
INTELSAT VI-02	UNIQUE	90 04		SHUTTLE	PRIMARY
INTELSAT VI-05	UNIQUE	91 01		SHUTTLE	PRIMARY
ISF-01	FM+DS	92 07	93 01 11	SHUTTLE	PRIMARY
ISF-02	AM+DS	93 01	93 07 15	SHUTTLE	PRIMARY
ISF-03	FM+DS	93 07	94 02 3	SHUTTLE	PRIMARY
ISF-04**	AM+DS	94 01		SHUTTLE	PRIMARY
ISF-05**	AM+DS	94 07		SHUTTLE	PRIMARY
ISF-06**	AM+DS	95 01		SHUTTLE	PRIMARY
ISF-07**	AM+DS	95 07		SHUTTLE	PRIMARY
ISF-08**	AM+DS	96 01		SHUTTLE	PRIMARY
ISF-09**	AM+DS	96 07		SHUTTLE	PRIMARY

* Except as noted, secondary payloads are carried in the cargo bay.
** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
ISF-10**	AM+DS	97 01		SHUTTLE	PRIMARY
ISF-11**	AM+DS	97 07		SHUTTLE	PRIMARY
ISF-12**	AM+DS	98 01		SHUTTLE	PRIMARY
ISF-13**	AM+DS	98 07		SHUTTLE	PRIMARY
ISF-14**	AM+DS	99 01		SHUTTLE	PRIMARY
LAGEOS-02	IRIS	90 06	91 08 1	SHUTTLE	PRIMARY
LDEF-1R		89 07	89 11 13	SHUTTLE	PRIMARY
LDSFD	MIDDECK LOCKER	89 11	91 08 1	SHUTTLE	SECONDARY
LIFESAT-01**	TBD	93 01		MEDIUM**	PRIMARY
LIFESAT-02**	TBD	94 01		MEDIUM**	PRIMARY
LIFESAT-03**	TBD	94 06		MEDIUM**	PRIMARY
LIFESAT-04**	TBD	95 01		MEDIUM**	PRIMARY
LIFESAT-05**	TBD	95 06		MEDIUM**	PRIMARY
LIFESAT-06**	TBD	96 03		MEDIUM**	PRIMARY

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** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
LIFESAT-07**	TBD	96 09		MEDIUM**	PRIMARY
LITE-01	PALLET	93 02	93 07 15	SHUTTLE	SECONDARY
LITE-02**	PALLET	94 08		SHUTTLE	SECONDARY
LUNAR OBSERVER**	TBD	95 10		INTERMEDIATE**	PRIMARY
MACSAT (DOD)	N/A	89 07	89 07	SCOUT	PRIMARY
MAGELLAN	IUS	89 04	89 04 28	SHUTTLE	PRIMARY
MARS OBSERVER	TOS	92 09	92 09	TITAN III	PRIMARY
MLE-01***	MIDDECK LOCKER	89 04		SHUTTLE	SECONDARY
MSAT**	TBD	93 03	93 03	MEDIUM**	PRIMARY
MSL-03	UNIQUE	91 01	91 08 1	SHUTTLE	SECONDARY
MSL-04	UNIQUE	92 05		SHUTTLE	SECONDARY
MSL-05	UNIQUE	92 04		SHUTTLE	SECONDARY
MSL-06	UNIQUE	93 04		SHUTTLE	SECONDARY
MSL-07	UNIQUE	94 04		SHUTTLE	SECONDARY

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** For NASA planning purposes
*** Carried in crew compartment

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
MSL-08	UNIQUE	95 04		SHUTTLE	SECONDARY
MSL-09	UNIQUE	96 04		SHUTTLE	SECONDARY
NOAA-D	N/A	89 12	89 12	ATLAS E	PRIMARY
NOAA-I	N/A	91 05	91 05	ATLAS E	PRIMARY
NOAA-J	N/A	92 07	92 07	ATLAS E	PRIMARY
NOAA-K	N/A	93 11	93 11	TITAN II	PRIMARY
NOAA-L	N/A	94 09	94 09	TITAN II	PRIMARY
NOAA-M	N/A	96 09		TITAN II	PRIMARY
OAST-02**	SPACELAB PALLET	95 04		SHUTTLE	SECONDARY
OAST-03**	SPACELAB PALLET	96 04		SHUTTLE	SECONDARY
OAST-04**	SPACELAB PALLET	97 04		SHUTTLE	SECONDARY
OAST-LS1**	SPACELAB PALLET	95 10		SHUTTLE	SECONDARY
OAST-LS2**	SPACELAB PALLET	96 10		SHUTTLE	SECONDARY
OAST-LS3**	SPACELAB PALLET	97 10		SHUTTLE	SECONDARY

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** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
OMV-01 (WISP)	OMV/SPARTAN-T	93 12	93 11 11	SHUTTLE	PRIMARY
ORFEUS	ASTRO-SPAS	91 05	92 09 3	SHUTTLE	PRIMARY
OSL**	TBD	95 10		MEDIUM**	PRIMARY
PM-01***	MIDDECK LOCKER	89 02	89 02 23	SHUTTLE	SECONDARY
PMG-01	HH-G	89 08	91 01 31	SHUTTLE	SECONDARY
PO**	TBD	96 06		INTERMEDIATE**	PRIMARY
POLAR	TBD	93 06	93 06	MEDIUM	PRIMARY
POP I	TBD	95 10		SHUTTLE/TITAN IV**	PRIMARY
POP II	TBD	98 10		SHUTTLE/TITAN IV**	PRIMARY
RADARSAT**	TBD	94 06	94 06	MEDIUM**	PRIMARY
RCA 3001	PAM-D	90 06		SHUTTLE	PRIMARY
RCA 4004	PAM-D2	89 09		SHUTTLE	PRIMARY
RCA 4006	PAM-D2	91 06		SHUTTLE	PRIMARY
ROSAT	N/A	90 02	90 02	DELTA	PRIMARY

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** For NASA planning purposes
*** Carried in crew compartment

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
S/C GLOW	HH-M	92 10	94 01 13	SHUTTLE	SECONDARY
S/L-D2	LM + USS	90 10	91 12 19	SHUTTLE	PRIMARY
S/L-D3	LM + USS	92 10	94 06 9	SHUTTLE	PRIMARY
S/L-J	LM	90 10	91 07 1	SHUTTLE	PRIMARY
SALT (DOD)	N/A	89 09	89 09	SCOUT	PRIMARY
SAPIE/ESA	HH-G	92 01		SHUTTLE	SECONDARY
SATCOM	PAM-D2	91 07	92 09 3	SHUTTLE	PRIMARY
SDS-01	HH-G	89 06	92 05 7	SHUTTLE	SECONDARY
SDS-02	HH-G	90 01	93 02 11	SHUTTLE	SECONDARY
SE-82-08***	MIDDECK LOCKER	89 02	89 02 23	SHUTTLE	SECONDARY
SE-83-09***	MIDDECK LOCKER	89 02	89 02 23	SHUTTLE	SECONDARY
SEDS	UNIQUE	90 12	92 12 14	SHUTTLE	SECONDARY
SFH	HH-M	91 02	93 03 22	SHUTTLE	SECONDARY
SFU-RETR	UNIQUE	93 06	93 06 3	SHUTTLE	PRIMARY

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** For NASA planning purposes
*** Carried in crew compartment

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
SHARE	UNIQUE	89 Q2	89 02 23	SHUTTLE	SECONDARY
SHEAL	UNIQUE/TAPS	91 05	92 09 3	SHUTTLE	PRIMARY
SIRTF**	TBD	99 06		INTERMEDIATE**	PRIMARY
SKIRT	HH-G	89 07		SHUTTLE	SECONDARY
SLS-01	LM	90 03	90 06 7	SHUTTLE	PRIMARY
SLS-02	LM	91 06	92 07 16	SHUTTLE	PRIMARY
SLS-03	LM	93 01	93 10 21	SHUTTLE	PRIMARY
SLS-04	LM	94 06		SHUTTLE	PRIMARY
SLS-05	LM	96 01		SHUTTLE	PRIMARY
SMALL EXPL-01	N/A	91 12	91 12	SCOUT	PRIMARY
SMALL EXPL-02	N/A	92 06	92 06	SCOUT	PRIMARY
SMALL EXPL-03**	N/A	92 12	92 12	SMALL	PRIMARY
SMALL EXPL-04**	N/A	93 06	93 06	SMALL	PRIMARY
SMALL EXPL-05**	N/A	93 12	93 12	SMALL	PRIMARY

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** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
SMALL EXPL-06**	N/A	94 06	94 06	SMALL	PRIMARY
SMALL EXPL-07**	N/A	94 12		SMALL	PRIMARY
SMALL EXPL-08**	N/A	95 06		SMALL	PRIMARY
SMALL EXPL-09**	N/A	95 12		SMALL	PRIMARY
SMALL EXPL-10**	N/A	96 06		SMALL	PRIMARY
SOHO	N/A	95 03		TBD	PRIMARY
SPACEHAB-01	SPACEHAB	91 06	91 11 14	SHUTTLE	PRIMARY
SPACEHAB-02	SPACEHAB	92 10	92 09 24	SHUTTLE	PRIMARY
SPACEHAB-03	SPACEHAB	93 07	93 06 24	SHUTTLE	PRIMARY
SPACEHAB-04	SPACEHAB	93 12	94 01 13	SHUTTLE	PRIMARY
SPACEHAB-05	SPACEHAB	94 06	94 07 14	SHUTTLE	PRIMARY
SPACEHAB-06	SPACEHAB	94 12		SHUTTLE	PRIMARY
SPACEHAB-07**	SPACEHAB	95 10		SHUTTLE	PRIMARY
SPACEHAB-08**	SPACEHAB	95 02		SHUTTLE	PRIMARY

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** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
SPACEHAB-09**	SPACEHAB	95 07		SHUTTLE	PRIMARY
SPARTAN-02	MPESS	89 01	92 06 11	SHUTTLE	SECONDARY
SRAD/TPITS	DFI PALLET	90 02	93 04 12	SHUTTLE	SECONDARY
SRL-01	PALLET+MPESS	91 07	92 05 7	SHUTTLE	PRIMARY
SRL-02	PALLET+MPESS	92 11	93 02 11	SHUTTLE	PRIMARY
SRL-03	PALLET+MPESS	95 04	94 09 22	SHUTTLE	PRIMARY
SP. STA-01	UNIQUE	95 03		SHUTTLE	PRIMARY
SP. STA-02	UNIQUE	95 06		SHUTTLE	PRIMARY
SP. STA-03	UNIQUE	95 09		SHUTTLE	PRIMARY
SP. STA-04	UNIQUE	95 10		SHUTTLE	PRIMARY
SP. STA-05	UNIQUE	95 12		SHUTTLE	PRIMARY
SP. STA-06	UNIQUE	96 02		SHUTTLE	PRIMARY
SP. STA-07	UNIQUE	96 03		SHUTTLE	PRIMARY
SP. STA-08	UNIQUE	96 05		SHUTTLE	PRIMARY

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*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
SP. STA-09	UNIQUE	96 06		SHUTTLE	PRIMARY
SP. STA-10	UNIQUE	96 08		SHUTTLE	PRIMARY
SP. STA-11	UNIQUE	96 09		SHUTTLE	PRIMARY
SP. STA-12	UNIQUE	96 11		SHUTTLE	PRIMARY
SP. STA-13	UNIQUE	96 12		SHUTTLE	PRIMARY
SP. STA-14	UNIQUE	97 02		SHUTTLE	PRIMARY
SP. STA-15	UNIQUE	97 03		SHUTTLE	PRIMARY
SP. STA-16	UNIQUE	97 05		SHUTTLE	PRIMARY
SP. STA-17	UNIQUE	97 06		SHUTTLE	PRIMARY
SP. STA-18	UNIQUE	97 08		SHUTTLE	PRIMARY
SP. STA-19	UNIQUE	97 09		SHUTTLE	PRIMARY
SP. STA-20	UNIQUE	97 11		SHUTTLE	PRIMARY
SSBUV-01	UNIQUE	88 06	90 04 7	SHUTTLE	SECONDARY
SSBUV-02	UNIQUE	89 02	90 12 10	SHUTTLE	SECONDARY

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** For NASA planning purposes

*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
SSBUV-03	UNIQUE	89 11	92 06 11	SHUTTLE	SECONDARY
SSBUV-04	UNIQUE	90 07	93 05 6	SHUTTLE	SECONDARY
SSBUV-05	UNIQUE	91 07		SHUTTLE	SECONDARY
SSBUV-06	UNIQUE	92 07		SHUTTLE	SECONDARY
SSBUV-07	UNIQUE	93 07		SHUTTLE	SECONDARY
SSBUV-08	UNIQUE	94 07		SHUTTLE	SECONDARY
SSBUV-09	UNIQUE	95 07		SHUTTLE	SECONDARY
SSBUV-10	UNIQUE	96 07		SHUTTLE	SECONDARY
SSBUV-11	UNIQUE	97 07		SHUTTLE	SECONDARY
SSBUV-12	UNIQUE	98 07		SHUTTLE	SECONDARY
SSS	UNIQUE	93 01	94 07 14	SHUTTLE	SECONDARY
STARLAB (DOD)	LM+1 PAL	90 06	90 11 1	SHUTTLE	PRIMARY
STP-01 (DOD)	MPESS	90 08	90 07 19	SHUTTLE	PRIMARY
STP-02 (DOD)	MPESS	92 08		SHUTTLE	SECONDARY

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*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
STP-03 (DOD)	MPESS	94 08		SHUTTLE	SECONDARY
STP-SPARTAN-01(DOD)	UNIQUE-SPARTAN	91 05		SHUTTLE	SECONDARY
STP-SPARTAN-02(DOD)	UNIQUE-SPARTAN	92 05		SHUTTLE	SECONDARY
STP-SPARTAN-03(DOD)	UNIQUE-SPARTAN	93 05		SHUTTLE	SECONDARY
STP-SPARTAN-04(DOD)	UNIQUE-SPARTAN	94 05		SHUTTLE	SECONDARY
STP-SPARTAN-05(DOD)	UNIQUE-SPARTAN	95 05		SHUTTLE	SECONDARY
STP-SPARTAN-06(DOD)	UNIQUE-SPARTAN	96 05		SHUTTLE	SECONDARY
STP-SPARTAN-07(DOD)	UNIQUE-SPARTAN	97 05		SHUTTLE	SECONDARY
SURFER	HH-G	91 01	94 07 14	SHUTTLE	SECONDARY
SYNCOM IV-05	UNIQUE	89 07	89 11 13	SHUTTLE	PRIMARY
TDRS-D	IUS	89 02	89 02 23	SHUTTLE	PRIMARY
TDRS-E	IUS	90 03	90 12 10	SHUTTLE	PRIMARY
TDRS-F	IUS	91 08	92 12 14	SHUTTLE	PRIMARY
TDRS-G	IUS	91 12	94 05 12	SHUTTLE	PRIMARY

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*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
TDRS-H**	IUS	92 11		SHUTTLE	PRIMARY
TFS-01	HH-G	93 01		SHUTTLE	SECONDARY
TFS-02	HH-G	94 01		SHUTTLE	SECONDARY
TSS-01	MPESS+1 PAL	90 10	91 01 31	SHUTTLE	PRIMARY
TSS-02**	MPESS+1 PAL	92 10		SHUTTLE	PRIMARY
TSS-03**	MPESS+1 PAL	94 10		SHUTTLE	PRIMARY
UARS		90 10	91 10 10	SHUTTLE	PRIMARY
UFO-02 (DOD)	UNIQUE	93 10		SHUTTLE	PRIMARY
UFO-03 (DOD)	UNIQUE	94 04		SHUTTLE	PRIMARY
ULYSSES	IUS/PAM	90 10	90 10 5	SHUTTLE	PRIMARY
USAF-01 (DOD)	N/A	91 03	91 03	SCOUT	PRIMARY
USML-01	LM+EDO KIT	92 03	92 03 30	SHUTTLE	PRIMARY
USML-02	LM+EDO KIT	93 09	93 08 12	SHUTTLE	PRIMARY
USML-03	LM+EDO KIT	95 03		SHUTTLE	PRIMARY

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*** PAYLOAD REQUESTS ***

PAYLOAD	CARRIER	REQUEST DATE	FLIGHT DATE	TYPE/CLASS	PRIMARY/SECONDARY*
USML-04	LM+EDO KIT	96 09		SHUTTLE	PRIMARY
USMP-01	MSL&MPESS	92 05	92 05 28	SHUTTLE	PRIMARY
USMP-02	MSL&MPESS	93 06	93 03 22	SHUTTLE	PRIMARY
USMP-03	MSL&MPESS	94 06	93 09 30	SHUTTLE	PRIMARY
USMP-04**	MSL&MPESS	95 06		SHUTTLE	PRIMARY
USMP-05**	MSL&MPESS	96 06		SHUTTLE	PRIMARY
UVLIM	HH-G	88 07		SHUTTLE	SECONDARY
WAMDII	TAPS	90 12	91 11 14	SHUTTLE	PRIMARY
WIND	TBD	92 12	92 12	MEDIUM	PRIMARY
WISP (OMV-1)**	OMV+PALLET	93 12	93 11 11	SHUTTLE	PRIMARY
XTE	FSS	93 11	94 01 13	SHUTTLE	PRIMARY

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SECTION 6.0

PAYLOADS/ACRONYMS

PAYLOAD/ACRONYM LIST

PAYLOAD/ACRONYM	NAME	DESCRIPTION
AAFE	Aeroassist Flight Experiment	Experimental vehicle that simulates the atmospheric flight phase of an Aeroassisted Orbital Transfer Vehicle (AOTV) returning from geosynchronous orbit. Provides environmental and design data for an AOTV.
AC	Atlas Centaur	Intermediate Class Expendable Launch Vehicle.
ACES	Acoustic Containerless Experiment System	Technical demonstration to obtain early microgravity tests of gas transport phenomena in a 3-axis levitation furnace.
ADSF	Automatic Directional Solidification Furnace	Technology demonstration of directional solidification of magnetic materials, immiscibles, and IR detection materials.
AF Polar Bear	Air Force Polar Bear	Study atmospheric effects on electromagnetic propagation.
AFE	American Flight Echocardiograph	Collects quantitative in-flight data on cardiovascular changes in the crew.
AFITV	Air Force Instrumented Test Vehicle	Anti-satellite target vehicle.
ALT	Altitude	Orbit altitude in nautical miles.
AMOS	Air Force Maui Optical Station	Technology development/geophysical environment study. Calibrate AMOS ground-based electro-optical sensors and study on-orbit plume phenomenology using the shuttle as a test object
AMPTE	Active Magnetosphere Particle Tracer Experiment	Satellite to study transfer of mass from the solar wind to the magnetosphere.
ANS	Astronomical Netherlands Satellite	Study the sky in ultraviolet and x-ray from above the atmosphere.

APE	Aurora Photography Experiment	Enhance understanding of the geographic extent and dynamics of the aurora.
ARABSAT	Arab Satellite	Communications satellite of the Arab Satellite Communications Organization.
ARC	Aggregation of Red Cells	Studies aggregation of red cells and blood viscosity under low-g conditions.
ASC	American Satellite Company	A satellite to provide commercial communication service to continental United States, Hawaii, Alaska, and Puerto Rico.
ASP	Attitude Sensor Package	Foreign Reimbursable Hitchhiker-G payload.
ASTRO	Astronomy	Program designed to obtain ultraviolet (UV) data on astronomical objects using a UV telescope.
ATLAS	Atmospheric Laboratory for Applications and Science	Measures long term variability in the total energy radiated by the sun and determines the variability in the solar spectrum.
ATLAS I/II	ATLAS I and II	Commercial intermediate class expendable launch vehicle.
AUSSAT	Australian Communication Satellite	Direct broadcast communication satellite which provides services to continental Australia and off-shore territories.
AXAF	Advanced X-Ray Astronomy Facility	A major free flying X-Ray observatory using a high resolution telescope. Designed to operate in orbit for 15 years.
BBXRT	Broad Band X-Ray Telescope	A BBXRT utilizing a two-axis pointing system -- flies in an attached mode on Shuttle.
B/U	Back-up	
BIOPLATFORM	Biological Platform	A free-flyer platform used to conduct life science experiments; also it is recoverable through reentry.
C	Commander	Member of the Shuttle flight crew in command of the flight.

C360	Cinema 360	35mm motion picture camera for the purpose of photographing crew and mission activities.
CANEX	Canadian Experiment	Experiment package flown with Canadian payload specialist on mission 41-G.
CANEX-2	Canadian Experiment	Canadian Payload Specialist will conduct Canadian experiments in support of Space Station.
CAPL	Capillary Pump Loop Experiment	Experiment to quantify behavior of a full-scale capillary pumped loop heat transfer system in microgravity.
CASSINI	Cassini	Saturn Orbiter/Titan Probe complements CRAF mission. Advance the knowledge of early history of the solar system through the study of physically and chemically primitive objects. Includes a rendevous with Saturn to study the planet, its rings, and its moons.
CBDE	Carbonated Beverage Dispenser Evaluation	Pepsico, Inc. experiment to evaluate packaging and dispensing techniques for space flight consumption of carbonated beverages.
CDSF	Commercially Developed Space Facility	The CDSF is one of several national commercialization initiatives. It is planned as a man-tended free-flyer with an initial launch in 1993.
CFES	Continuous Flow Electrophoresis System	Demonstrate the technology of pharmaceutical processing in space.
CHAMP	Comet Halley Active Monitoring Program	Observe Comet Halley on STS flights.
CHROMEX	CHRomosomes EXperiment	Investigation of the effects of space flight on plant tissue growth.
CIRRIS	Cryogenic Infrared Radiance Instrument for Shuttle	Collects infrared data to support Strategic Defense Initiative program.
CLOUDS	Structures Photography Experiments	Cloud formation, dissipation and opaqueness observations.

COBE	Cosmic Background Explorer	Determine the spectrum anistropy of cosmic microwave background.
COLD-SAT	Cyrogenic On Orbit Liquid Depot-Storage and Transfer	Zero g cryogenic fluids transfer experiment.
COMSTAR		Communications satellite for COMSAT.
CRAF	Comet Rendevous Asteroid Fly-by	Explore two primitive bodies to gather new information on the origin and evolution of the solar system, prebiotic chemical evolution and the origin of life, and astrophysical plasma dynamics and processes.
CRRES	Combined Release and Radiation Effects Satellite	Satellite involving Active Plasma Experiments and the study of radiation effects of various spacecraft components.
CRRES 1	Combined Release and Radiation Effects Satellite	Active Plasma Experiments to support CRRES mission.
CRISTA	Cryogenic Infrared Spectrometer Telescope For Atmosphere	A U.S./German Joint Aeronomy Payload intended to explore the variability of the atmosphere and to provide measurements that will complement those provided by UARS.
CRW	Crew	The Shuttle flight crew for a particular mission.
CSI (MAST)	Controls Structure Interaction	Experiments which are part of the OAST Control of Flexible Structures program. Project to deploy structures in a micro-gravity environment from the Shuttle.
CSW	Commercial Sidewall Carrier (HH-G type)	An Office of Commercial Programs Payload using a Hitchhiker-G type sidewall carrier.
CTM	Collapsible Tube Mast	Foreign Reimbursable Hitchhiker-G payload.
CXE	Commercial Cross-bay Carrier (EOS type)	An Office of Commercial Programs payload using an EOS type cross-bay carrier.

CXH	Commnercial Cross-bay Carrier (HH-M type)	An Office oof Commercial Programs Payload using a Hitchhiker-M type cross-bay carrier.
DAD	Dual Air Density	Measure global density of upper atmosphere and lower exosphere.
DEE	Dexterous End Effector	Demonstrates a sensor for the Shuttle arm which will allow for more precise crew control.
DFI PLT	Development Flight Instrumentation Pallet	A pallet used to accommodate the DFI used on the first four Shuttle flights.
DMOS	Diffusive Mixing of Organic Solutions	Grow crystals of organic compounds for research programs for the 3M Corporation's Science Research Laboratory.
DOD	Department of Defense	
DS	Docking System	Docking system for use in assembly and servicing of the ISF.
DUR	Duration	Mission duration of each Shuttle flight.
EASE/ACCESS	Experimental Assembly of Structures in EVA/Assembly Concept for Construction of Erectable Space Structures	Measures the human factors while assembling structures in space during Extra Vehicular Activity.
EDO	Extended Duration Orbiter	Kit added to Orbiter to extend energy resources to support mission duration up to sixteen days per kit.
EEVT	Electrophoresis Equipment Verification Test	Technology demonstration of apparatus to evaluate the effects of electrophoresis on biological cells in 0-g.
ELRAD	Earth-Limb Radiance Equipment	Obtain measurements of earth-limb radiance for various positions of the sun from near limb up to 9 degrees below earth horizon.
ELV	Expendable Launch Vehicle	
EO	Escape orbit	

EOIM-3/TEMP-2A2	Evaluation of Oxygen Interaction with Materials	Determines effects of atomic oxygen degradation on 1100 candidate materials.
	Two Phase Mounting Plate Experiment	Operates a mechanically pumped two phase heat acquisition; transport and rejection system in microgravity.
ERBS	Earth Radiation Budget Satellite	Collects global earth radiation budget data.
ESMC	Eastern Space and Missle Center	USAF organization headquartered at Patrick AFB, Florida.
EURECA	European Retrievable Carrier	Platform placed in orbit for six months offering conventional services to experimenters.
EUVE	Extreme Ultraviolet Explorer	Produce definitive sky map and catalog of extreme ultraviolet portion of electromagnetic spectrum (100-1000 angstroms).
EXOSAT	ESA X-Ray Satellite	Provides continuous observations of x-ray sources.
FDE	Fluid Dynamics Experiment	A package of six experiments flown on the middeck that involve simulating the behavior of liquid propellants in low gravity.
FEA	Fluids Experiment Apparatus	Commercialization mid-deck payload.
FEE	French Echocardiograph Equipment	Obtains on-orbit cardiovascular system data.
FLT	Flight	The flight sequence number for Shuttle missions.
FLTSATCOM	Fleet Communication Satellite	U.S. Navy communications satellite.
FPE	French-Postural Experiment	Studies sensory-motor adaptations in weightlessness.
FR	Foreign Reimbursable	Undefined foreign reimbursable Hitchhiker-G type Payload.
FSC	Fleet Satellite Communications	U.S. Navy Communications Satellite (same as FLTSATCOM).
FSS	Flight Support System	Support systems used for revisit missions.

FTS-DTF	Flight Telerobotic Servicer-Demonstration Test Flight	The demonstration flight of a Telerobotic System being developed for the Space Station to assist in attached payload assembly and maintenance, in-situ platform and satellite servicing, space station maintenance, servicing, assembly and inspection.
GALAXY	GALAXY	Hughes communications satellite.
GALILEO	GALILEO	Investigates the chemical compostion and physical state of Jupiter's atmosphere and satellites.
GAS BRIDGE	Get Away Special Bridge	Structure in the payload bay that can hold up to twelve GAS canisters.
GEOSTAR	GEOSTAR	Interactive radiodetermination satellite.
GEOTAIL	GEOTAIL	Explore Geotail of the Earth Plasma Physics.
GLOMR	Global Low Orbit Message Relay	Packet data relay satellite.
GLOW	GLOW	Atmospheric luminosities investigation.
GOES	Geostationary Operational Environmental Satellite	NOAA Weather Satellites.
GP	Gravity Probe	Scientific probe to test Einstein's Theory of Relativity.
GP-B1	Gravity Probe-B1	A prototype test of the Gravity Probe-B mission to test Einstein's General Theory of Relativity. The mission will include on-orbit testing of precision gyroscopes and support systems.
GP-B2	Gravity Probe-B2	Free flying payload to verify aspects of Einstein's relativity theory using sensitive, superconducting gyroscopes.
GPS	Global Positioning System	DOD navigation and positioning system satellites.
GRO	Gamma Ray Observatory	Investigate extraterrestrial gamma-ray sources.

GSO	Geosynchronous orbit	
GTO	Geosynchronous Transfer Orbit	
HC	Hughes Communications	Series of commercial communications satellites.
HCMM	Heat Capacity Mapping Mission	Produce thermal maps for discrimination of rock types, mineral resources, plant temperatures, soil moisture, snow fields, and water runoff.
HE	High Eccentricity Orbit	
HEAO	High Energy Astronomical Observatory	Satellite to study energetic radiation from space.
HELIO	Heliocentric	
HH-G	Hitchhiker-Goddard	A Shuttle cargo bay, payload carrier system for small experiments.
HH-M	Hitchhiker-Marshall	A Shuttle cargo bay, across-bay carrier system for small experiments.
HILAT		Evaluate propagation effects of disturbed plasmas on radar and communications systems.
HME	Handheld Microgravity Experiment	Provide for middeck experiments of limited scope in order to allow for low-cost, timely testing of concepts or procedures, or the early acquisition of data; specific objectives to be established for each flight.
HPCG	Handheld Protein Crystal Growth Middeck Experiment	Develop techniques to produce in low-G protein crystals of sufficient size and quality to permit molecular analysis by diffraction techniques.
HPE	Heat Pipe Experiment	Foreign Reimbursable Hitchhiker-G payload.
HPTE	High Precision Tracking Experiment	Demonstrates ability to propagate a low power laser beam through the atmosphere.

HS-376 RET	HS-376 Retrieval	Salvage of HS-376 communication satellites launched on the tenth shuttle mission.
HST	Hubble Space Telescope	Observes the universe to gain information about its origin, evolution and disposition of stars, galaxies, etc.
HST-R	Hubble Space Telescope-Revisit	Revisit mission to the Hubble Space Telescope to replace either science instruments orother orbital replacement units (ORU's).
IBSE	Initial Blood Storage Equipment	Evaluates changes in blood tissue during various storage conditions.
IBSS	Infrared Background Signature Survey	Obtains infrared measurements on rocket plumes, shortwave infrared Earth-limb, Shuttle environment, and chemical release from payload bay while detached in proximity to the Orbiter.
ICBC	IMAX Cargo Bay Camera	
IECM	Induced Environment Contamination Monitor	A package of ten instruments designed to fly in the Orbiter payload bay on a special pallet to check for contamination in and around the Orbiter. It also has the capability to be operated on the end of the RMS outside of the payload bay.
IEF	Isoelectric Focussing Experiment	Gather experimental data on the extent of electro-osmosis in space.
IEH	International Extreme-UV/ Far-UV Hitchhiker	Hitchhiker experiment to study ultraviolet emissions.
IFCE/ESA	In-Flight Contamination Experiment	A group of sensors mounted on the ESA Mast to study the contamination environment within 15 meters above the Shuttle bay.
IG	Igloo	Spacelab Igloo.
IMAX	IMAX, Inc. of Toronto, Ontario, Canada	Produces motion pictures of orbiter launch, inflight operations and landings suitable for viewing in IMAX theaters such as the Smithsonian.

IML	International Microgravity Laboratory	Series of microgravity missions devoted to material and life sciences studies.
INCL	Inclination	Orbit inclination in degrees.
INMARSAT	International Maritime Satellite Organization	PAM-DII class communications satellite to be used for international maritime communications services.
INSAT	Indian Satellite	Communication and meteorological satellite for the government of India.
INTELSAT	International Tele-communications Satellite	International telecommunications satellite network for the International Telecommunications Satellite Organization.
IRAS	Infrared Astronomical Satellite	All sky survey for objects that emit infrared radiation.
IRCFE	Infrared Communications Flight Experiment	Demonstrates the feasibility of using diffuse infrared light as a carrier for STS crew communications.
IR-IE	Infra-Red Imaging Equipment	Infrared video camera used to measure temperature gradients on the orbiter surface.
IRIS	Italian Research Interim Stage	Italian upper stage for use on the Shuttle.
IRT	Integrated Rendezvous Radar Target	A target for testing of Shuttle orbiter rendezvous techniques and capabilities in orbit.
ISC	International Space Corporation	Commercial joint endeavor activity.
ISF	Industrial Space Facility	Commercially-owned, man-tended orbiting facility for research and manufacturing activities.
ITA	Instrumentation Technology Associates	Commercial joint endeavor activity.

ITV	Instrumented Test Vehicle	Target for Anti Satellite.
IUS	Inertial Upper Stage	Upper stage system for Shuttle and Titan.
LAGEOS	Laser Geodynamics Satellite	Spherical satellite covered with retroreflectors which are illuminated by ground-based lasers to determine precise measurements of the Earth's crustal movements. Satellite is totally passive.
LANDSAT	Land Satellite	Earth resources monitoring satellite.
LDEF	Long Duration Exposure Facility	Free-flying satellites providing accommodations for experiments requiring long-duration exposure to the space environment.
LDSFD	Laser Docking Sensor Flight Demonstration	Demonstrates a laser system to provide accurate relative spacecraft position, attitude, and rates in support of future systems development.
LEO	Low Earth Orbit	
LFC	Large Format Camera	Acquire synoptic, high-resolution images of the Earth's surface.
LIFESAT	Life Sciences Satellite	Life science flights with micro-g as the primary objective.
LITE	Lidar In-Space Technology Experiment	Project to demonstrate the Laser Detection and Ranging (Lidar) solid state system from space.
LM	Long Module	Spacelab Crew Module.
LO	Lunar Observer	Geological, elemental, gravity, and magnetic field mapping of moon.
MACSAT	Multi-Access Communications Satellite	DOD communications satellite.
MAGELLAN	Magellan	Spacecraft designed to globally map the surface of Venus.
MAGSAT	Magnetic Field Satellite	Map the magnetic field of the earth.

MLE	Mesoscale Lightning Experiment	Record and observe the visual characteristics of large scale lightning as seen from space using onboard TV cameras.
MLR	Monodisperse Latex Reactor	Produces monodisperse latex particles in the two to forty micron range.
MO	Mars Observer	Spacecraft to study Mars' surface, climate, gravitational, and magnetic fields.
MORELOS	MORELOS	Mexican communication satellite system.
MPESS	Mission Peculiar Equipment Support Structure	Experiment carrier.
MPSE	Mexican Payload Specialist Experiment	Experiment performed by a Mexican payload specialist on the Shuttle flight which deployed the MORELOS satellite.
MS	Mission Specialist	A member of Shuttle flight crew primarily responsible for payload activity.
MSAT	Mobile Satellite	Satellite for developing advanced ground technologies and techniques for mobile communications via satellite.
MSL	Materials Science Laboratory	A payload which remains attached to the Shuttle to perform materials processing experiments in low-g.
N/A	Not Applicable	
NATO	North Atlantic Treaty Organization	Communication satellite for NATO.
NOAA	National Oceanic and Atmospheric Administration	Series of operational environmental satellites in polar orbit.
NOSL	Night/Day Optical Survey of Lightning	Optical survey of lightning.
NOVA	NOVA	Advanced Navy Navigation Satellite (OSCAR type).

OAST	Office of Aeronautics and Space Technology	Series of payloads sponsored by the Office of Aeronautics and Space Technology.
OAST-1	Office of Aeronautics and Space Technology-1	A payload which remained attached to the Shuttle to demonstrate a large light-weight solar array capable of being restowed in flight.
OEX	Orbiter Experiments	Series of engineering experiments on the Shuttle.
OIM	Oxygen Interaction with Materials	Tests which obtained quantitative rates of oxygen interaction with materials used on the Orbiter and advanced payloads.
OMV	Orbital Maneuvering Vehicle	A deployable retrievable vehicle to be flown on the STS to retrieve or insert payloads in orbits different from the orbiter.
ORBTR	Orbiter	The name of the Shuttle Orbiter used on a particular mission; e.g., Columbia, Challanger, Discovery or Atlantis.
ORFEUS	Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer	A German developed payload to explore the distribution and character of absorbing material in the solar neighborhood and through the galatic plane, to perform direct observations of the direct interstellor component, and to study mass motions in hot stellar chromo spheres, coronea and active separation in the high gravity atmosphere of White Dwarfs.
ORS	Orbiter Refueling System	An experiment to demonstrate the STS's ability to perform on-orbit satellite refueling.
OSCAR	OSCAR	U.S. Navy Navigational Satellite.
OSL	Orbiting Solar Laboratory	Will provide detailed data on our nearest star, the sun, to augment our studies of distant stars and cosmic processes.

OSS-1	Office of Space Science	Contamination monitor, microabrasion foil experiment, vehicle charging and potential experiment, Shuttle-Spacelab induced atmosphere, solar flare x-ray polarimeter, solar ultraviolet spectral irradiance monitor, plant growth unit, thermal canister experiment, and plasma diagnostics package.
OSTA-1	Office of Space and Terrestial Applications	Shuttle attached payload using the SIR-A radar to obtain high resolution images of earth.
OSTA-2	Office of Space and Terrestial Applications	Microgravity experiments.
OSTA-3	Office of Space and Terrestrial Applications	Acquire photographic and radar images of the Earth's surface.
OV 105	Orbital Vehicle 105	Replacement orbiter for NASA Shuttle fleet.
P	Pilot	A member of the Shuttle crew whose primary responsibility is to pilot the Orbiter.
PAL	Pallet	Spacelab Pallet.
PALAPA	Indonesian Communication Satellite	Synchronous satellite communication system for the Republic of Indonesia.
PAM	Payload Assist Module	An upper stage system used on the Shuttle and the Delta ELV.
PCG-II	Protein Crystal Growth	PCG activity in controlled temperature module.
PDRS/PFTA	Payload Deployment and Retrieval System/Payload Flight Test Article	First object to be deployed and retrieved by the remote manipulator system and is used to test reaction of RMS joints.
PIONEER VENUS		Remote sensing and direct measurements of Venus and its surrounding environment.
PM-1	Polymer Microstructure	Effects of microgravity on the morphological formation of polymers as they go through a physical transaction.

PMG	Plasma Motor Generator	Measures hollow cathode current couplings to/thru ionosphere; measures induced voltage in 200 meter wire in low earth orbit.
PO	Planetary Observer	Spacecraft to study Martian upper atmosphere and ionosphere.
POLAR	POLAR	Polar Auroral Plasma Physics.
POP	Polar Orbiting Platform	U.S. platforms will orbit space station and perform remote sensing experiments.
PPE	Phase Partitioning Experiment	Study separation behavior of two phase system generated by the mixture in water of polyglucose and polyethylene glycol.
PS	Payload Specialist	A member of the Shuttle crew with primary responsibility for a particular payload or experiment.
PUR	Payload Under Review	
PVTOS	Physical Vapor Transport of Organic Solids	Commercial joint endeavor activity with 3M.
RADARSAT	Radar Satellite	Remote free flyer sensing satellite will monitor land, sea and ice for five years over the poles (U.S./Canadian/U.K.).
RCA	RCA American Communications, Inc, (now GE American Communications, Inc.)	Series of communications satellites.
RME	Radiation Monitoring Equipment	Measures gamma radiation levels in the Shuttle environment
ROSAT	Roentgen Satellite	NASA/West German cooperative satellite for studying X-Rays.
S	Scout	Small Class Expendable Launch Vehicle.
S/C GLOW	Spacecraft Glow	An experiment to study and evaluate the effects of temperature on the glow characteristics of materials exposed to high velocity atomic elements

SAGE	Strategic Aerosol and Gas Experiment	Map vertical profiles of the Ozone, aerosol, nitrogen Rayleigh molecular extinction around the globe.
SALT	Special (Purpose Inexpensive Satellite) Altimeter	DOD payload
SAPIE/ESA	Solar Array Plasma Interaction Experiment/European Space Agency	An experiment to study the plasma interaction effects on solar arrays mounted on the ESA MAST which is extended from the Shuttle Bay.
SAN MARCO-DL	SAN MARCO-DL	NASA/Italian earth physics cooperative satellite
SAREX	Shuttle Amateur Radio Experiment	Space to ground voice and slow scan TV
SAS	Space Adaptation Syndrome	Measures vestibular function, motion sickness susceptibility and spatial orientation ability during prolonged weightlessness
SAS	Small Astronomy Satellite	Study x-ray sources within and beyond the Milky Way galaxy.
SATCOM		RCA communications satellite.
SBS	Satellite Business Systems	All digital domestic communication system servicing large industry, the government, etc.
SDS	Solar Disk Sextant	Studies solar pulsations, oblateness, and size.
SE	Student Experiment	Experiments for the Shuttle Student Involvement Projects.
SEDS	Small Expendable Deployment System	Demonstrates light weight tether deployer to support future experiments
SFH	Super Fluid Helium On Orbit Transfer Demonstration	Demonstrates the feasibility of on-orbit transfer of superfluid helium using thermomechanical techniques.

SFP	Space Flight Participant	
SFU-RET	Space Flyer Unit-Retrieval	A reusable, retrievable unmanned free flyer to be launched on the Japanese H-II rocket and retrieved by Shuttle.
SHARE	Space Station Heat Pipe Advanced Radiator Element	Demonstrates and quantifies the thermal performance of a high capacity, 50 foot, space constructible, heat pipe radiator element.
SHEAL	Shuttle High Energy Astrophysics Laboratory	Obtains images, spectra and timing data on celestial x-ray sources and the spectrum at the 30 ft. X-ray background.
SIRTF	Space Infrared Telescope Facility	Will span the infrared part of the spectrum with a thousand-fold increase in sensitivity.
SKIRT	Spacecraft Kinetic Infrared Test	Measures the infrared emissions produced from spacecraft and optical surfaces in low earth orbit
SKYNET	SKYNET	United Kingdom military communication satellite.
S/L D2, D3	Spacelab D2, D3	Second and third in a series of German Spacelab Missions. Objectives include microgravity research and technology preparation for Space Station use. Significant NASA participation planned on D2 and projected for D3.
S/L-J	Spacelab J	Combined Japanese/NASA Spacelab mission objectives include life sciences and microgravity research and technology.
SLS	Space Life Sciences Laboratory	Investigates the effects of weightlessness exposure using both man and animal specimens.
SMALL EXPL	Small Explorer	Payloads being designed to fly on Small Class ELV
SMR	San Marco Range	
SMRM	Solar Maximum Repair Mission	Conducts a technology demonstration of the STS capability to rendezvous, service, checkout and deploy.
SOHO	Solar Heliospheric Observatory	Provides optical measurements as well as plasma field and energetic particle observations of the sun system for studies of the solar interior, atmosphere and solar wind.

SOOS	Stacked OSCAR on Scout	Two OSCAR satellites (U.S. Navy Navigation Satellite).
SPACEHAB	SPACEHAB	Commercially-owned pressurized module for conducting experiments in a man-tended environment.
SPACELAB 1		Demonstrate Spacelab's capabilities for multidisciplinary research.
SPACELAB 2		Demonstrate Spacelab's capabilities for multidisciplinary research and verify system performance.
SPACELAB 3		Dedicated materials processing mission emphasizing 0-g research.
SPACELAB D-1	Spacelab D-1	First dedicated German Spacelab mission.
SPARTAN- 1	Shuttle Pointed Autonomous Research Tool for Austronomy	X-ray astronomy, medium energy survey mission.
SPARTAN-02		Solar observing Spartan mission.
SPARTAN-HALLEY		Search for molecules containing nitrogen, carbon or sulfur and observes the UV spectrum between 2100 and 3400A.
SPARTAN-T	SPARTAN-Target	Target for OMV-1 demonstration flight.
SPAS	Shuttle Pallet Satellite	Payload Carrier developed by Germany.
SPAS-01/OIA	German Shuttle Pallet Satellite	Demonstrates the utilization of the MBB platform and systems as a carrier for science experiments.
SP STA	Space Station	Series of flights to complete a Phase One Space Station.
SRAD/TPITS	Shuttle Radiator Assembly Demonstration/Two Phase Integrated Thermal System	Evaluate on-orbit thermal performance of a representative portion of an integrated two-phase thermal bus and on-orbit constructability of Space Station radiator elements using Remote Manipulator System and Extra Vehicular Activity techniques. This experiment combines experiments JSC 3B, JSC 3C and GSFC 2C identified in the (Thermal Energy Management Processes) Space Station flight experiment program.

SRL	Space Radar Laboratory	Series of flights to acquire radar images of the Earth's surface. The images will be used for making maps, interpreting geological features, and resource studies.
SS	Sun Synchronous	
SSBUV	Shuttle Solar Backscatter Ultra-Violet Instrument	Series of flights to measure ozone characteristics of the atmosphere.
SSIP	Shuttle Student Involvement Projects	
SSS	Satellite Servicer System	Demonstrates capability to perform autonomous fluid resupply within the Shuttle bay.
STARLAB	Starlab	DOD Spacelab experiments.
STP-SPARTAN	Space Test Program - Spartan	Deployment and retrieval of Spartan spacecraft which carries USAF STP experiments.
STTP	Life Sciences Space Technology Training Program	Develop and encourage interest on the part of college students in space biology and medicine.
SURFER	Stanford University Radio Frequency Emissions Receiver	Using a Hitchhiker-G, a satellite is ejected to study the radio frequency emission environment.
SYNCOM	Hughes Geosynchronous Communication Satellite	Provides communication services from geosynchronous orbit principally to the US government.
TAPS	Two Axis Pointing System	
TBD	To Be Determined	
TDRS	Tracking and Data Relay Satellite	Series of NASA tracking, data and communications satellites to replace the ground based network.
TELESAT	Canadian Telecommunication Satellite	Communication satellite built for Telesat Canada to provide voice and TV coverage to trans-Canada network of Earth stations.

TELSTAR	AT & T Communications Satellite	AT&T COMSTAR replacement - provides communication services to the continental US, Alaska, Hawaii, and Puerto Rico.
TFS	Thermal and Fluid Systems Test	Evaluates operational components in a zero-g environment features of space station's thermal and fluid systems.
TIS	Teacher in Space	Middeck locker supporting the Space Flight Participant Program's teacher in space.
TLD	Thermoluminescent Dosimeter	Obtains gamma ray measurements of the Shuttle environment.
TOS	Transfer Orbit Stage	
TRANSIT	TRANSIT	Navy navigation satellite.
TSS	Tethered Satellite System	System capable of deploying and retrieving satellite attached by a wire tether from distances up to 100 KM from the orbiter.
UARS	Upper Atmosphere Research Satellite	Satellite to study physical processes acting within and upon the stratosphere, mesosphere, and lower thermosphere.
UFO	Ultra High Frequency Follow-On	U.S. Navy communications satellite.
UK	United Kingdom	
ULYSSES	Formerly ISPM (International Solar Polar Mission)	Investigates the properties of the heliosphere (sun and its environment).
USAF-01	USAF Satellite	Small ELV class spacecraft -- specifics TBD.
USML	United States Microgravity Laboratory	Series of flights of a microgravity materials processing laboratory attached to the Shuttle.
USMP	United States Microgravity Payload	Conduct materials processing experiments in the microgravity environment available in the Orbiter Cargo Bay while in low earth orbit.

USS	Unique Support Structures	
UVLIM	Ultraviolet Limb Imaging Experiment	Establishes the earth and space extreme UV environment and observes space structure and time variation in segments of the 1100-3000 angstrom range.
WAMDII	Wide Angle Michelson Doppler Imaging Interferometer	Set of instruments which study upper atmospheric winds from the Shuttle.
WESTAR	Western Union Telegraph Communication Satellite	A C-band satellite to replenish and expand the Westar system (Western Union domestic communication system).
WFF	Wallops Flight Facility	
WIND	WIND	Satellite to measure solar wind input to magnetosphere.
WISP	Waves in Space Plasmas	An attached payload to conduct a series of active experiments using radio transmitters to perturb the space plasma environment.
WSMC	Western Space and Missle Center	A USAF organization with Headquarters at Vandenberg Air Force Base.
XTE	X-Ray Timing Explorer	A Spacecraft to be used in Earth orbit to investigate the physical nature of compact X-Ray sources by studying fluctuations in X-Ray brightness over timescales ranging from microseconds to years. The XTE payload will be launched on the Shuttle and changed out with the EUVE payload which will have been previously launched on an explorer platform using a Delta rocket.

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Payload flight assignments--
NASA mixed fleet