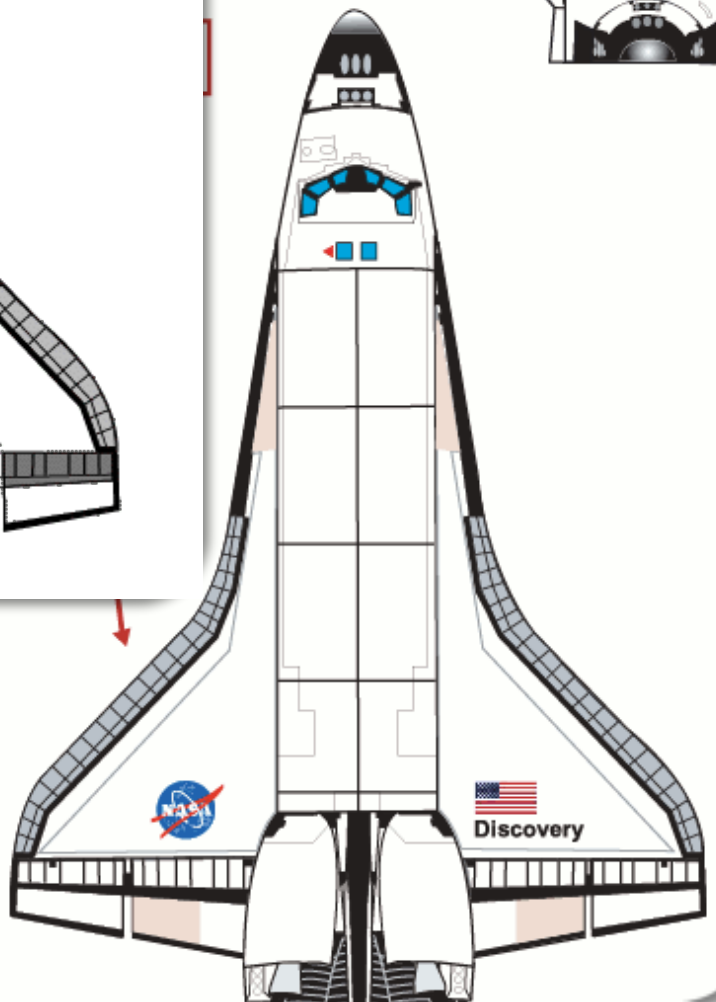
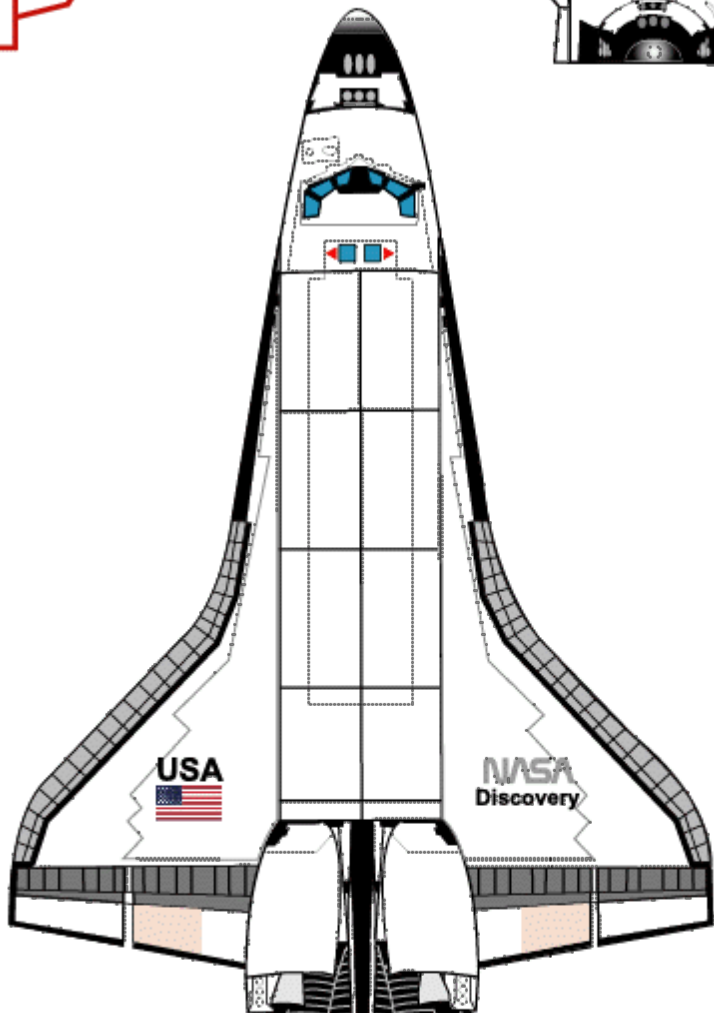


Space Shuttle Markings

A Guide for the Scale Modeler



By Alfonso X Moreno
2013



COLUMBIA

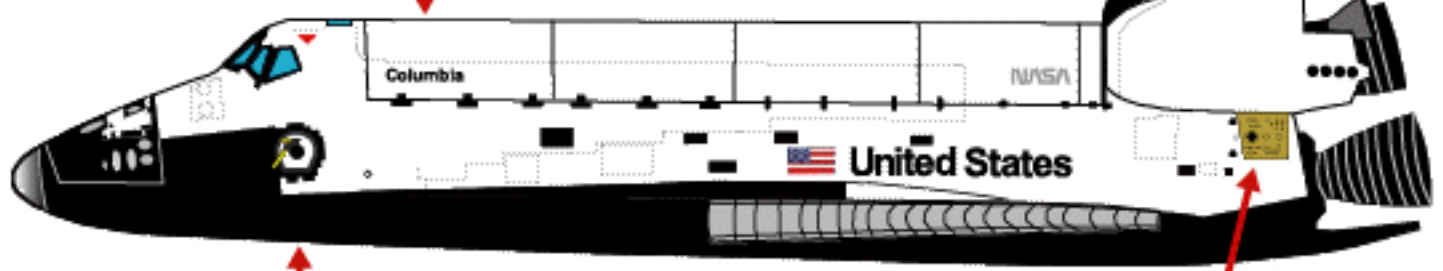


Columbia

OV-102

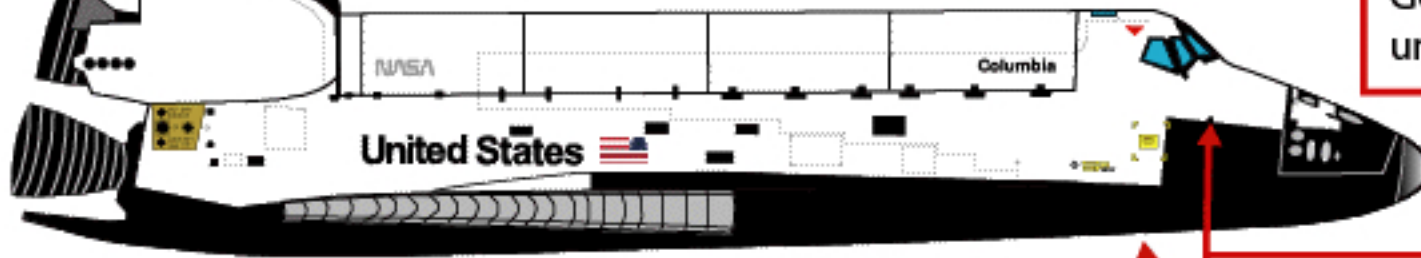
-Original Markings-
April 12, 1981

Note name and hinges on doors



Note crew hatch pattern

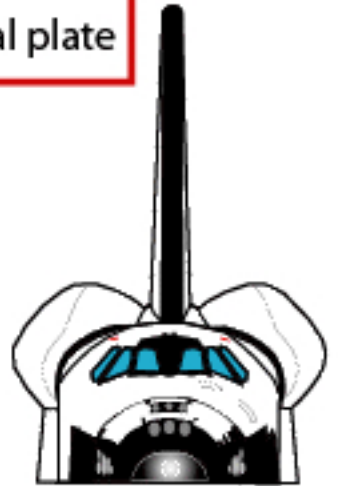
Golden umbilical plate



Note tile pattern on tail

Note right side markings

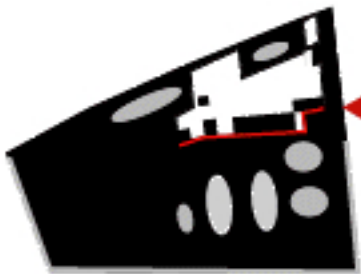
Note unique tiles



Note asymmetry of front tiles

Note markings on top of crew cabin

Red line indicates base layout on rest of fleet



Left side only



Details

Unique black areas on wings

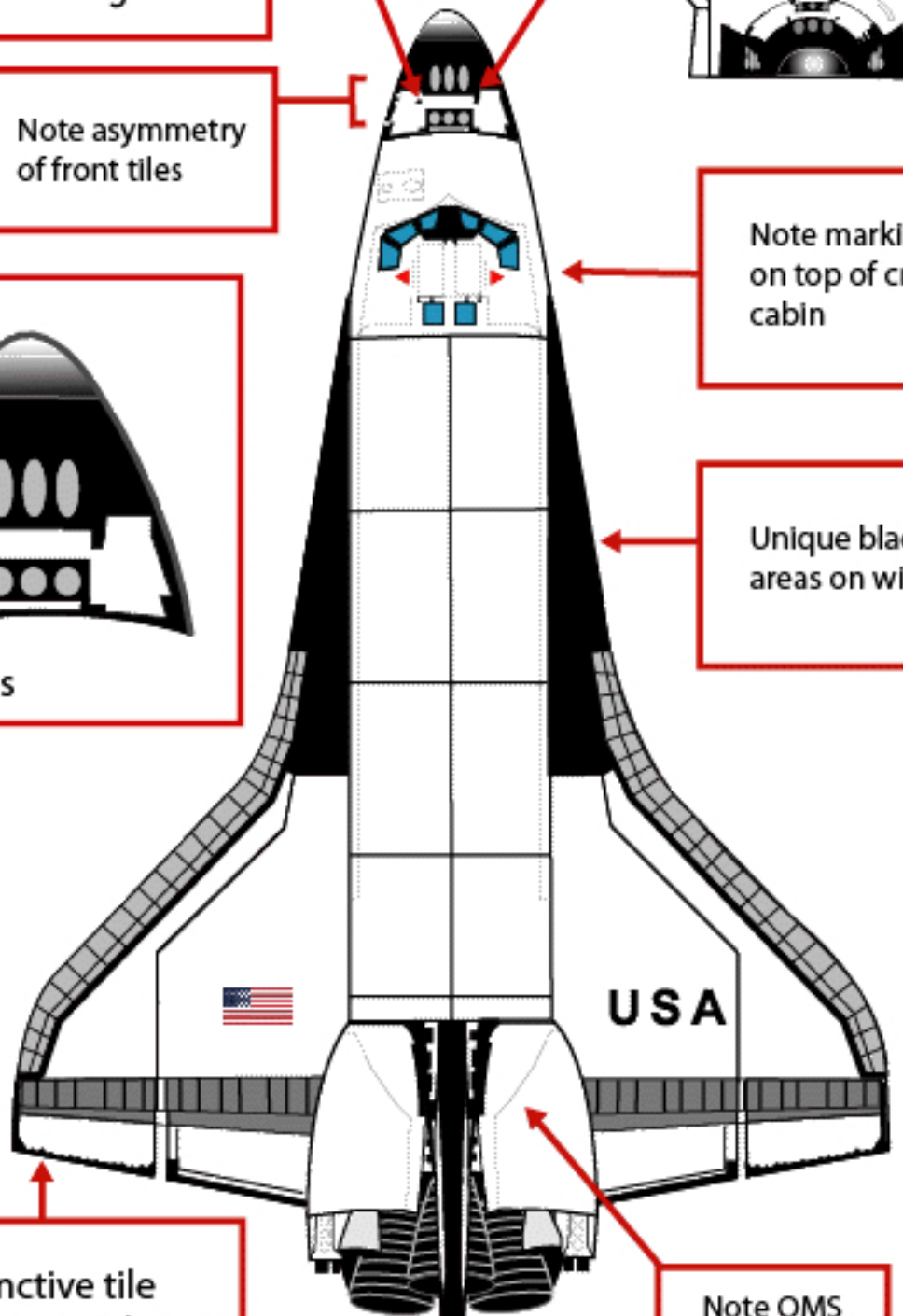


Details

Missions flown:
STS-1 (4/12/81)

Distinctive tile pattern on elevons

Note OMS pattern

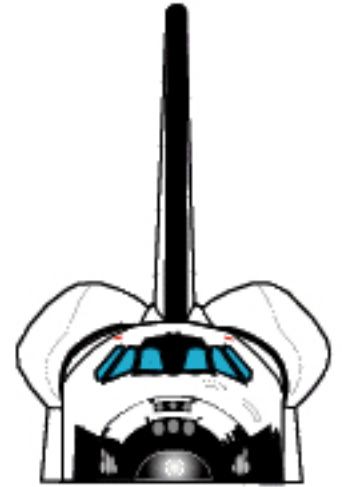
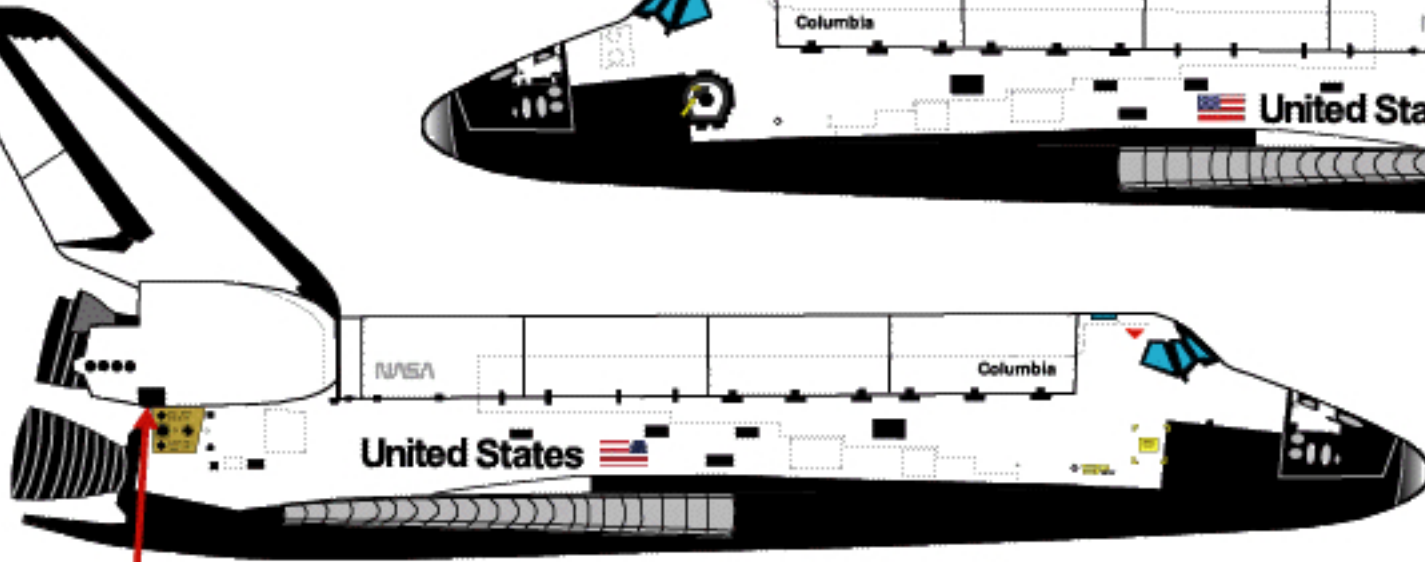
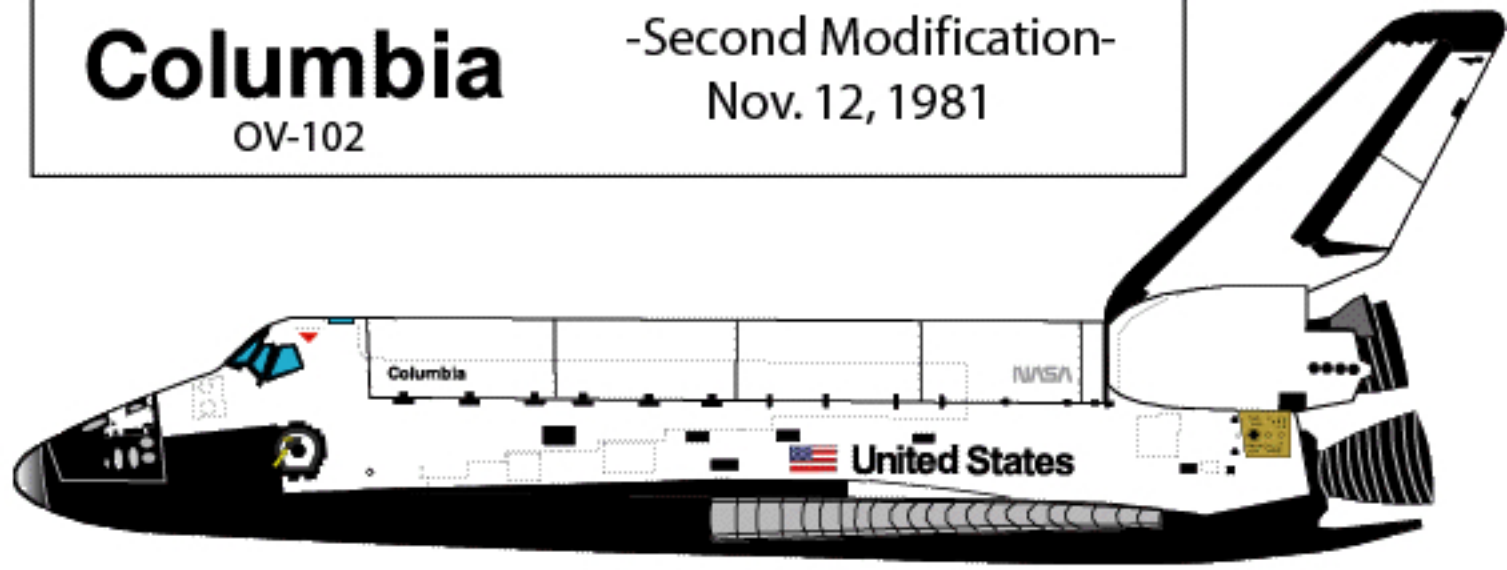




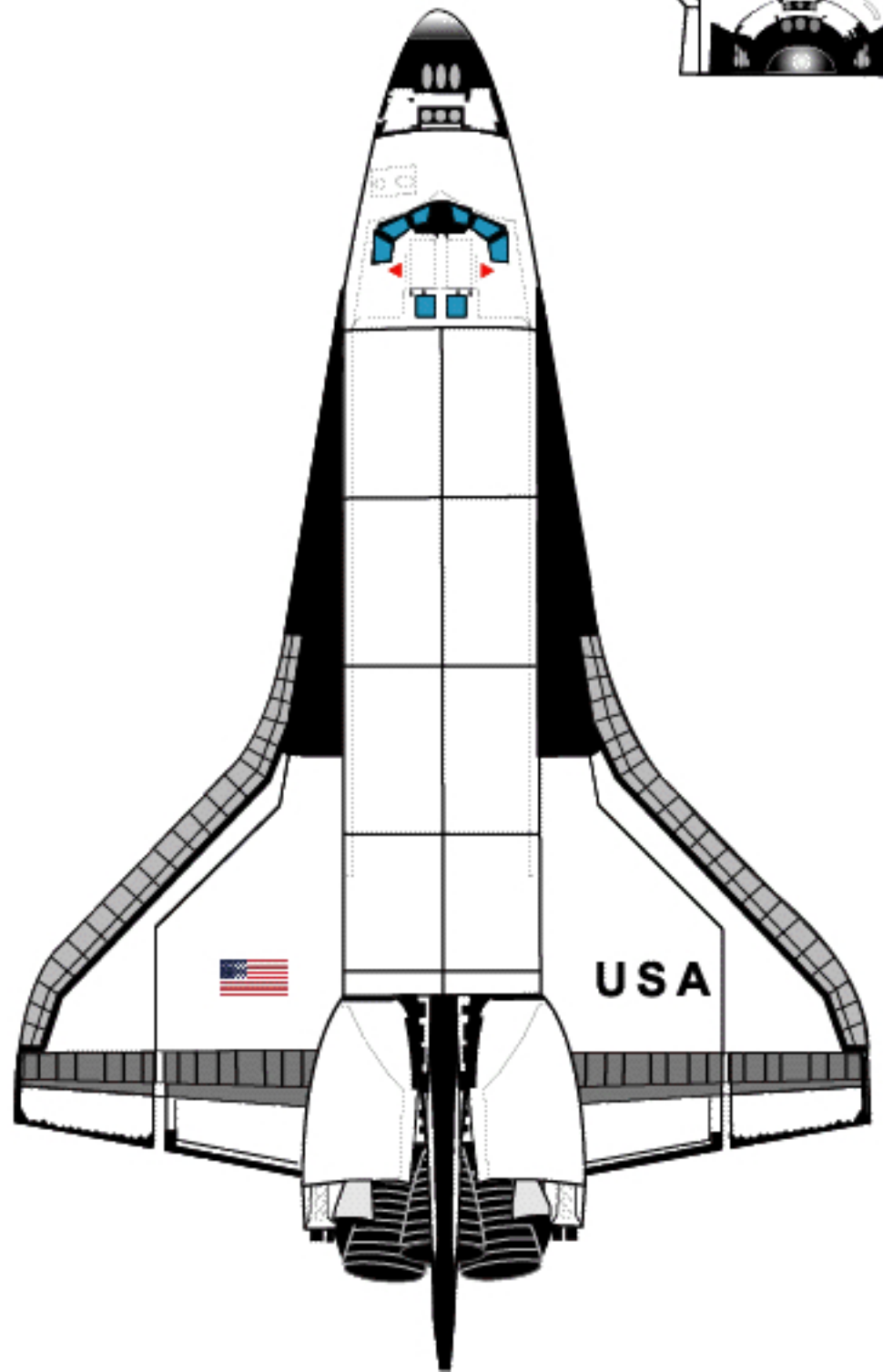
Columbia

OV-102

-Second Modification-
Nov. 12, 1981



Only modification is the black tile added to the lower corner of the OMS pods



Missions flown:

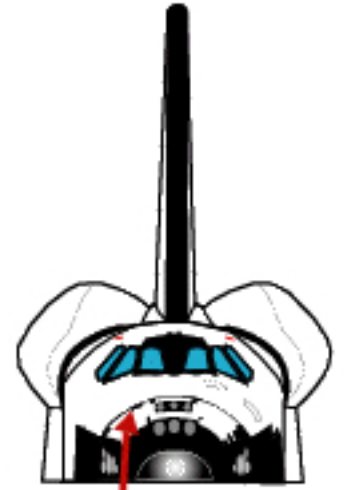
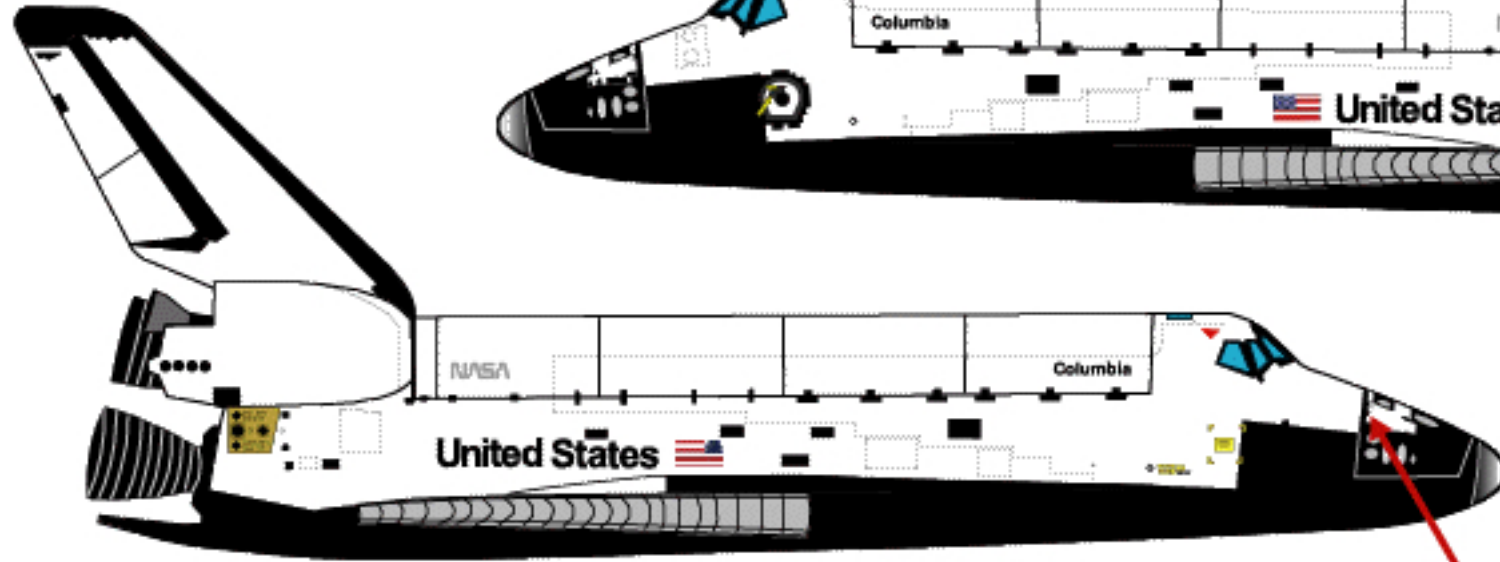
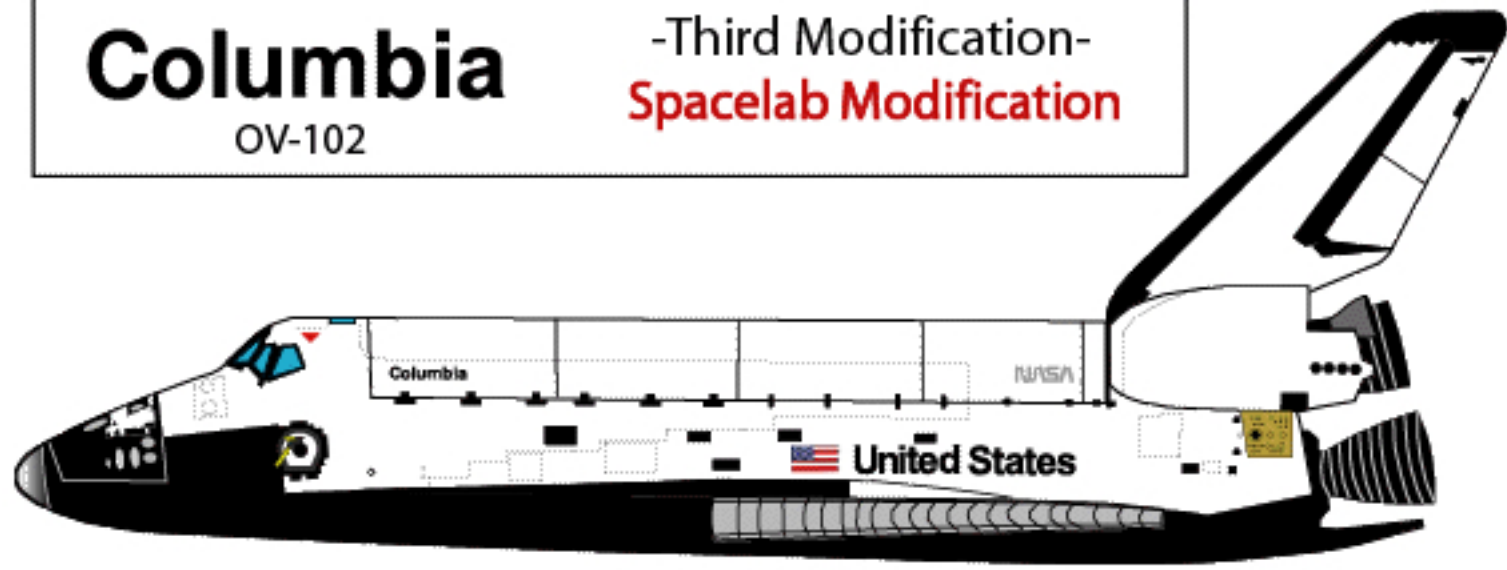
STS-2	11/12/81
STS-3	3/22/82
STS-4	6/27/82
STS-5	11/11/82



Columbia

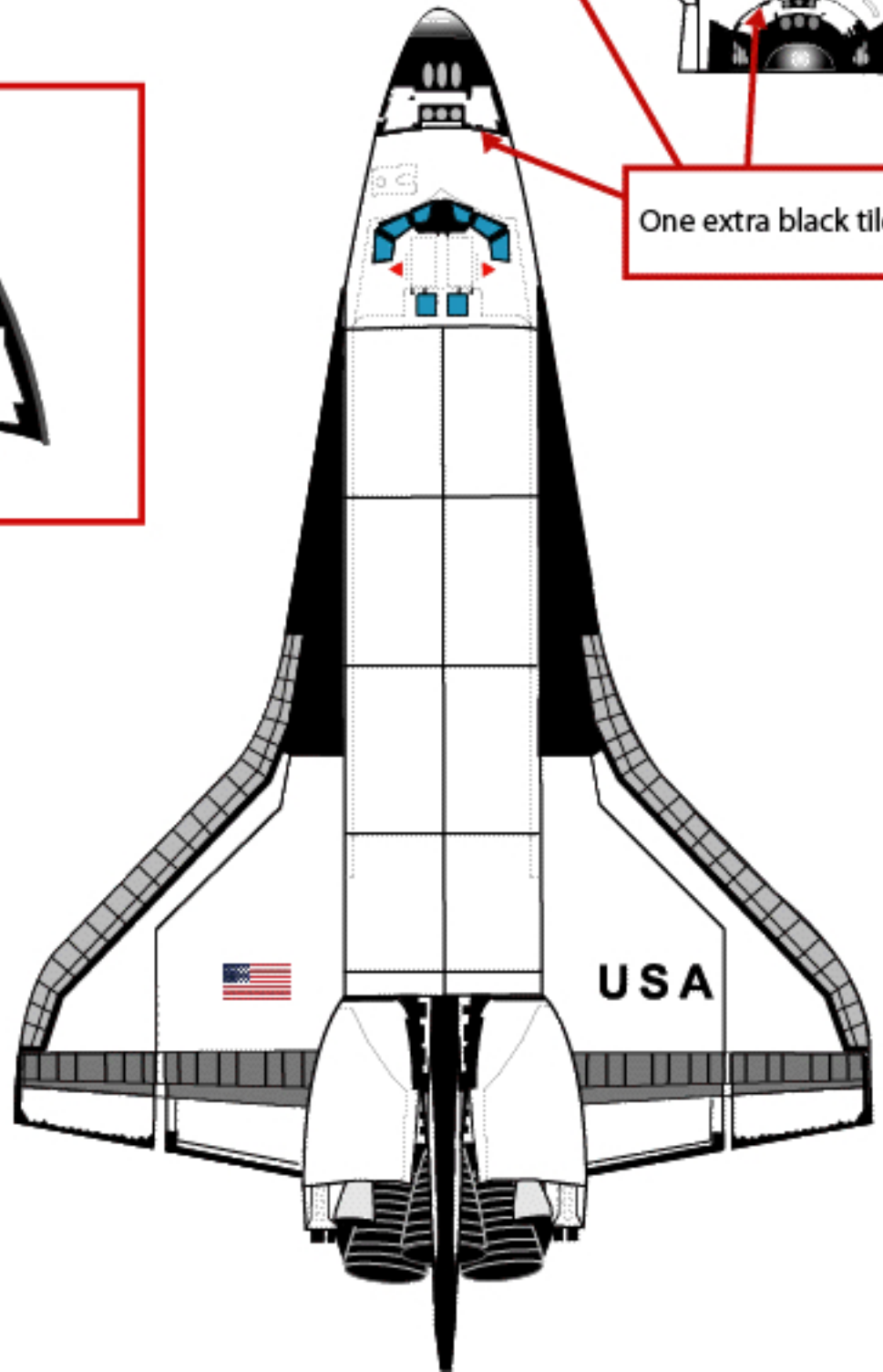
OV-102

-Third Modification-
Spacelab Modification



Details

One extra black tile added



Missions flown:
STS-9 11/28/83



Columbia

OV-102

-Fourth Modification- OEX Package Modification

Name moved to the front of cabin
Note hinges on doors

2 tiles Port side
(61C only)

1 tile Stb side
(61C only)

Note tile covering water
and urine dump ports

Note tailpod
(SILTS)
"Shuttle
Infrared
Leeside
Temperature
Sensing"
experiment

Note different large white tile
on lower corner of the OMS
pods

Note tile covering
water vent marking

Note OMS pattern
and black tiles added



Note nosecap
detail (SEADS)
"Shuttle Entry Air
Data System"

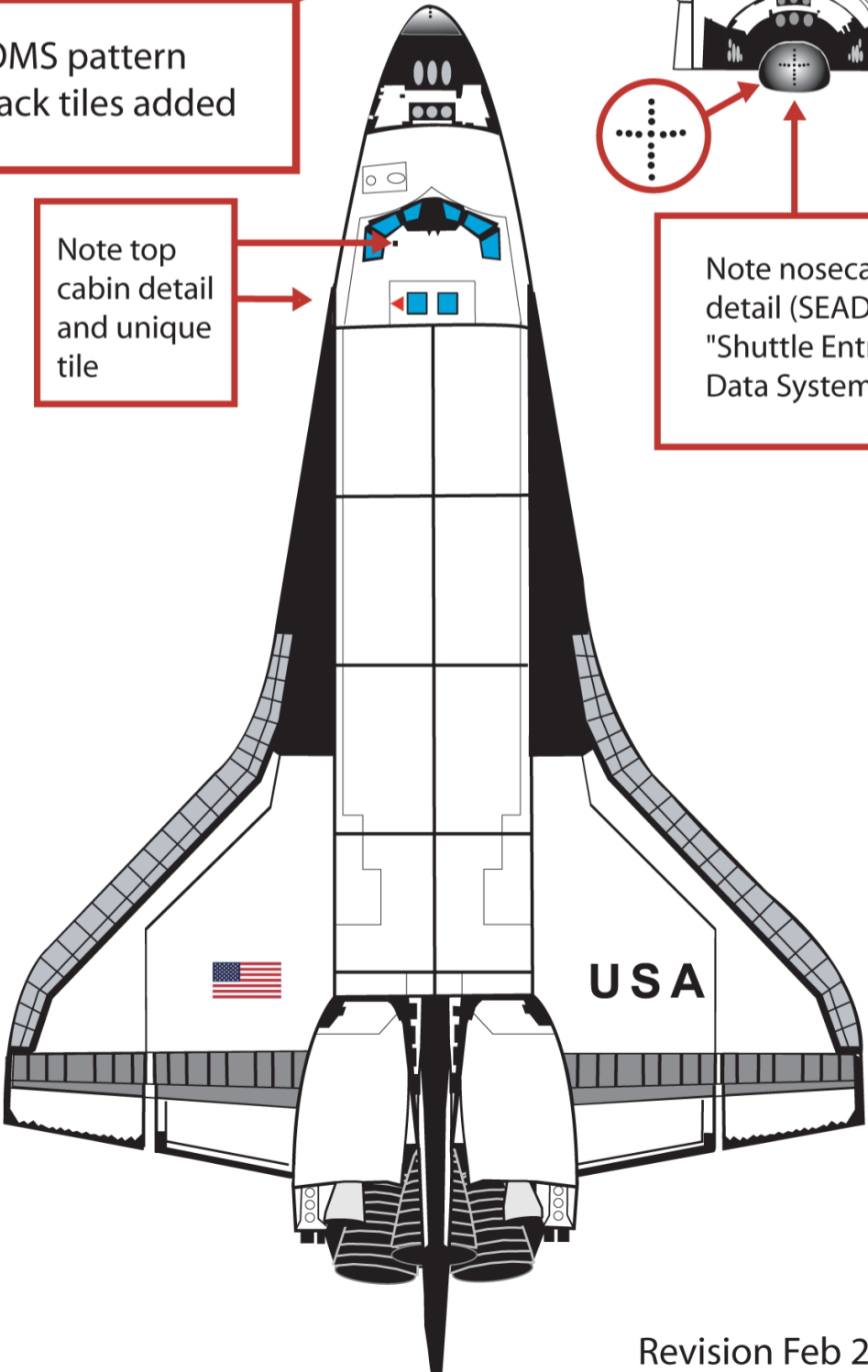
Note Columbia's name
on front of payload door
(STS-61C only)

Payload bay doors with old
pattern hinges

Note top
cabin detail
and unique
tile

Missions flown:

61C	1/12/86
STS-28	8/ 8/89
STS-32	1/ 9/90
STS-35	12/ 2/90



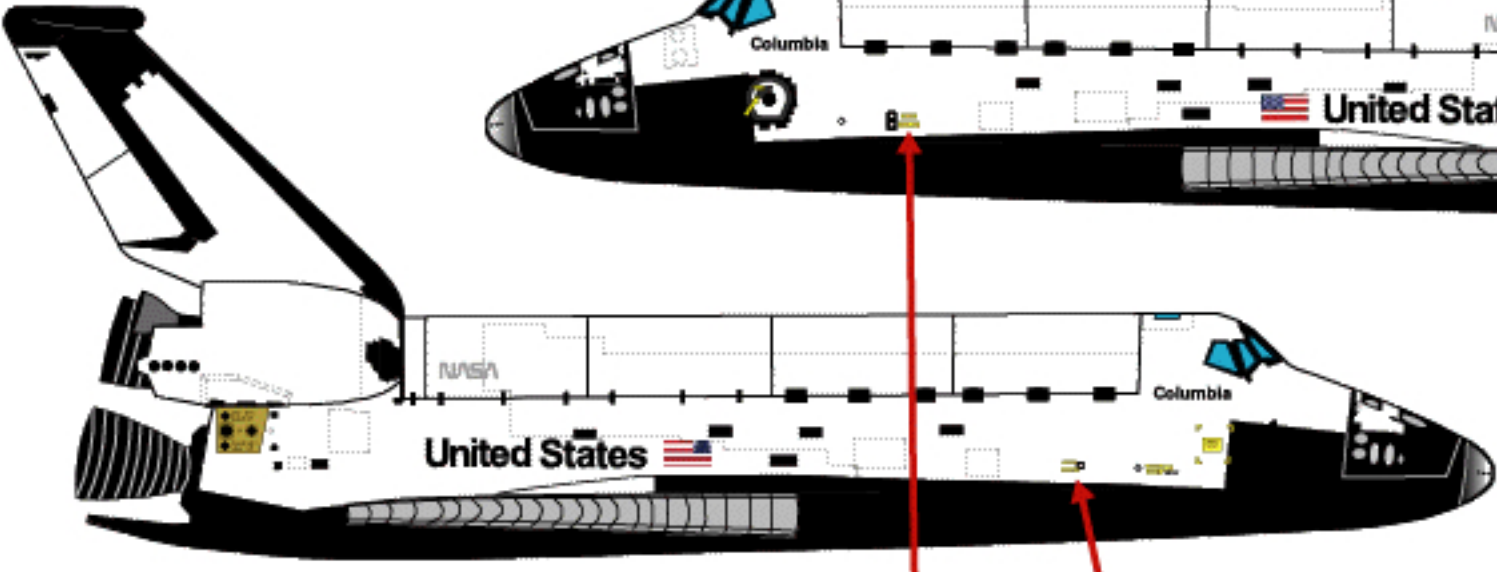
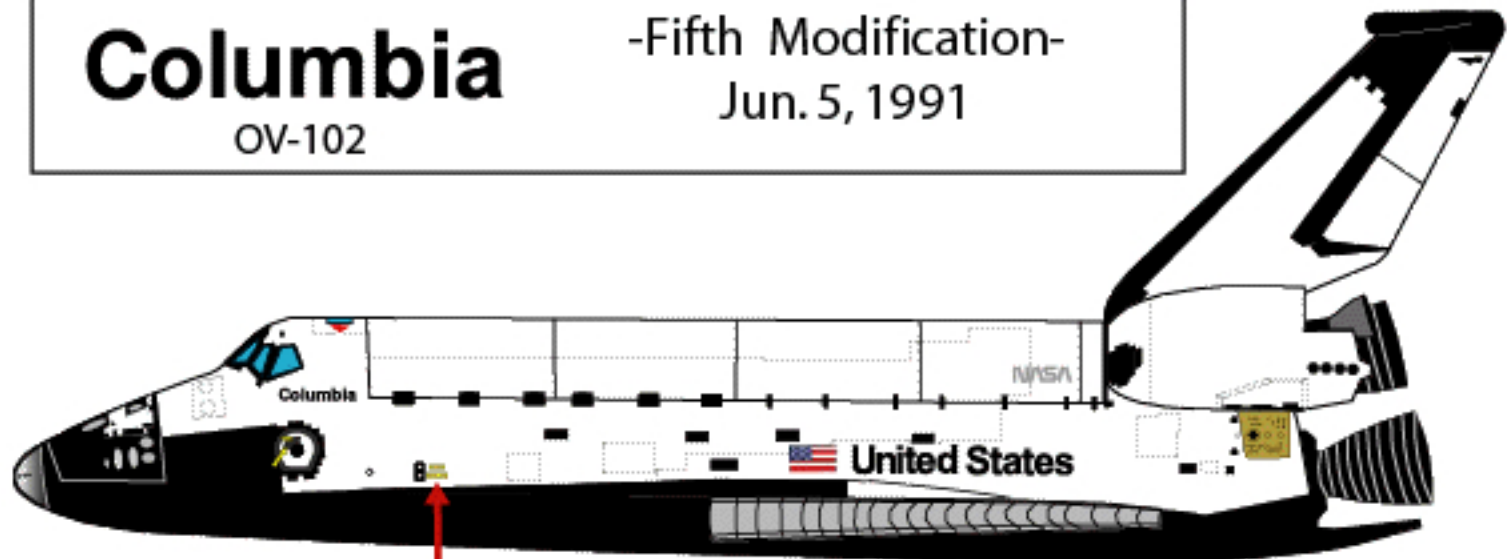
* OEX: Orbiter Experiment Program



Columbia

OV-102

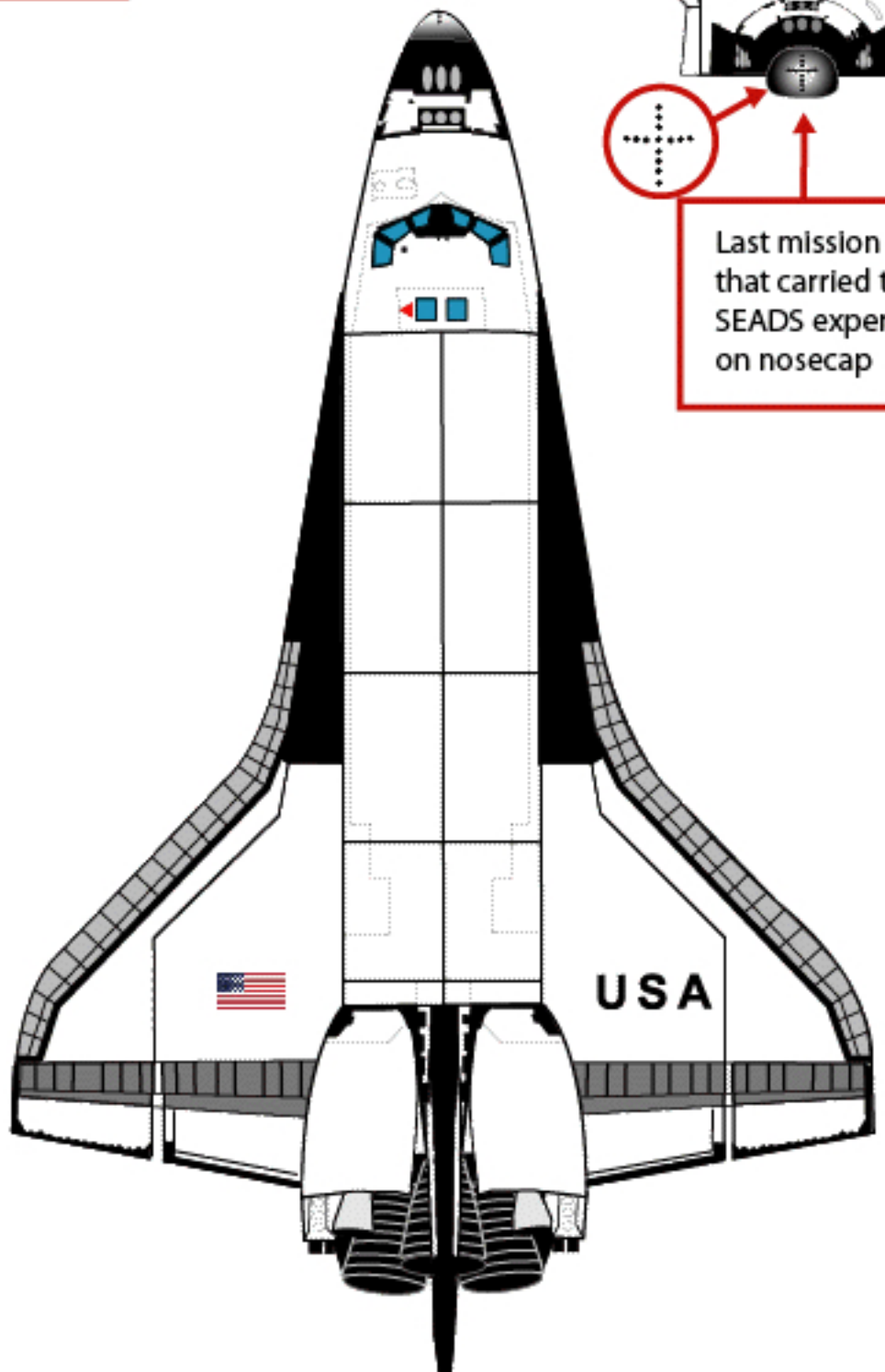
-Fifth Modification-
Jun. 5, 1991



Note labels added



Last mission that carried the SEADS experiment on nosecap



Missions flown:
STS-40 6/5/91

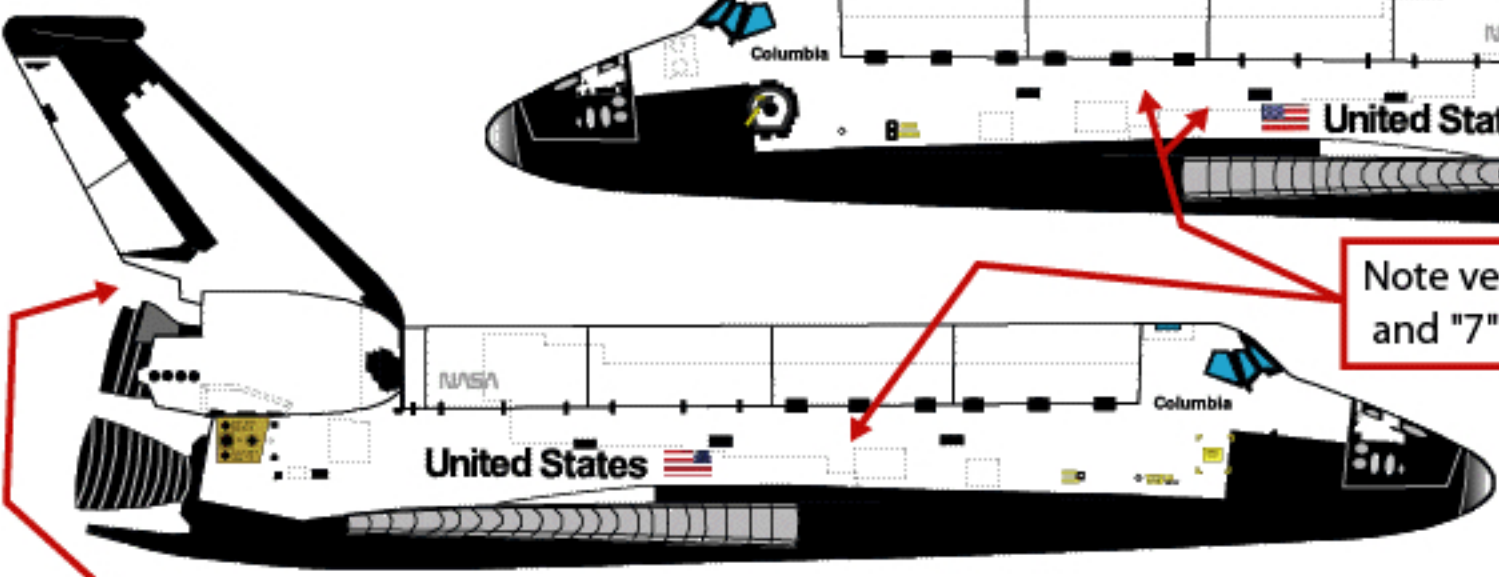
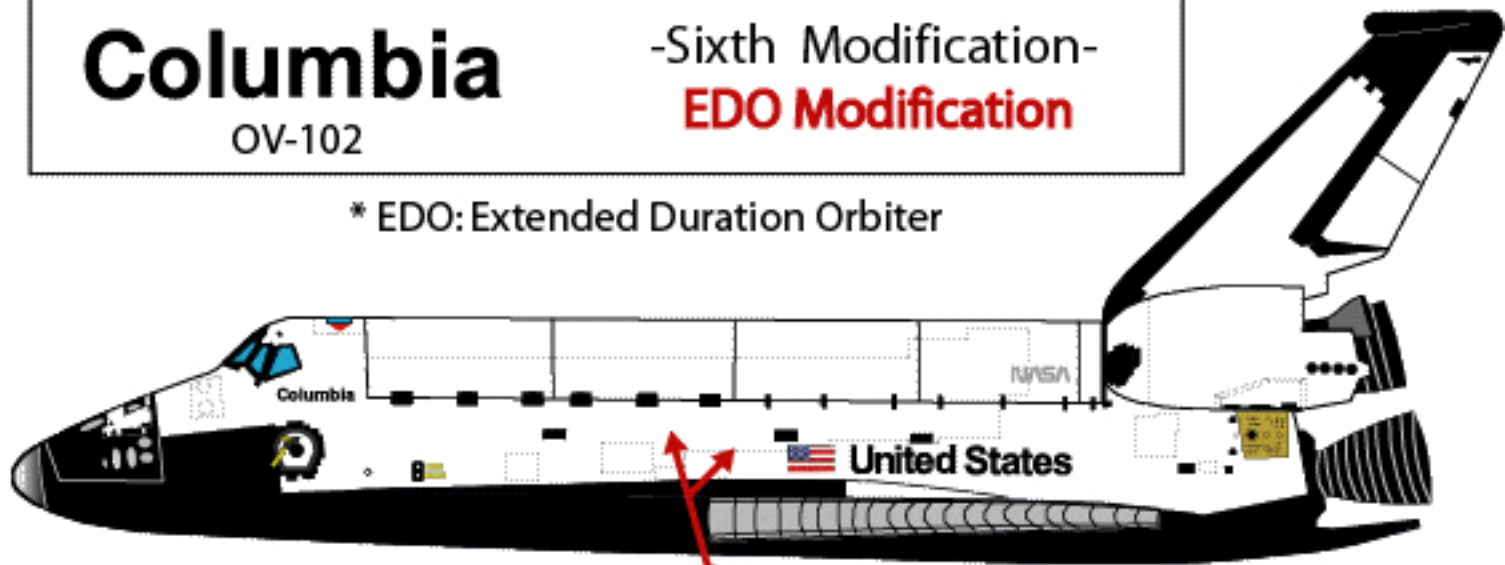


Columbia

OV-102

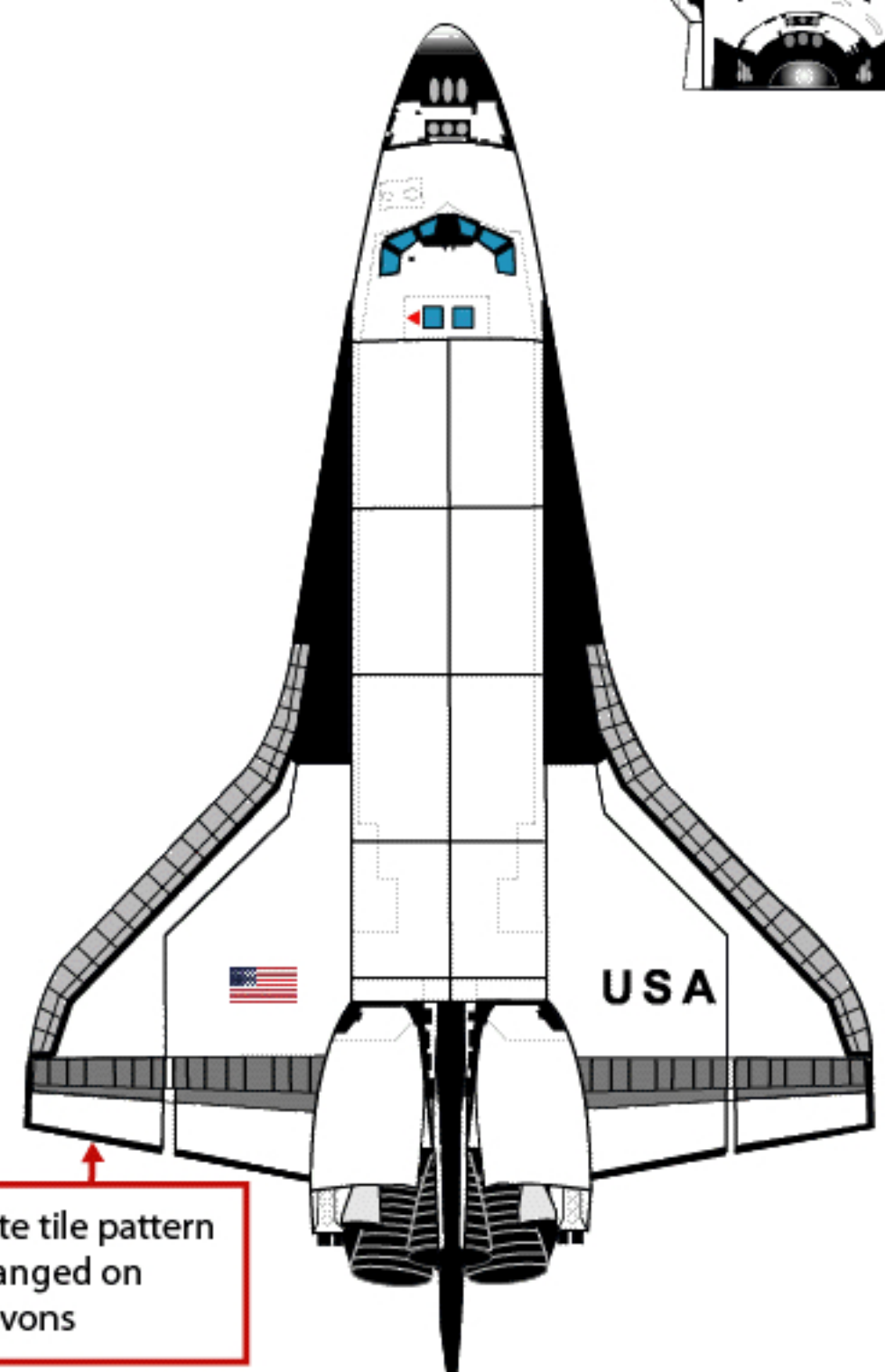
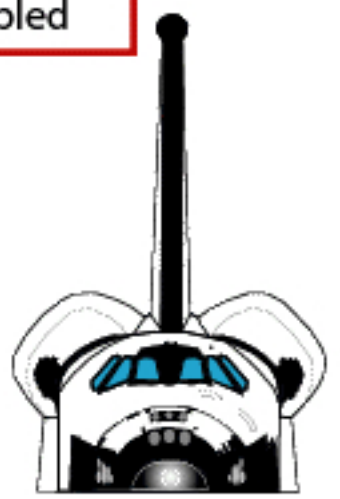
-Sixth Modification-
EDO Modification

* EDO: Extended Duration Orbiter



Note vent doors "4" and "7" disabled

Note the drag chute added to the tail



Note tile pattern changed on elevons

Missions flown:

STS-50	6/25/92
STS-52	10/22/92
STS-55	4/26/93
STS-58	10/18/93
STS-62	3/ 4/94
STS-65	7/ 8/94

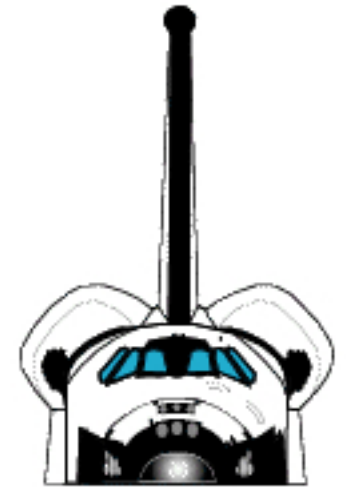
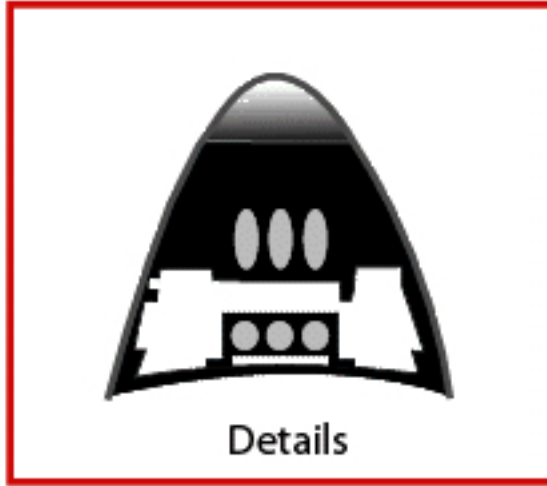
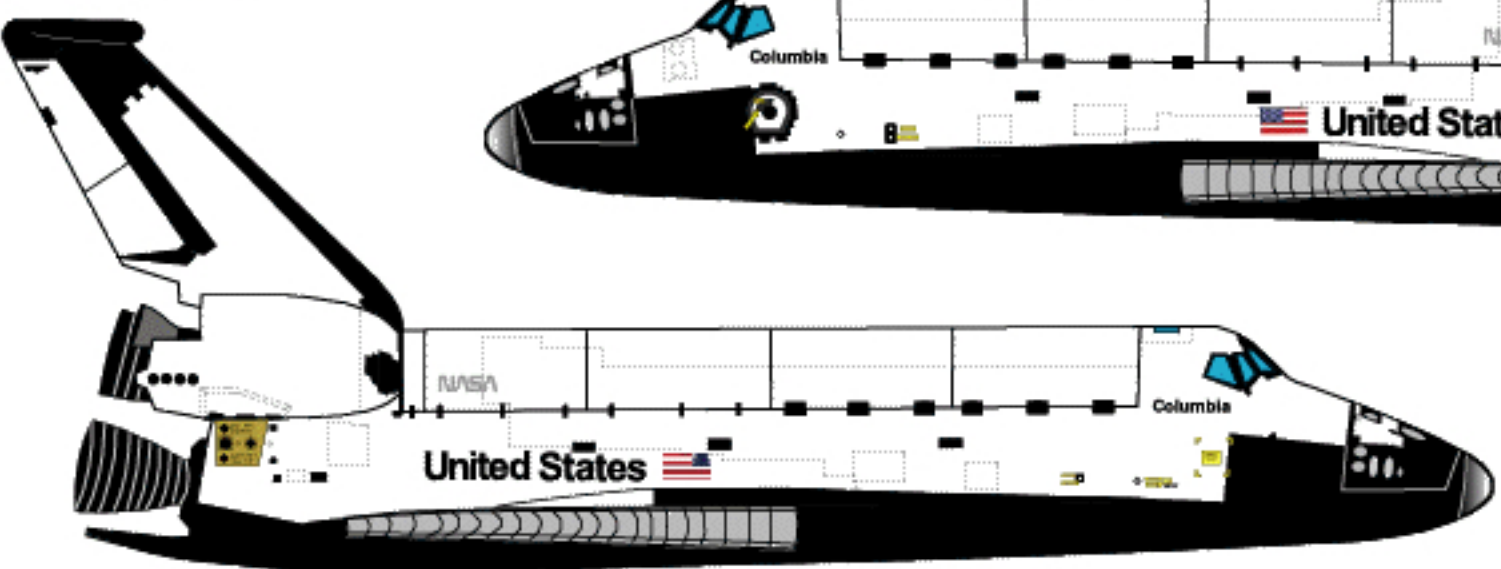


Columbia

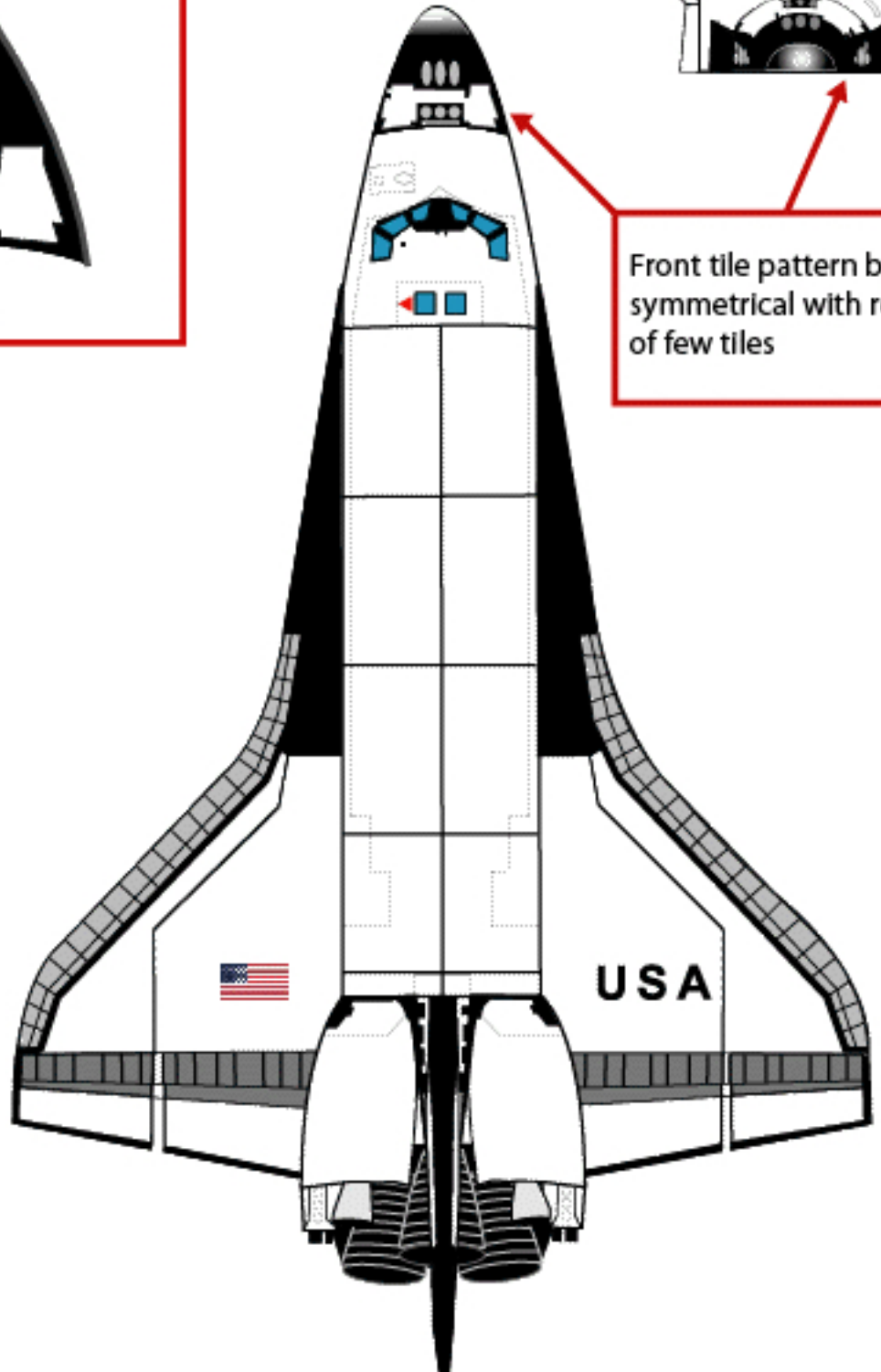
OV-102

-Seventh Modification-
OMDP-1

* OMDP: Orbiter Maintenance Down Period



Front tile pattern becoming symmetrical with removal of few tiles



Missions flown:

STS-73	10/25/95
STS-75	2/22/96
STS-78	6/20/96
STS-80	11/19/96
STS-83	4/ 4/97
STS-94	7/ 1/97
STS-87	11/18/97
STS-90	4/17/98
STS-93	7/22/99

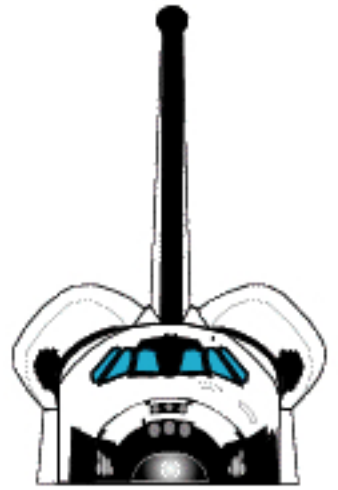
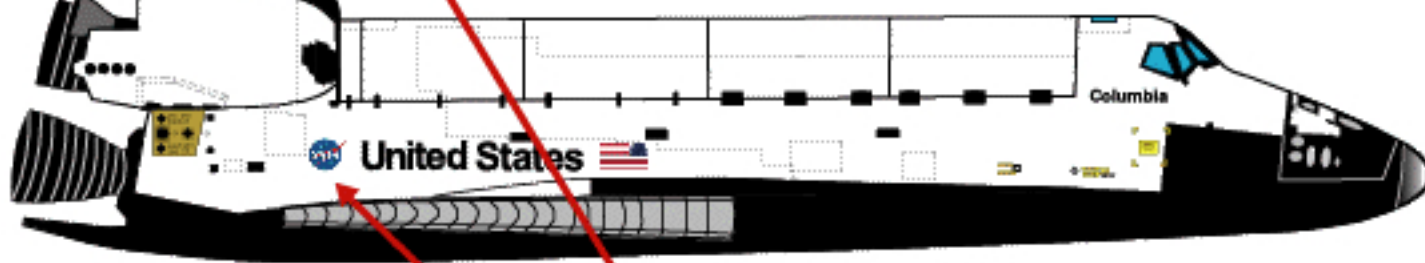
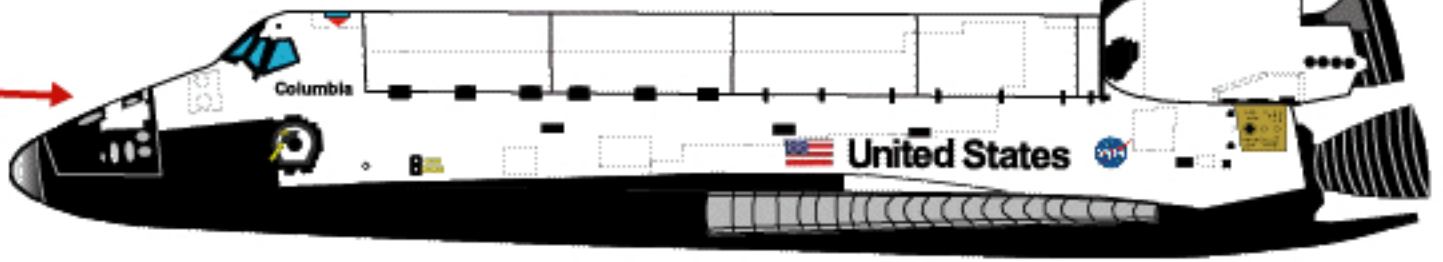


Columbia

OV-102

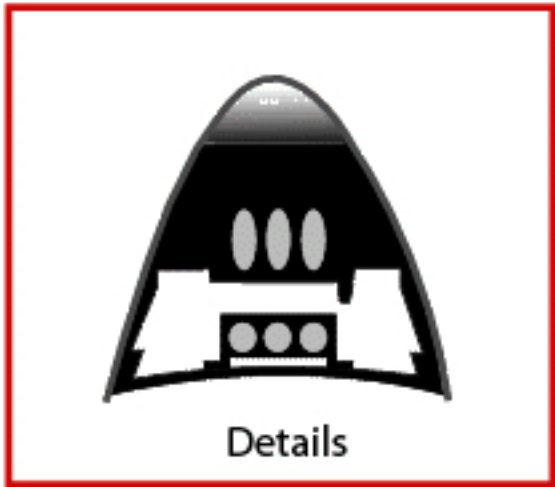
-Last Modification-

OMDP-2



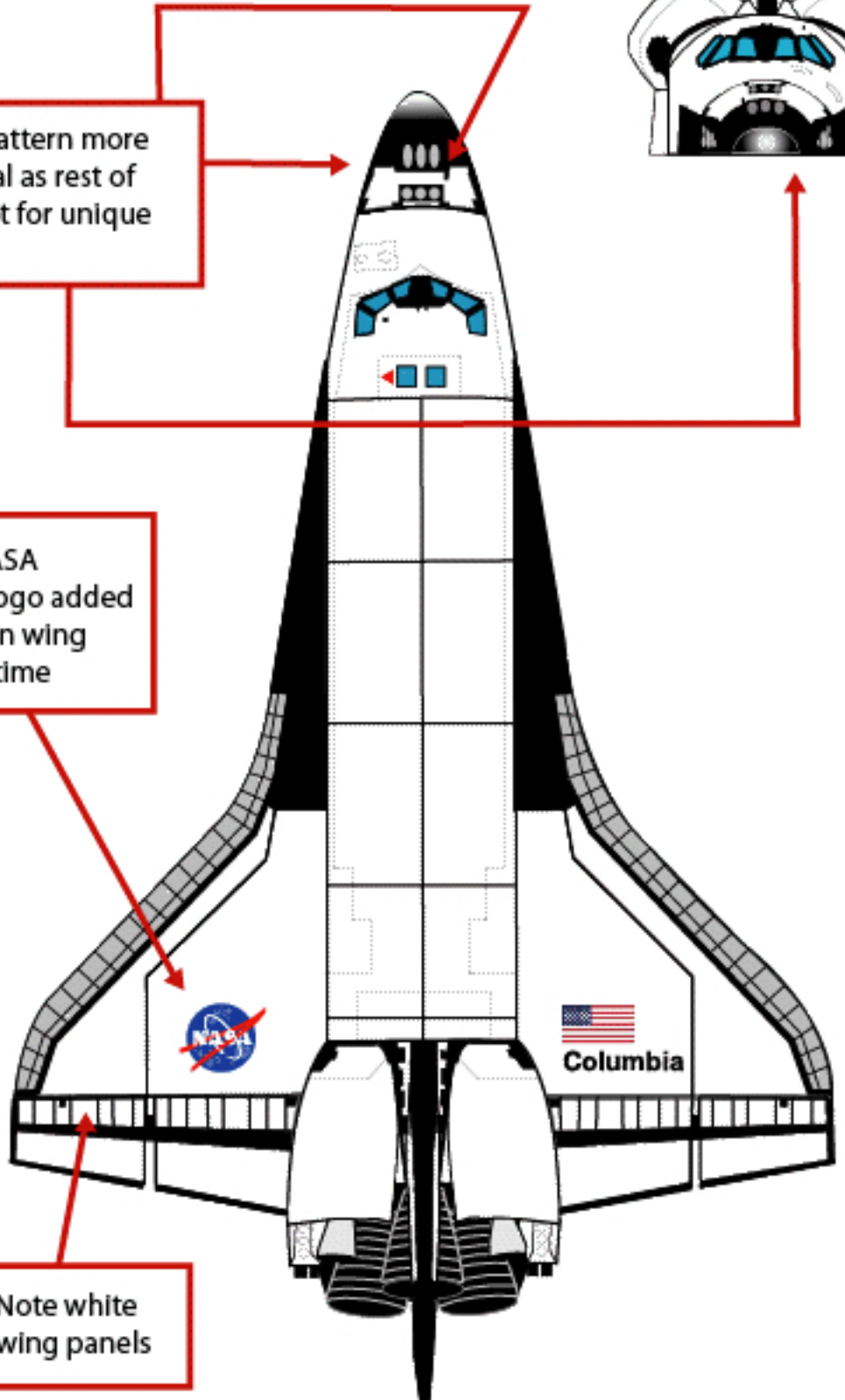
Details

Front tile pattern more symmetrical as rest of fleet, except for unique tile



Details

Note the NASA 'Meatball' logo added and name on wing for the first time



Note white wing panels

Missions flown:

STS-109 3/ 1/02

STS-107 1/16/03

(Orbiter lost - Feb. 1, 2003)

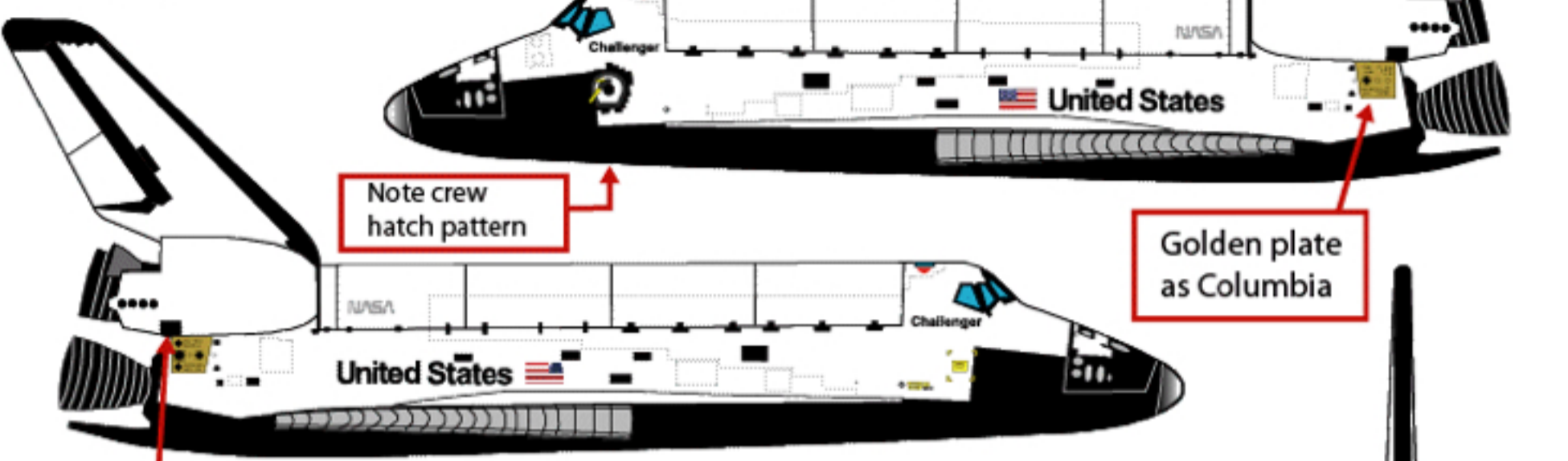


CHALLENGER

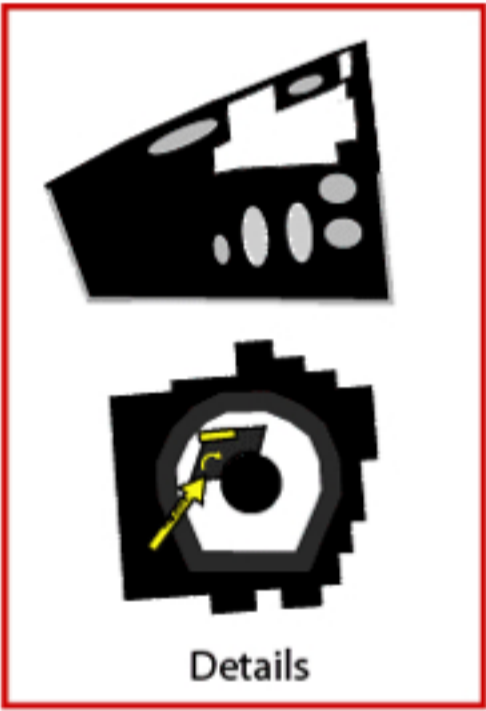


Challenger

OV-099 -Original Markings-
April 4, 1983



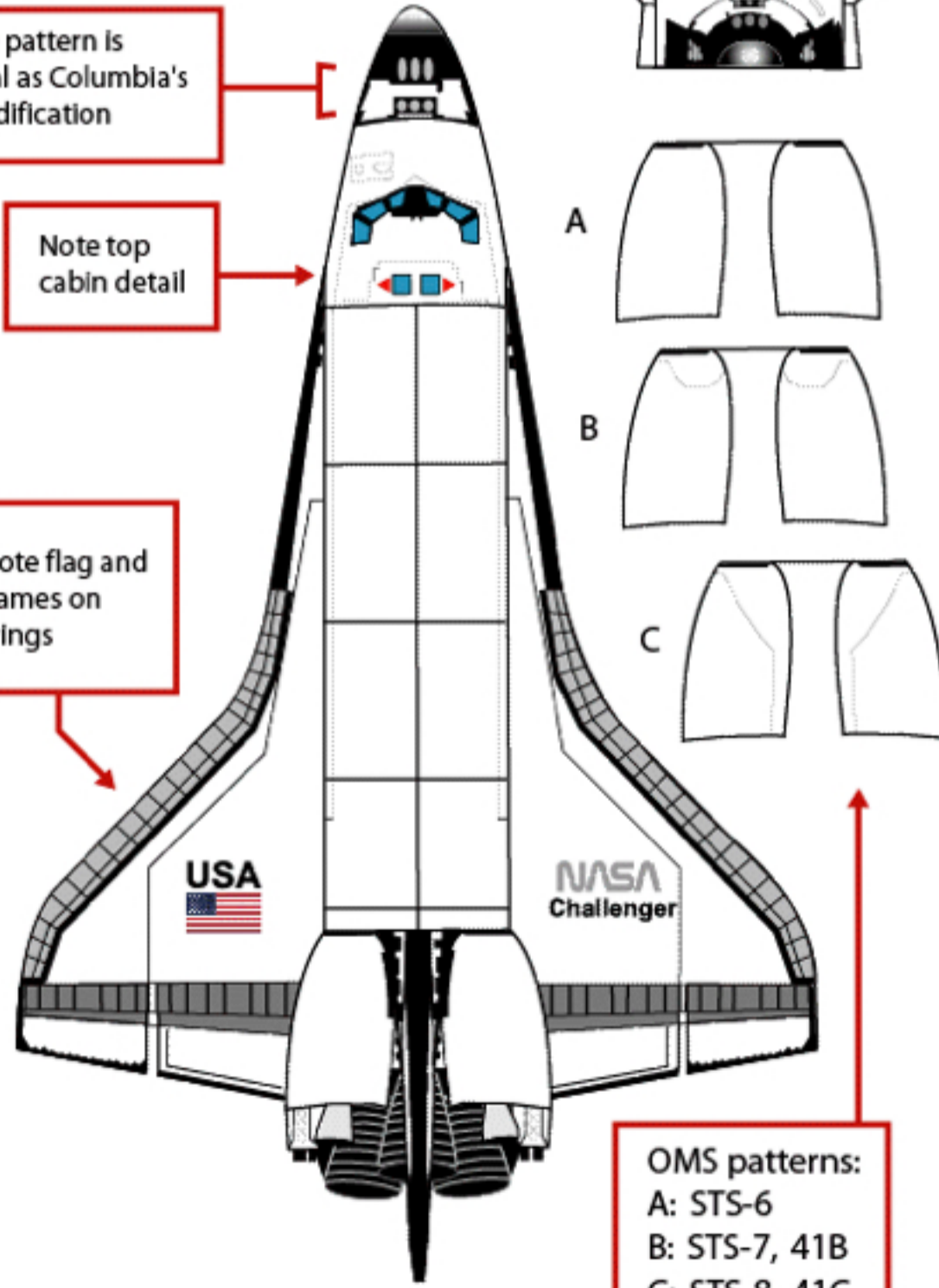
Note black tile on lower corner of OMS pods



This tile pattern is identical as Columbia's last modification

Note top cabin detail

Note flag and names on wings



OMS patterns:
A: STS-6
B: STS-7, 41B
C: STS-8, 41C

Missions flown:

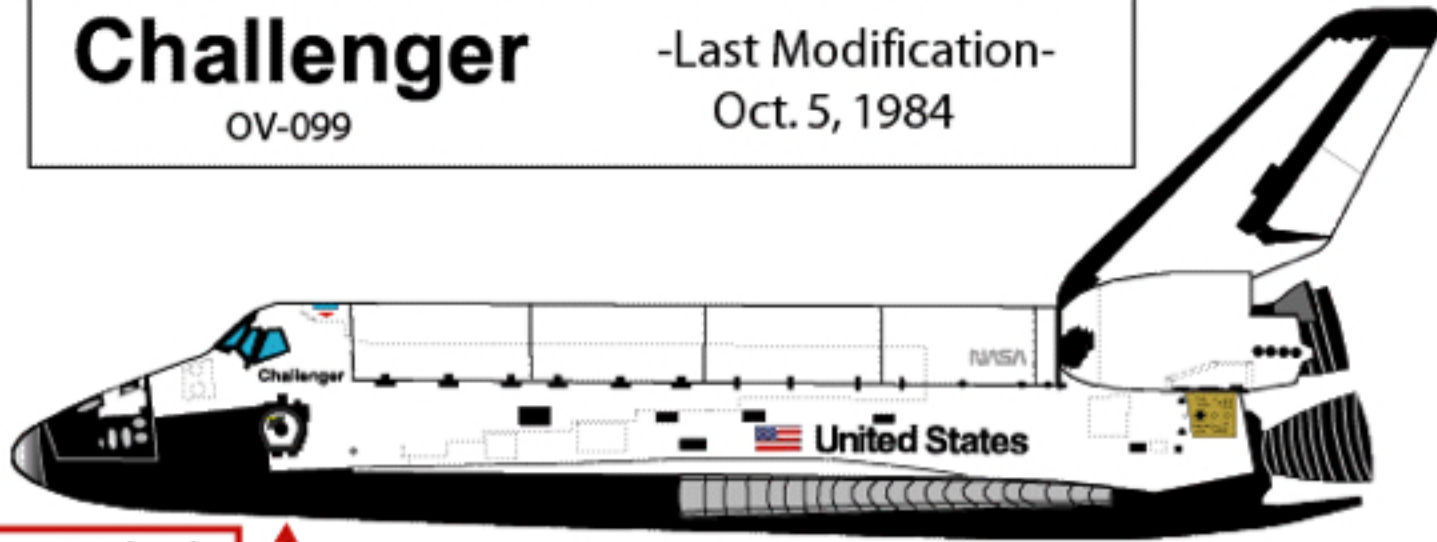
STS-6	4/ 4/83
STS-7	6/18/83
STS-8	8/30/83
41-B	2/ 3/84
41-C	4/ 6/84



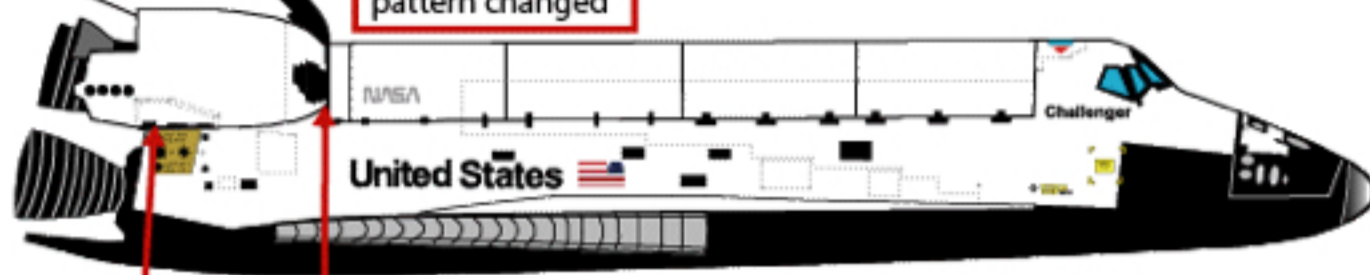
Challenger

OV-099

-Last Modification-
Oct. 5, 1984



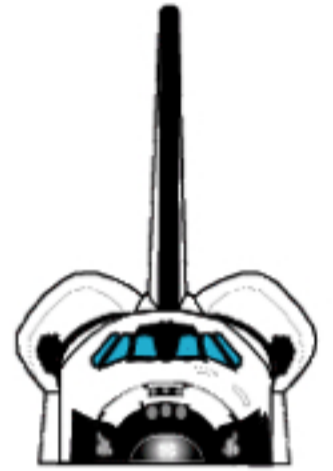
Note crew hatch
pattern changed



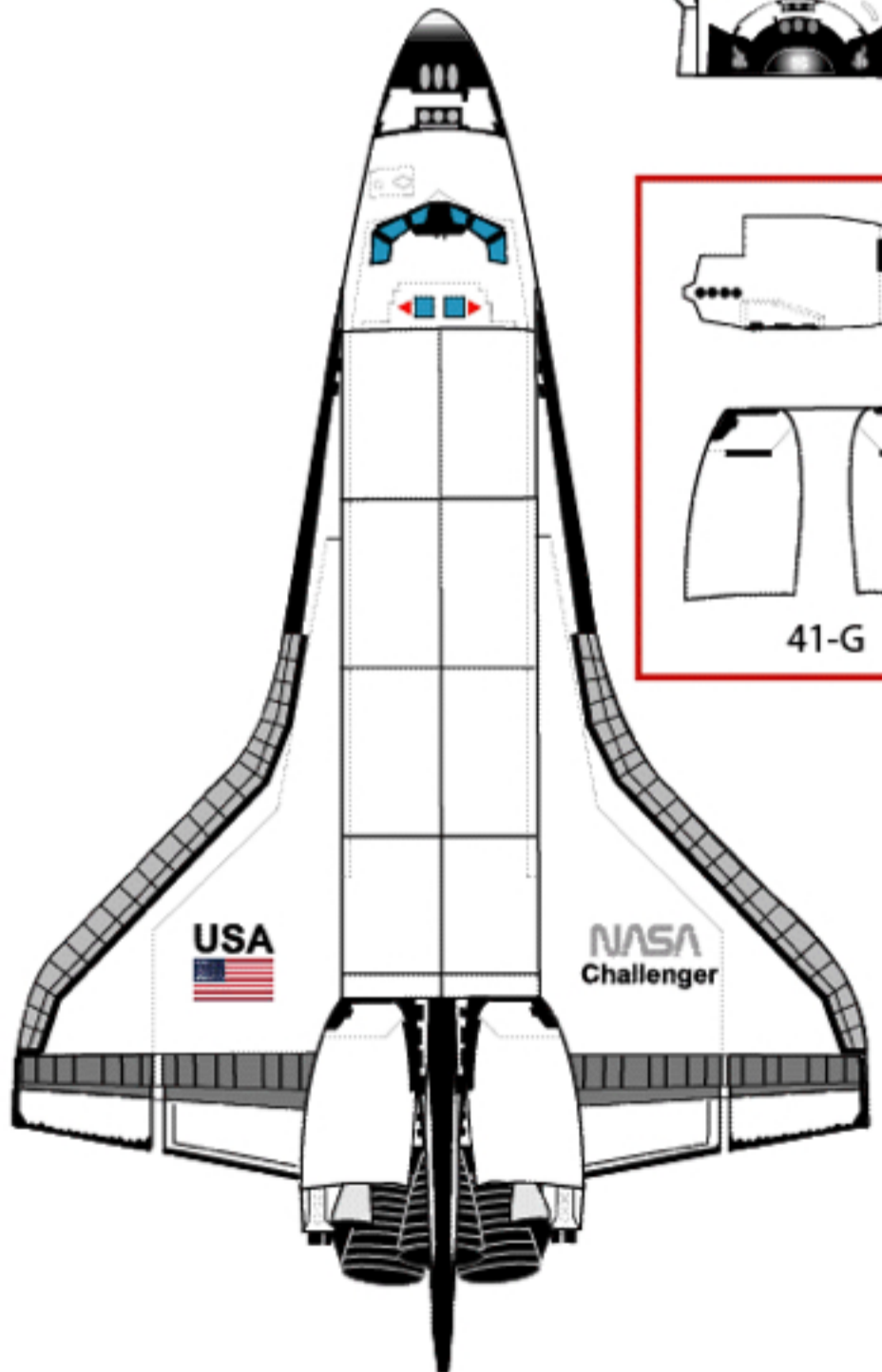
Lower corner tile of the OMS pods
changed and black tiles added
to the front of pods



Details



41-G



Missions flown:

41-G 10/5/84

51-B 4/29/85

51-F 7/29/85

61-A 10/30/85

51-L (Jan. 28, 1986)
(Orbiter lost)



DISCOVERY



Discovery

OV-103

-Original Markings-
Aug. 30, 1984

Note door hinge pattern

Note tail pattern

Note crew hatch pattern

White umbilical plate, same for OV-104, OV-105

Note black tile on lower corner of OMS pods

Note unique tile on right side of windows

Symmetry of front tiles

Note top cabin detail

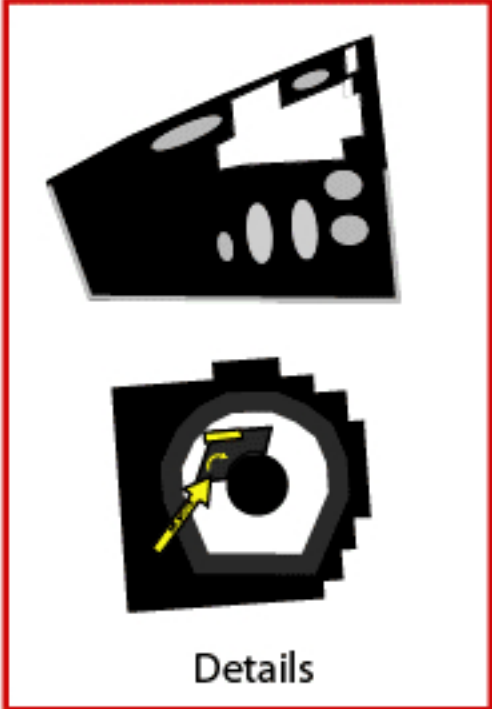
Note line of surface insulation

Note elevons tile pattern

Note OMS pattern

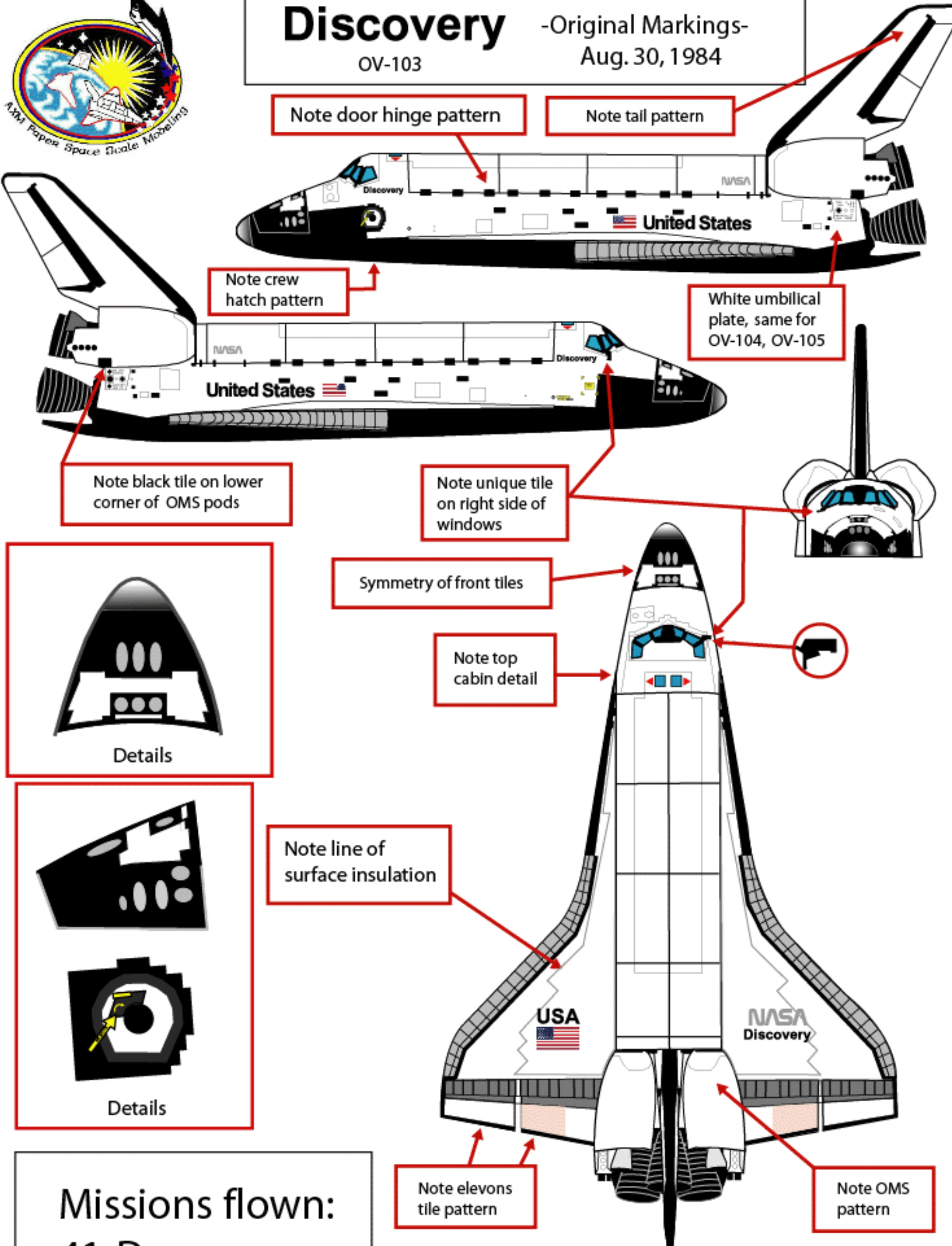


Details



Details

Missions flown:
41-D 8/30/84

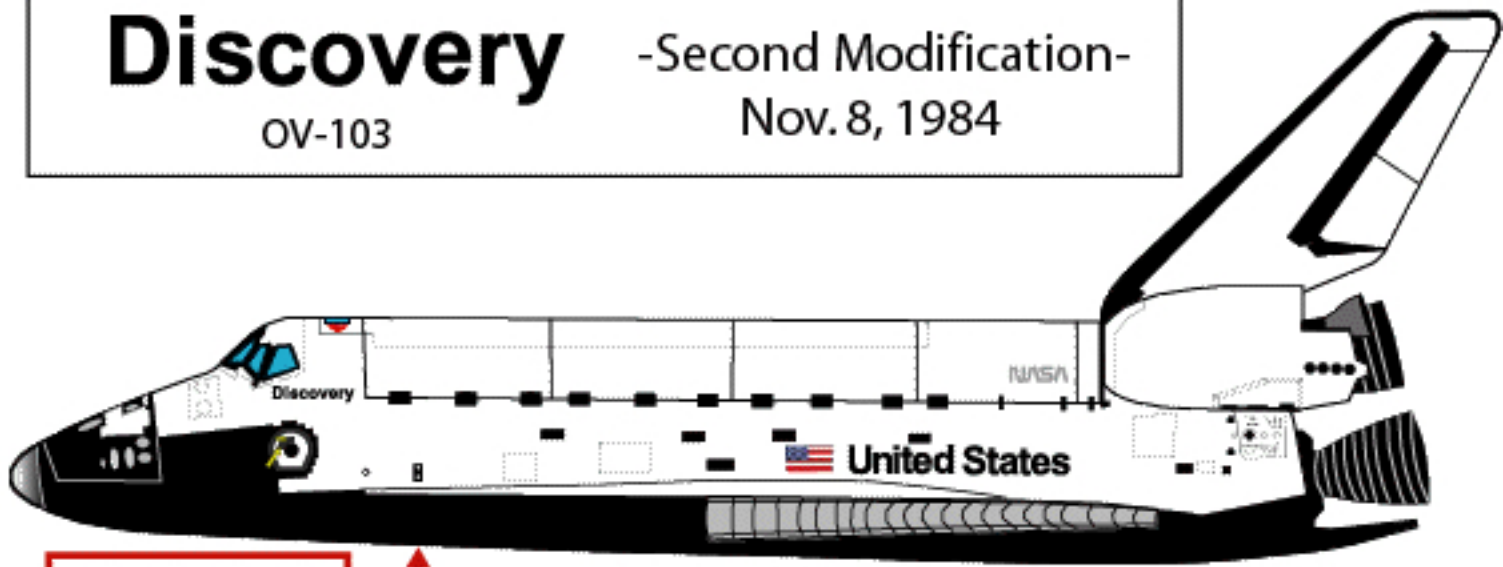




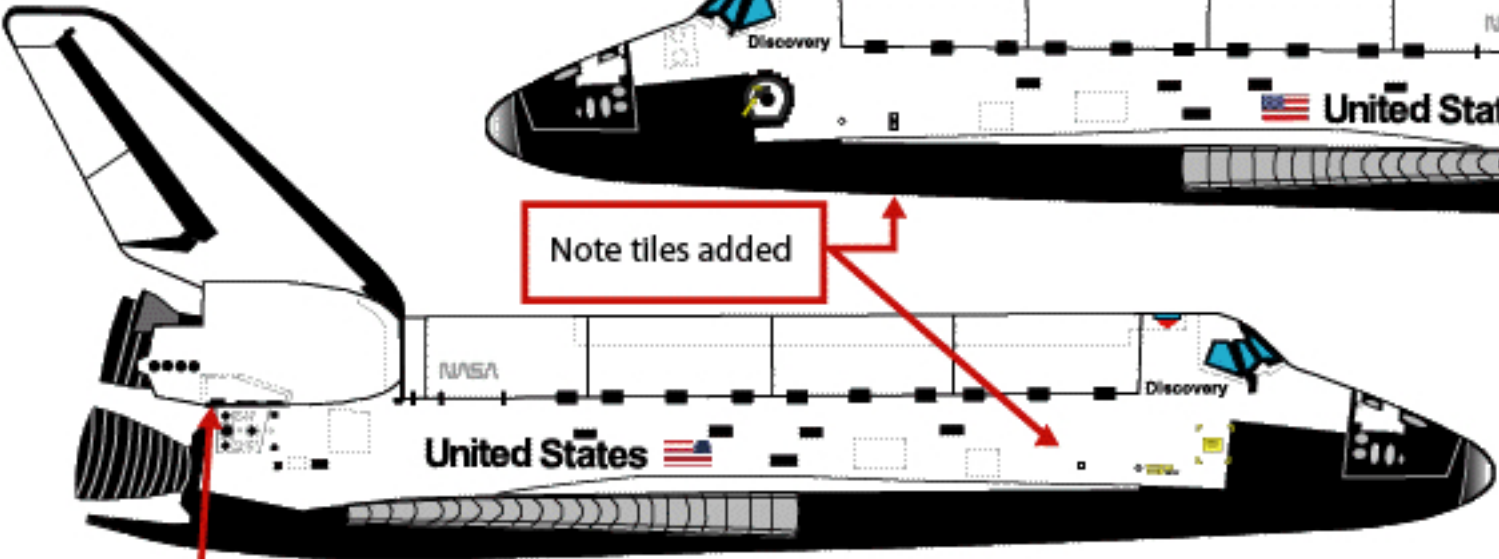
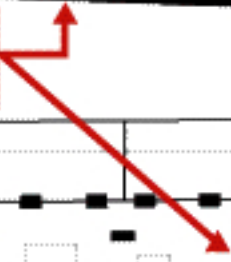
Discovery

OV-103

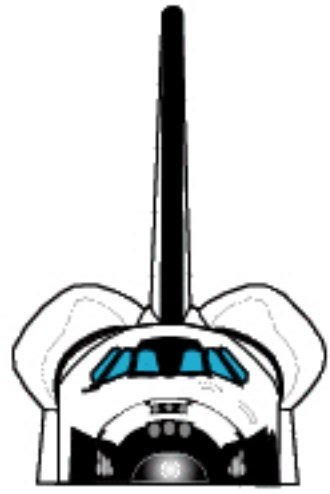
-Second Modification-
Nov. 8, 1984



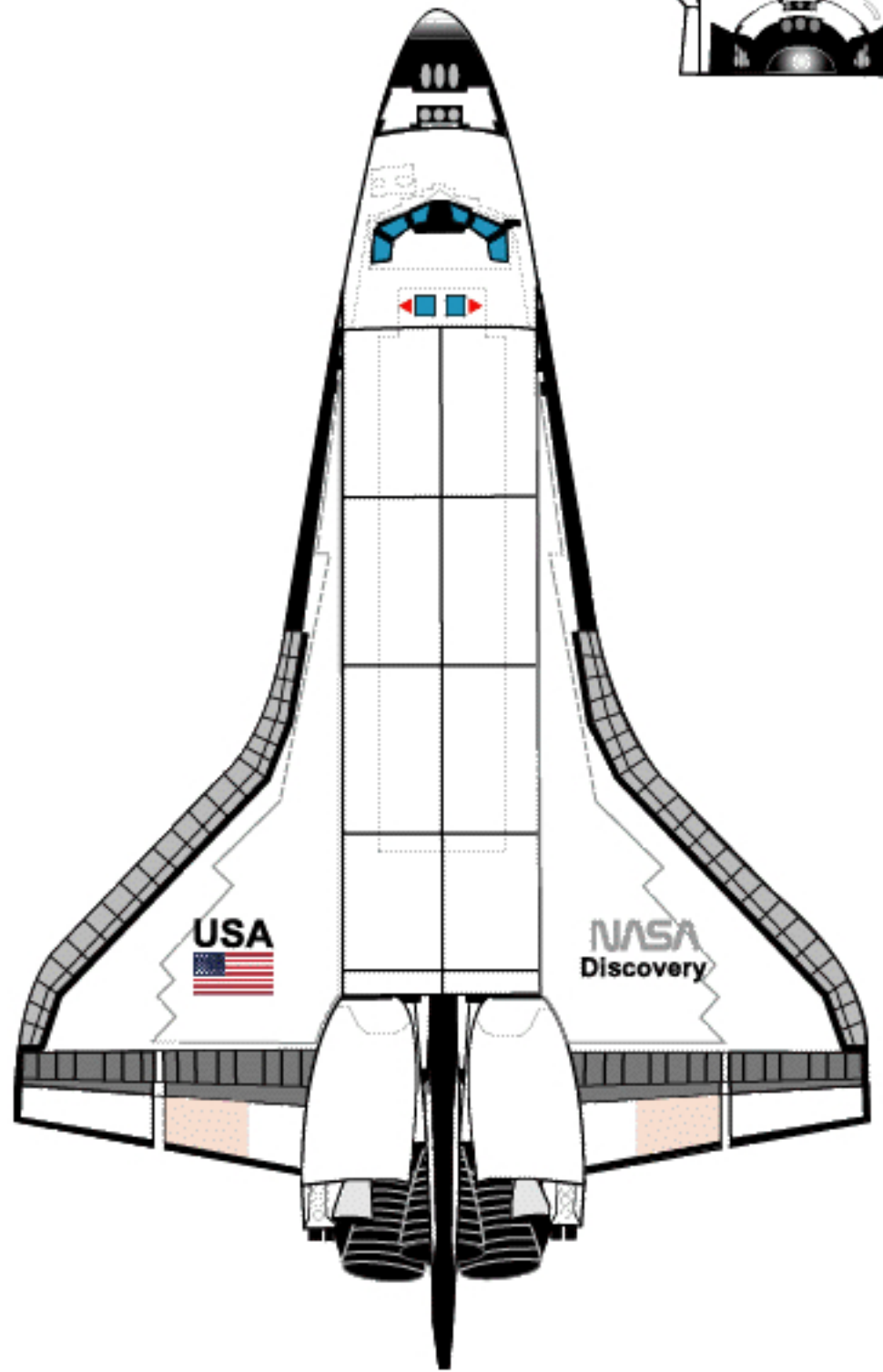
Note tiles added



Note tile on lower corner of OMS pods



Missions flown:	
51-A	11/ 8/84
51-C	1/24/85
51-D	4/12/85

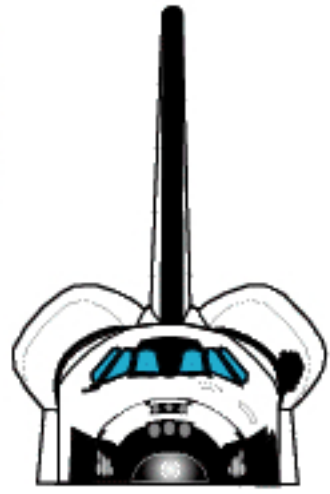
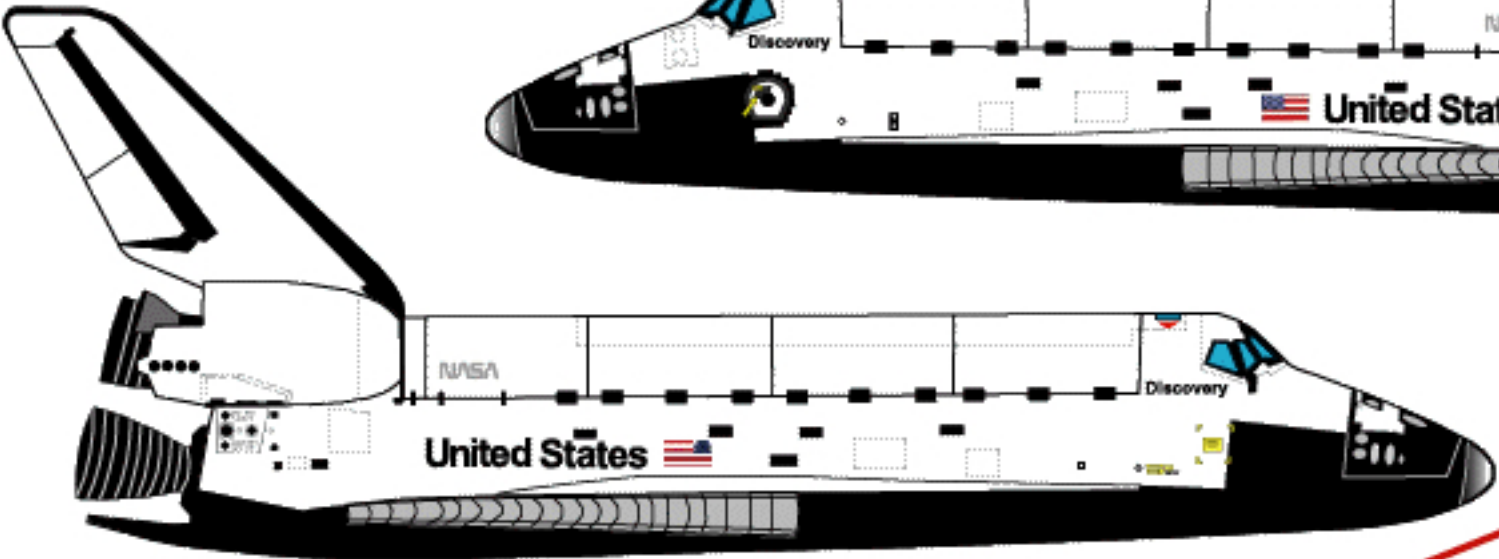




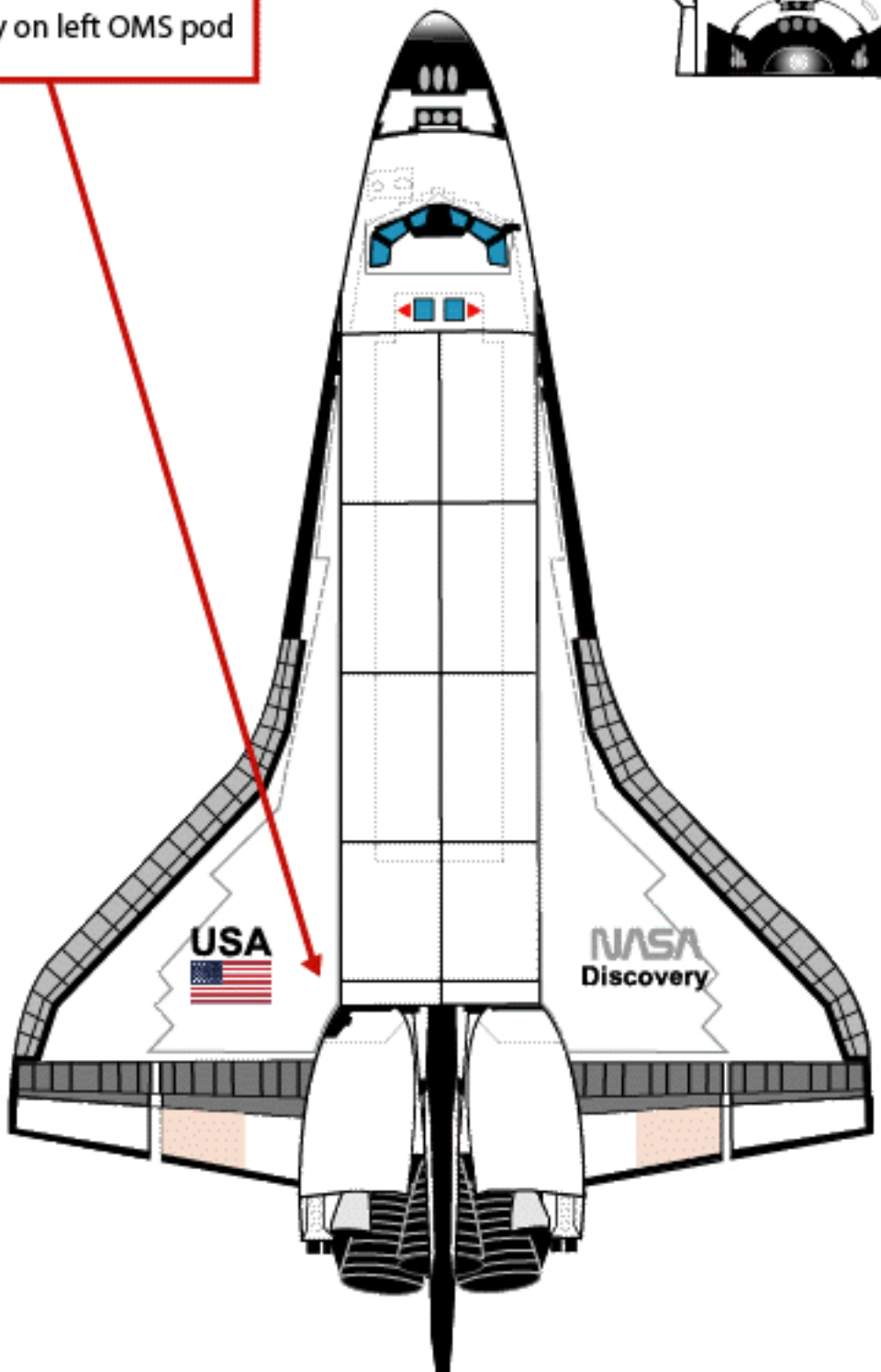
Discovery

OV-103

-Third Modification-
June 17, 1985



Note OMS pattern and black tile area added only on left OMS pod



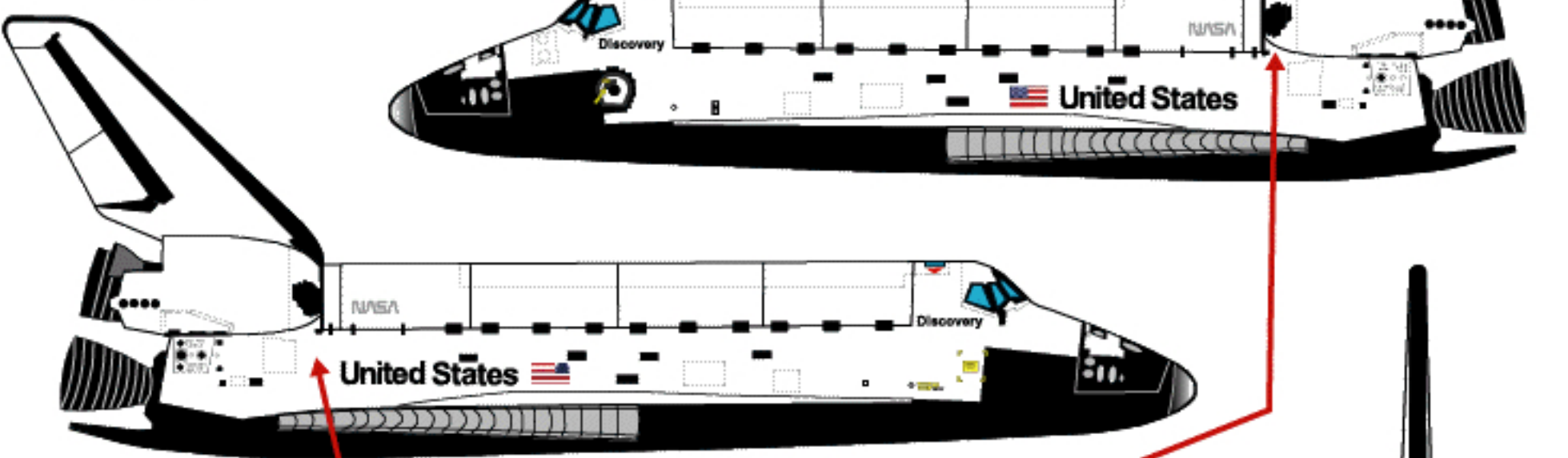
Missions flown:	
51-G	6/17/85
51-I	8/27/85



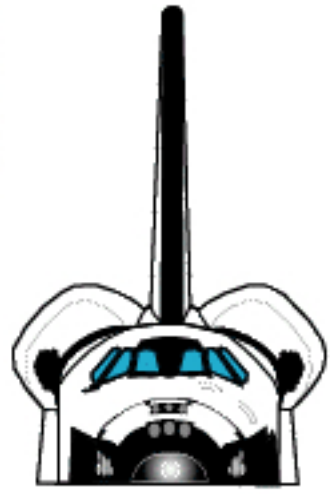
Discovery

-Fourth Modification-
Sep. 26, 1988

OV-103

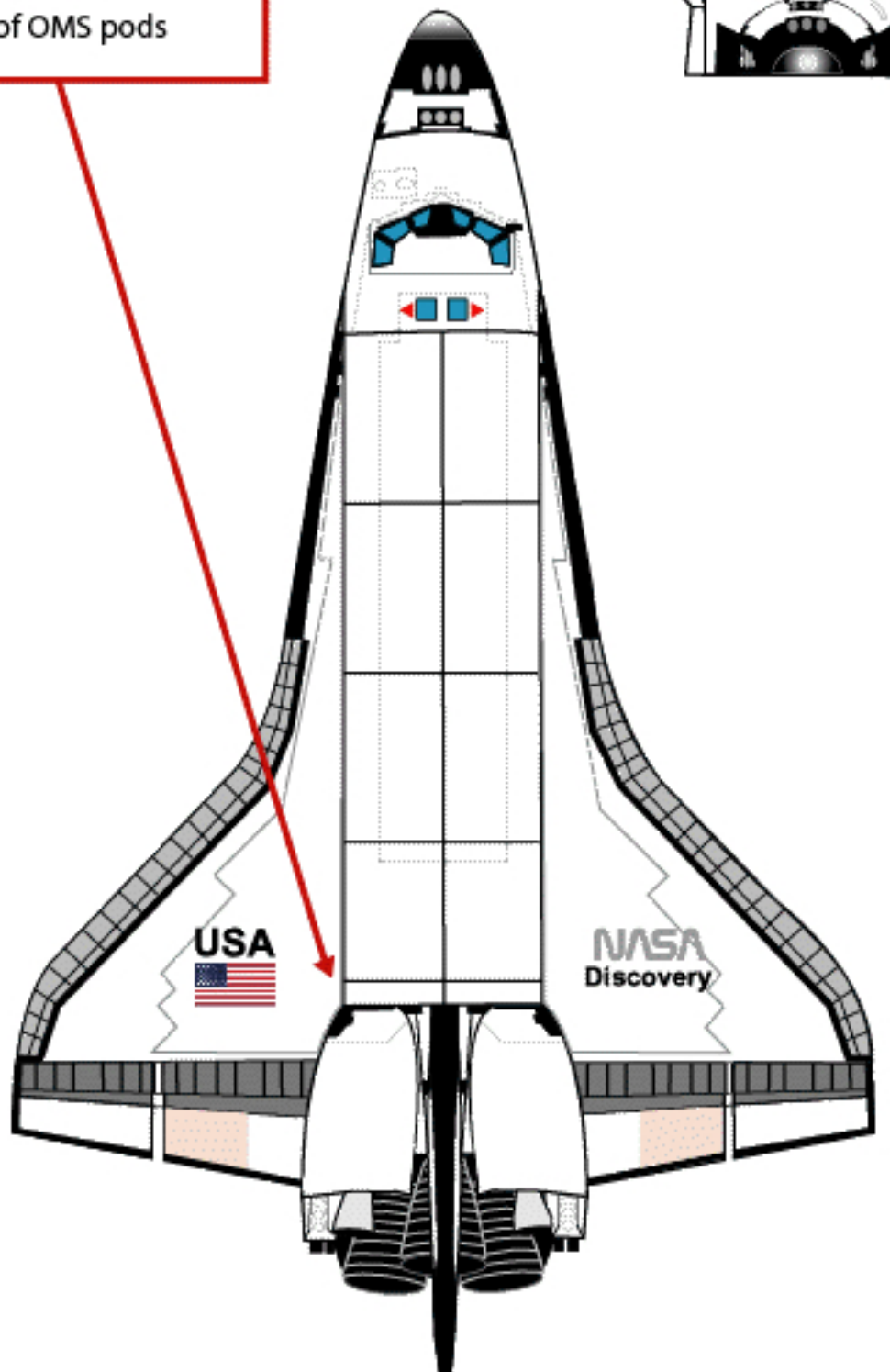


Note black tile areas on both sides of OMS pods



Missions flown:	
STS-26 (RTF)	9/26/88
STS-29	3/13/89
STS-33	11/23/89
STS-31	4/24/90
STS-41	10/ 6/90

* RTF: Return to Flight

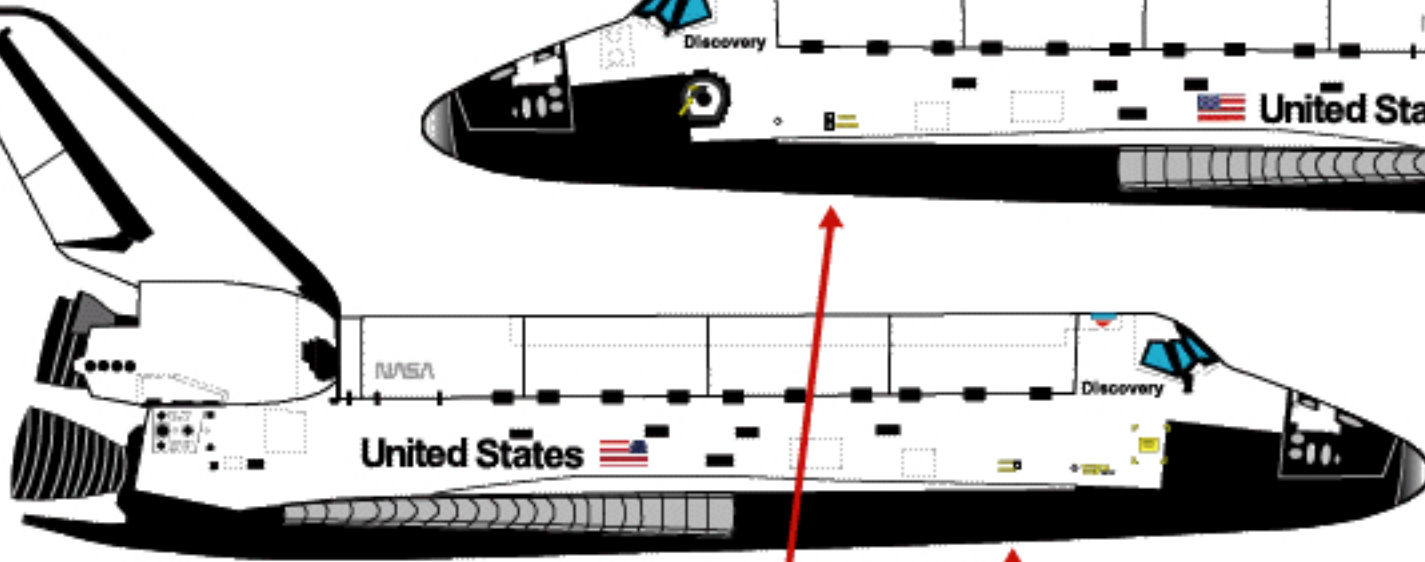
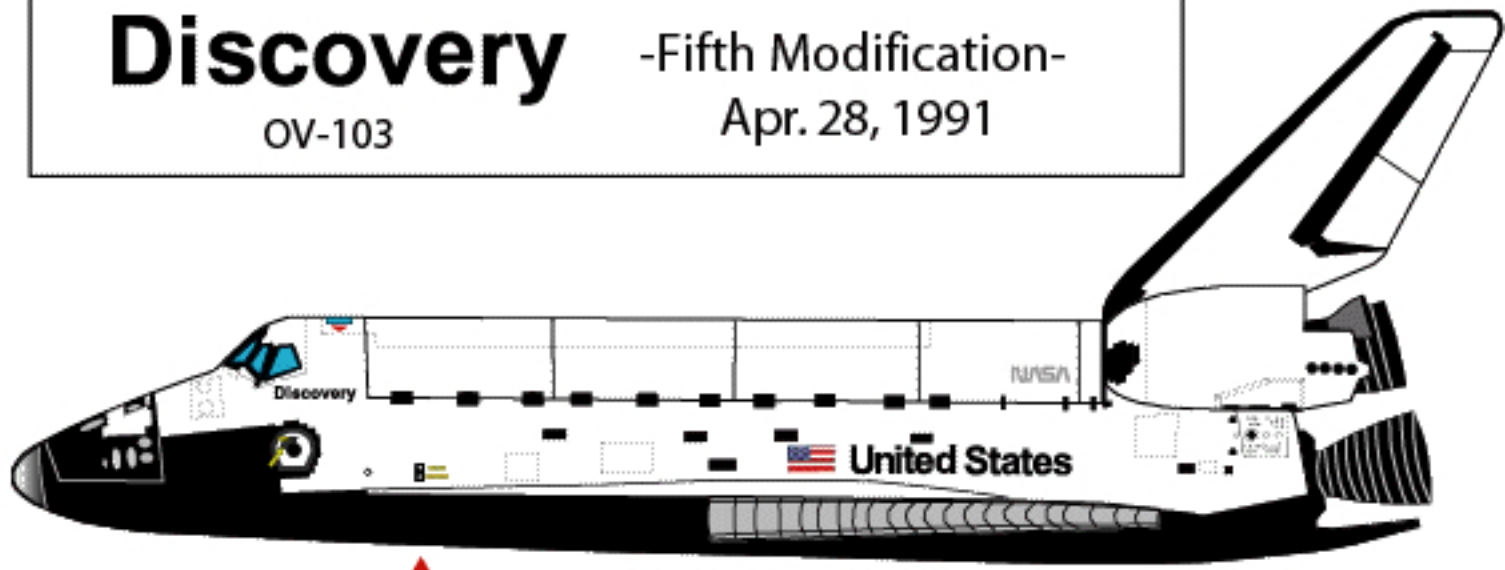




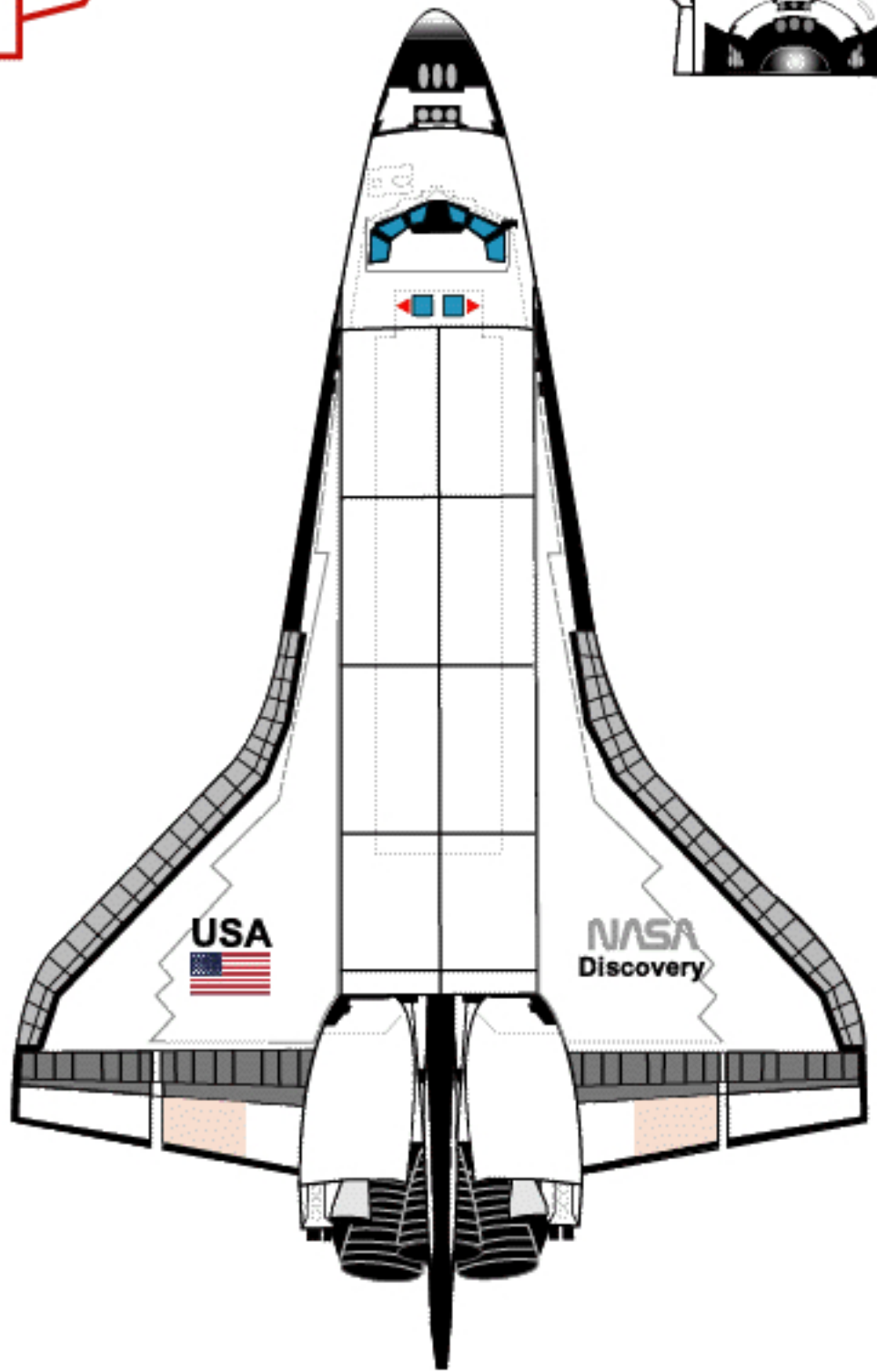
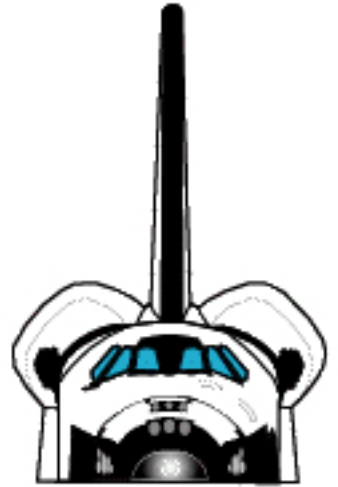
Discovery

OV-103

-Fifth Modification-
Apr. 28, 1991



Note labels added on sides



Missions flown:

STS-39	4/28/91
STS-48	9/12/91
STS-42	1/22/92

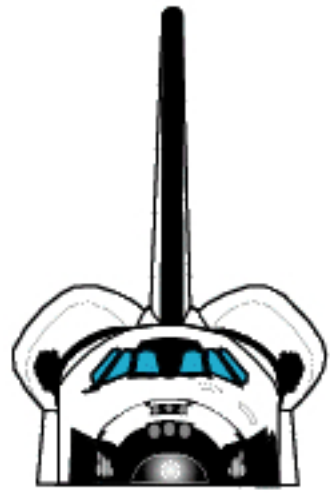
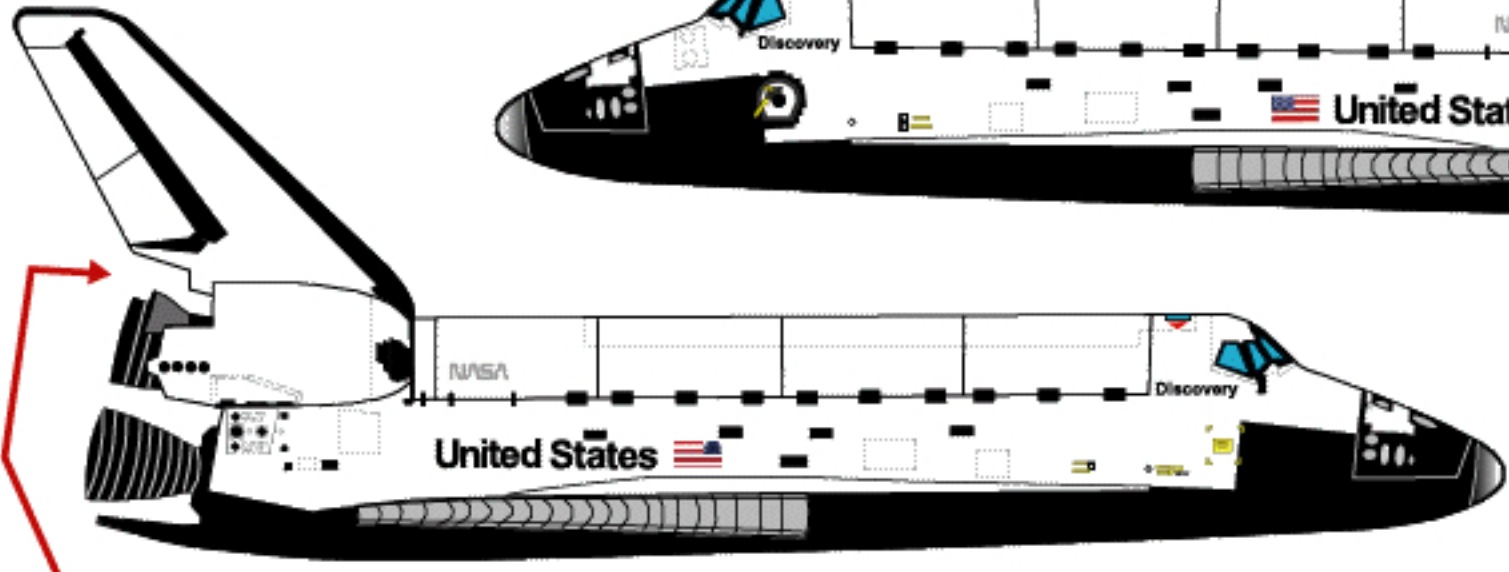
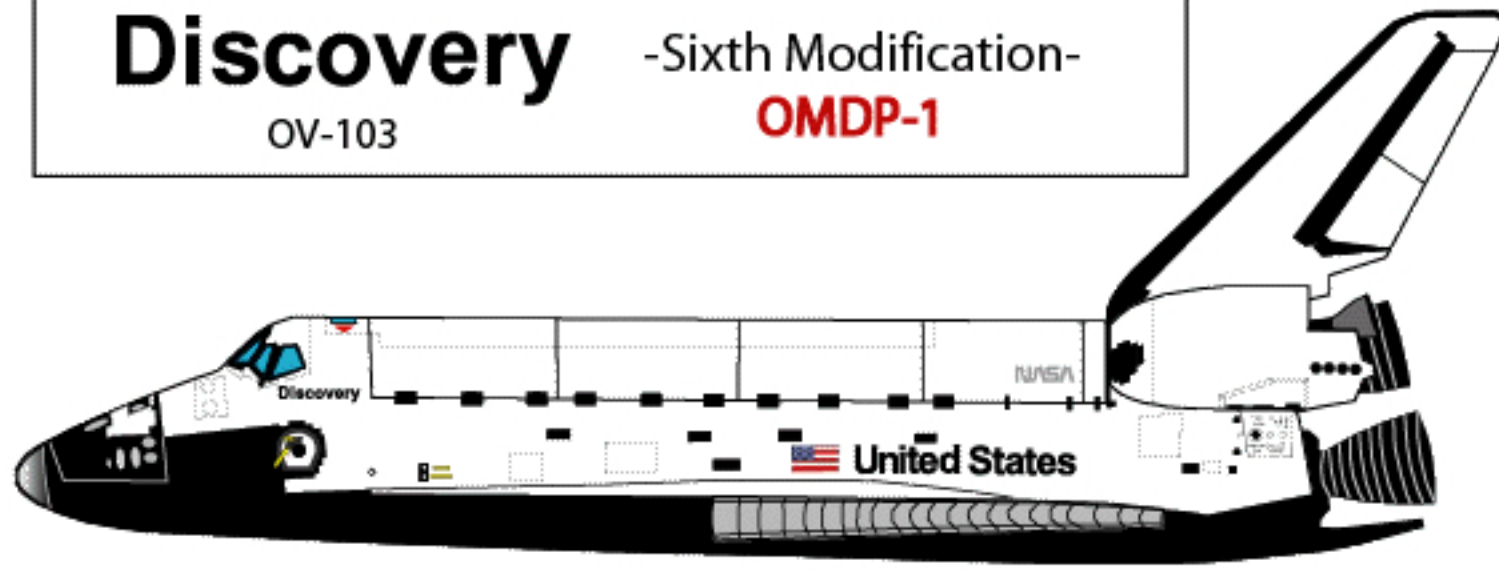


Discovery

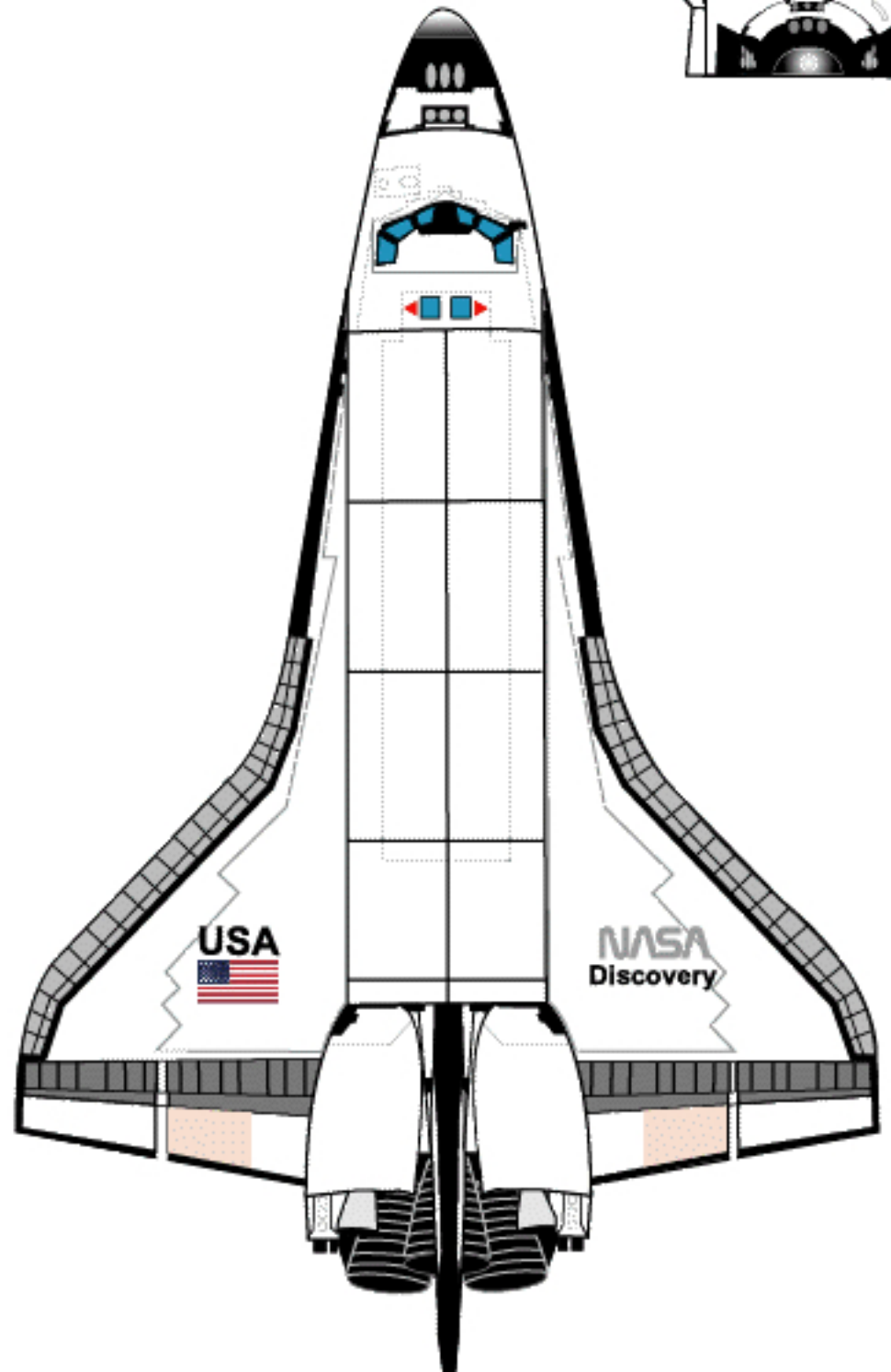
-Sixth Modification-

OV-103

OMDP-1



Note drag chute added to tail



Missions flown:	
STS-53	12/ 2/92
STS-56	4/ 8/93
STS-51	9/12/93

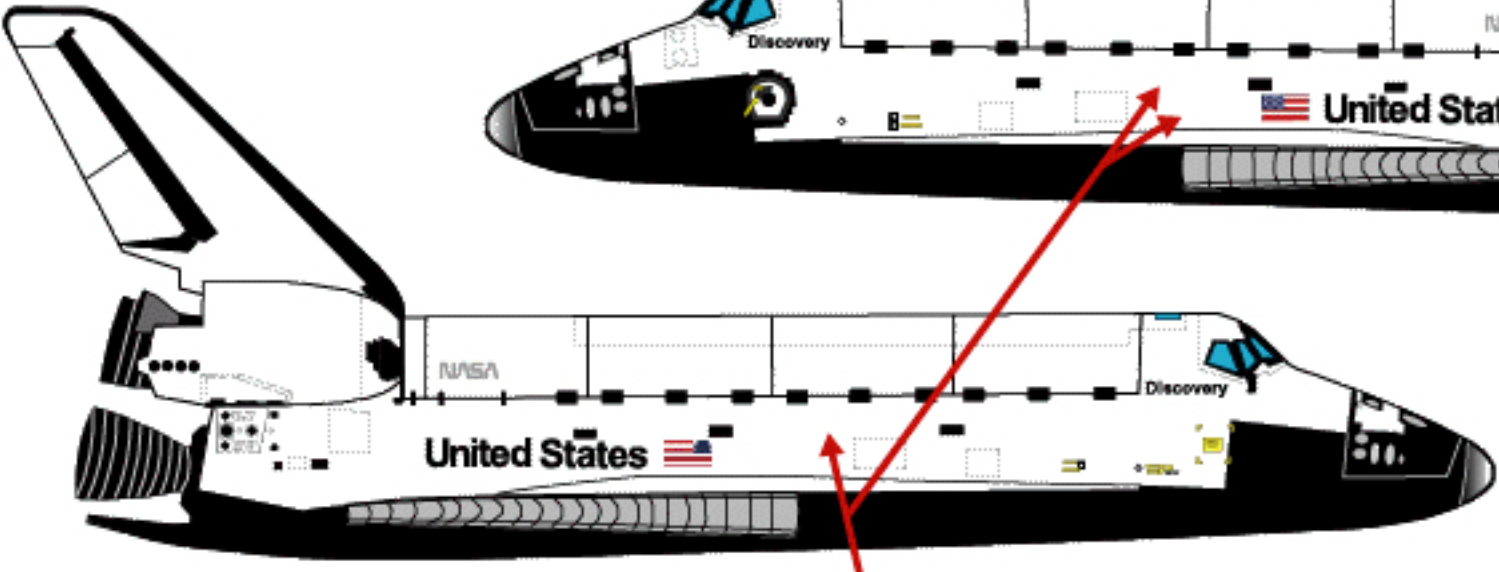


Discovery

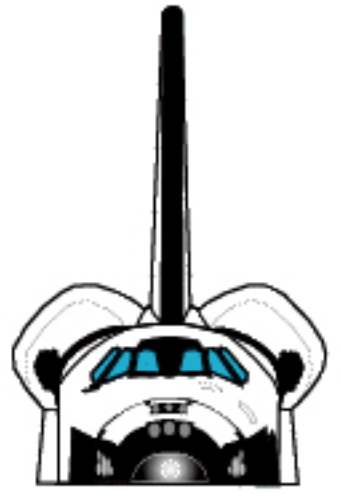
-Seventh Modification-

OV-103

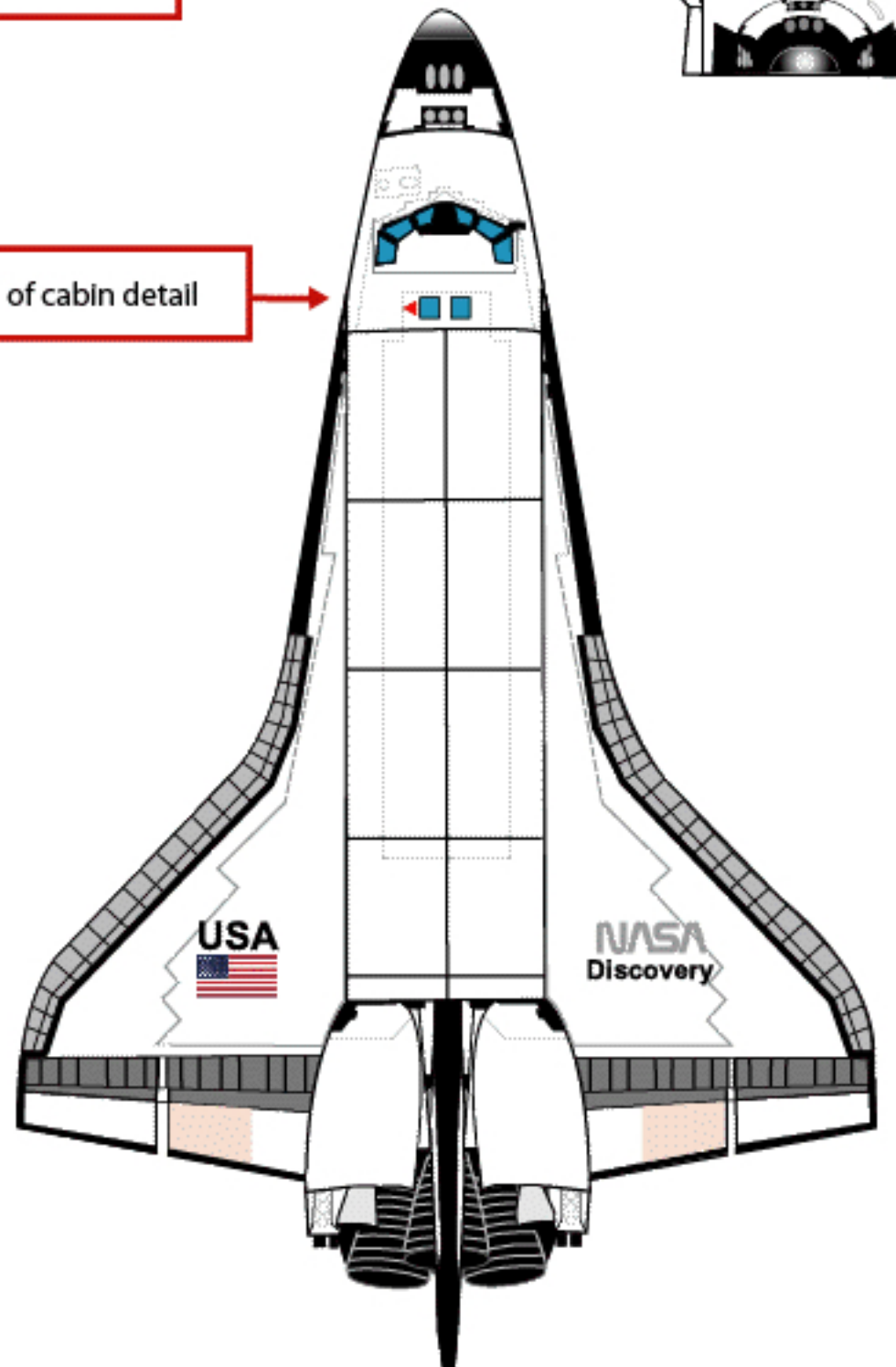
Feb. 3, 1994



Note vent doors
"4" and "7" disabled



Note top of cabin detail



Missions flown:	
STS-60	2/ 3/94
STS-64	9/ 9/94
STS-63	2/ 3/95
STS-70	7/13/95

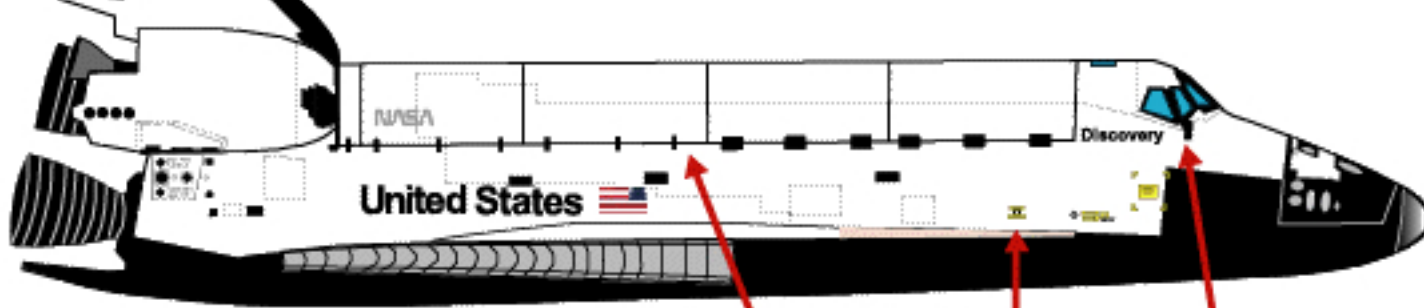
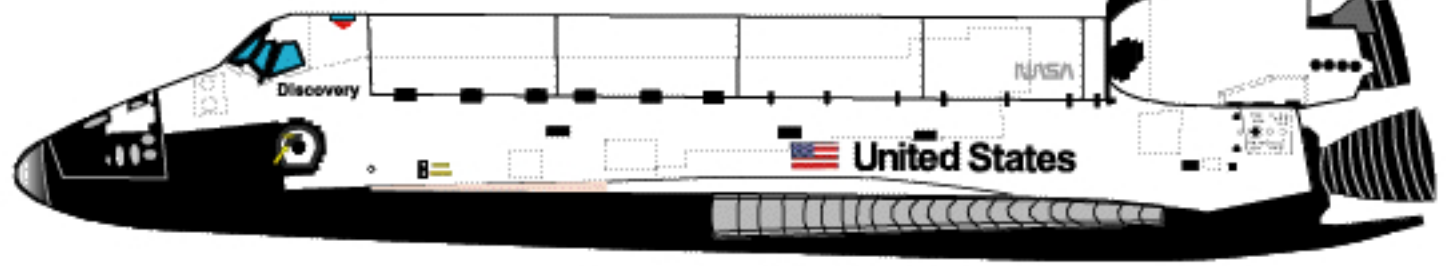


Discovery

-Eighth Modification-

OV-103

OMDP-2



Note door hinges pattern

Window tile modified

Label modified on right side only

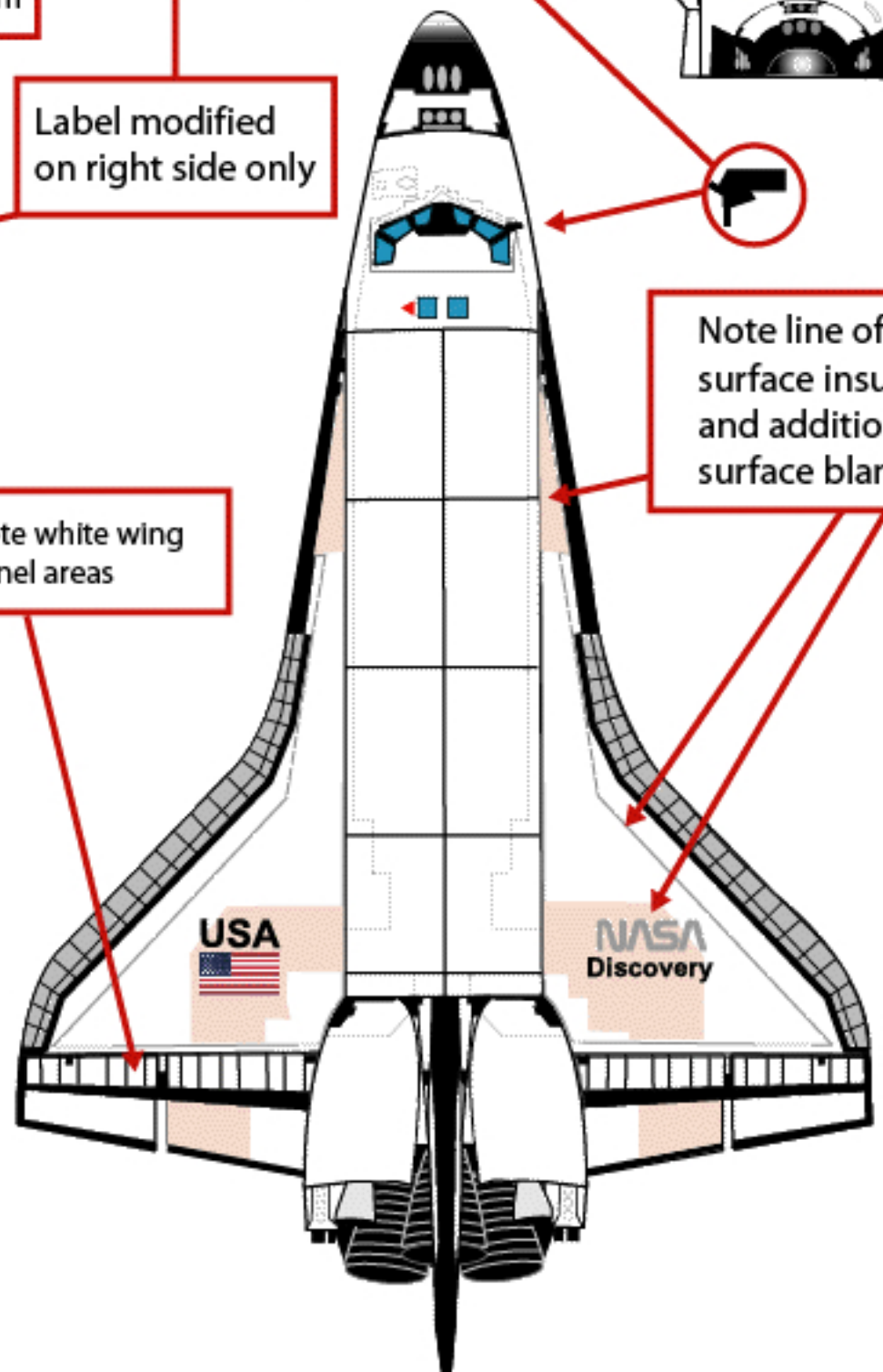
F/C PURGE PORT
TO REMAIN CLEAR AND OPEN
AT ALL TIMES

Note line of surface insulation and addition of surface blankets

Note white wing panel areas

Missions flown:

STS-82	2/11/97
STS-85	8/7/97
STS-91	6/2/98



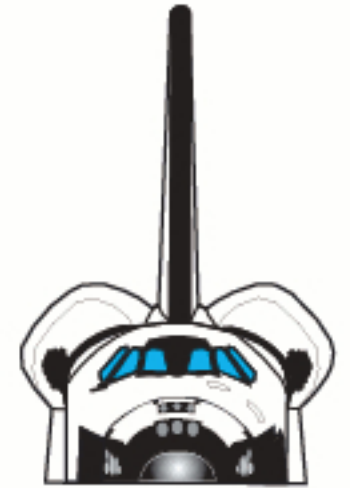
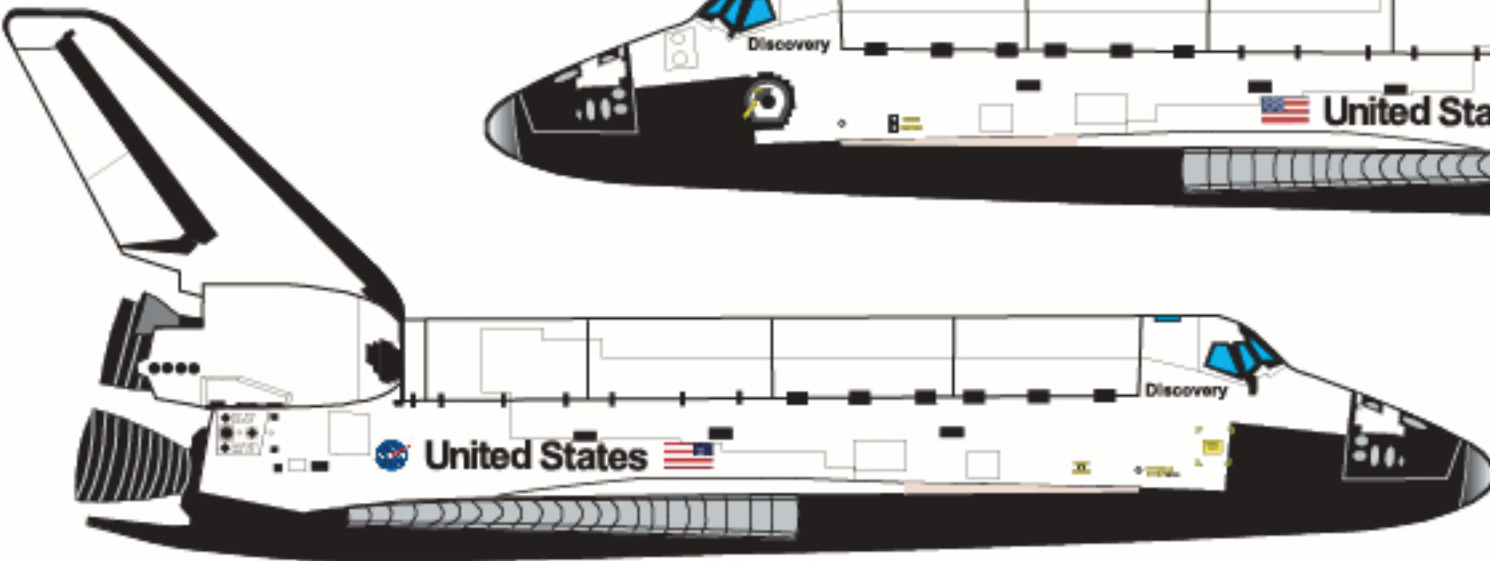


Discovery

-Ninth Modification-

OV-103

Oct. 29, 1998



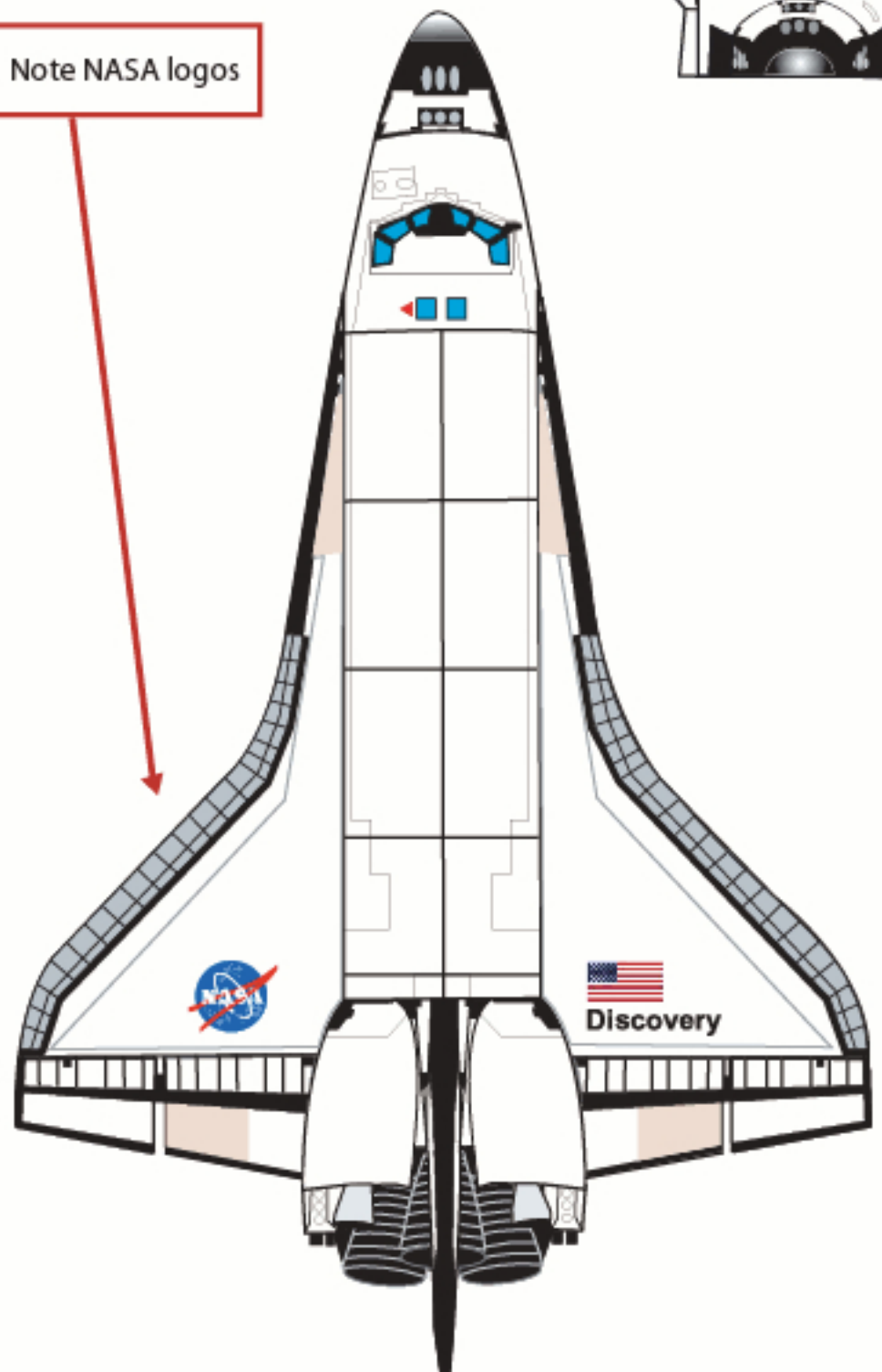
Missions flown:

STS-95	10/29/98
STS-96	5/27/99
STS-103	12/19/99
STS-92	10/11/00
STS-102	3/8/01
STS-105	8/10/01

OMDP-3

STS-114 (RTF)	7/26/05
STS-121 (RTF)	7/4/06
STS-116	12/9/06
STS-120	10/23/07
STS-124	5/31/08
STS-119	3/15/09
STS-128	8/28/09
STS-131	4/5/10
STS-133	2/24/11 (Last Flight)

Note NASA logos



* RTF: Return to Flight

An embroidered patch on a light-colored fabric. The patch features a dark blue pennant shape at the top and a red pennant shape at the bottom. The word "ATLANTIS" is embroidered in dark blue, with the letter "A" being significantly larger than the others. The letter "L" is replaced by a dark blue anchor symbol. The entire patch is surrounded by a white border with a decorative stitching pattern.

ATLANTIS

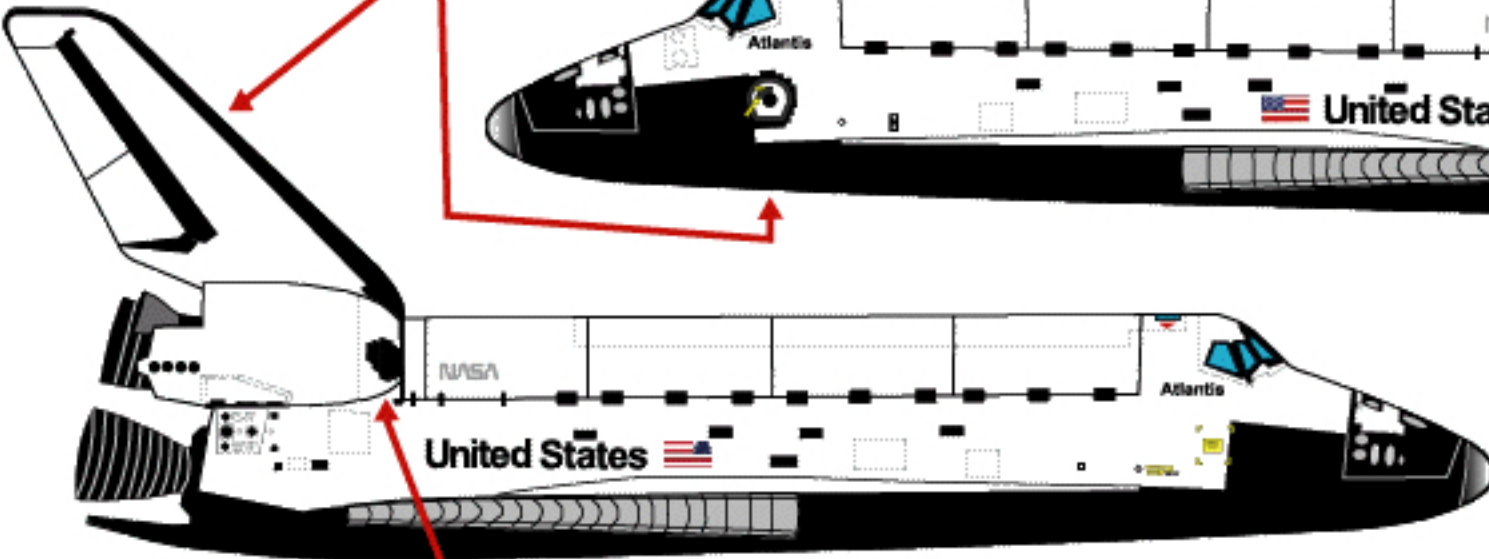
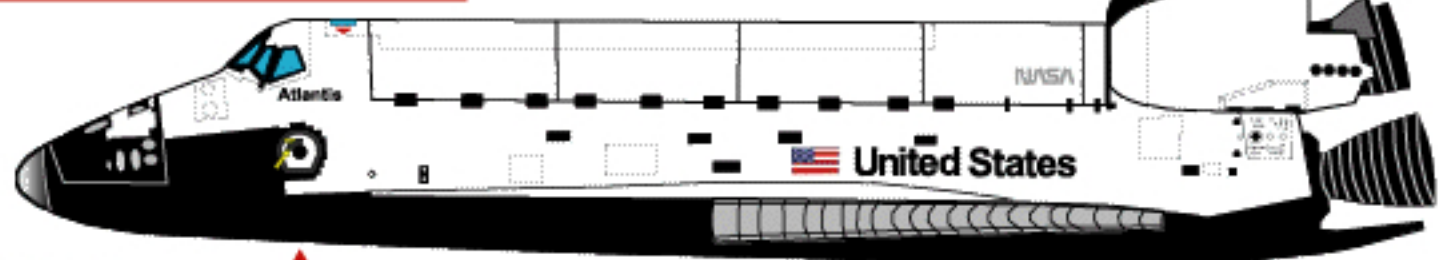


Atlantis

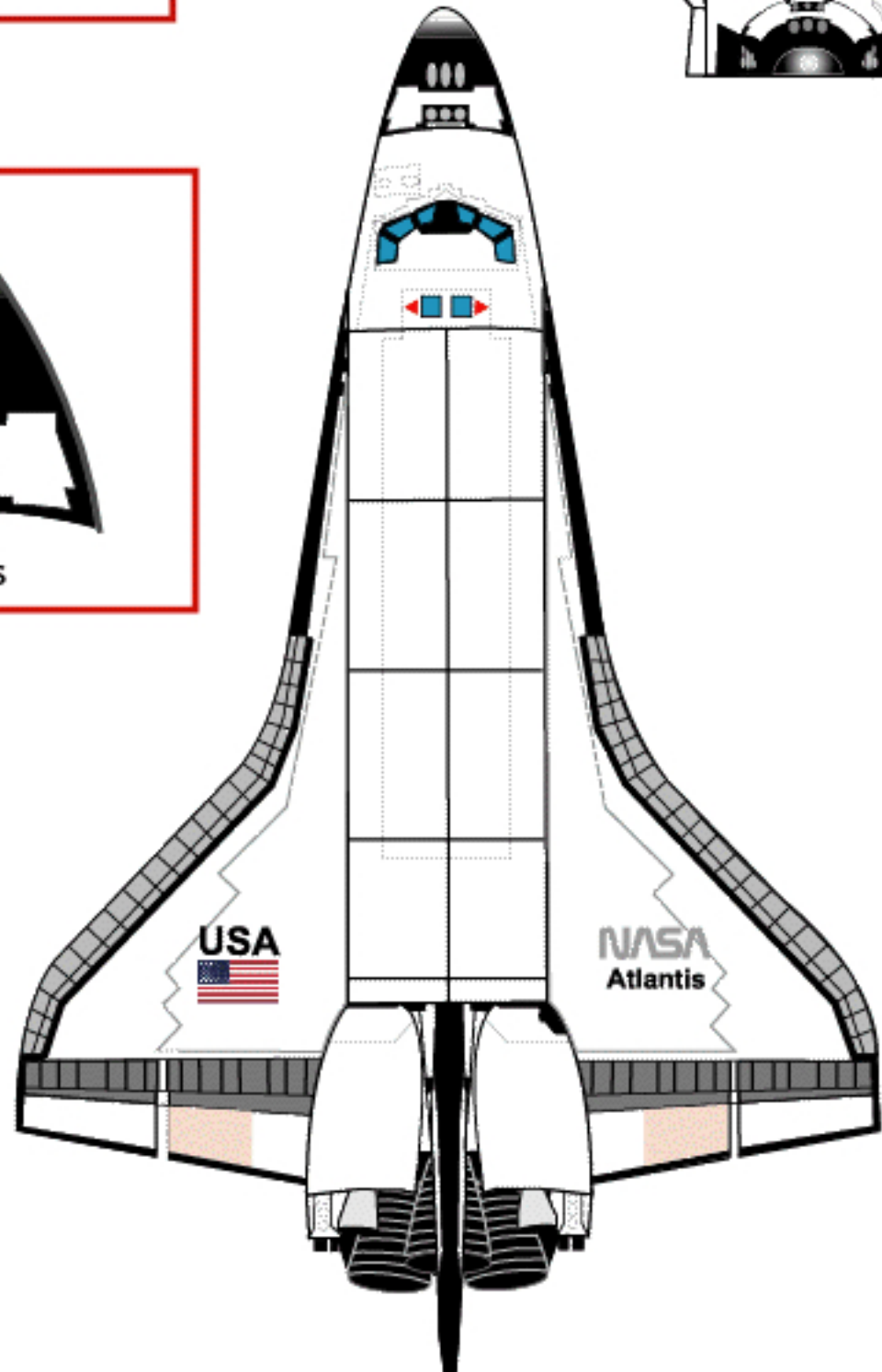
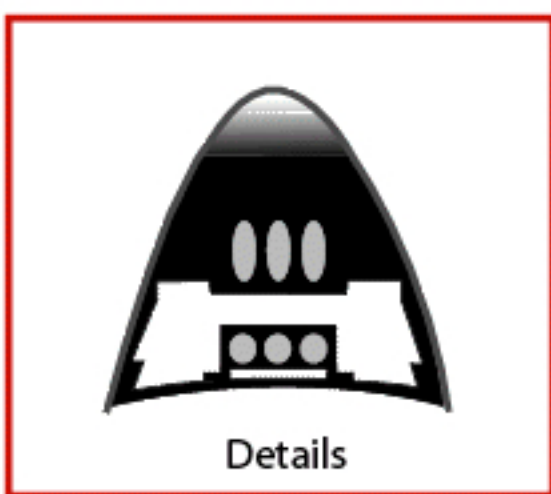
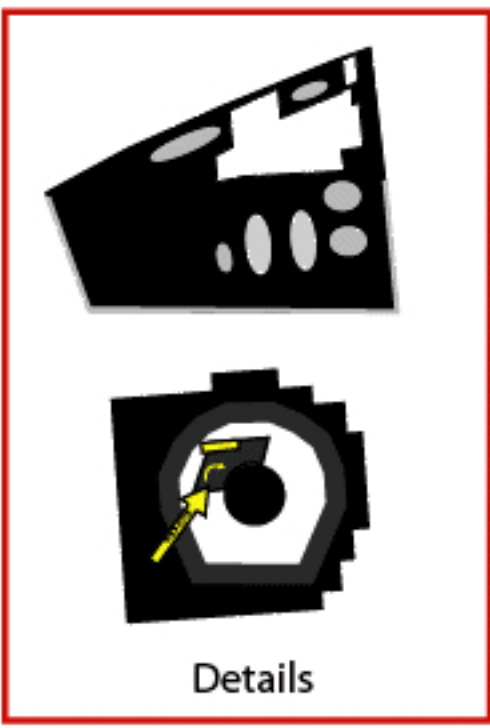
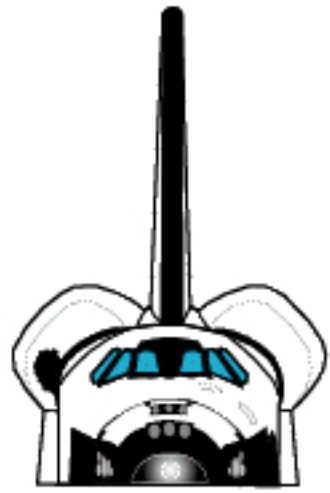
OV-104

-Original Markings-
Oct. 3, 1985

Crew hatch and tail pattern
same as OV-103 and OV-105



Note tile on right OMS pod only



Missions flown:

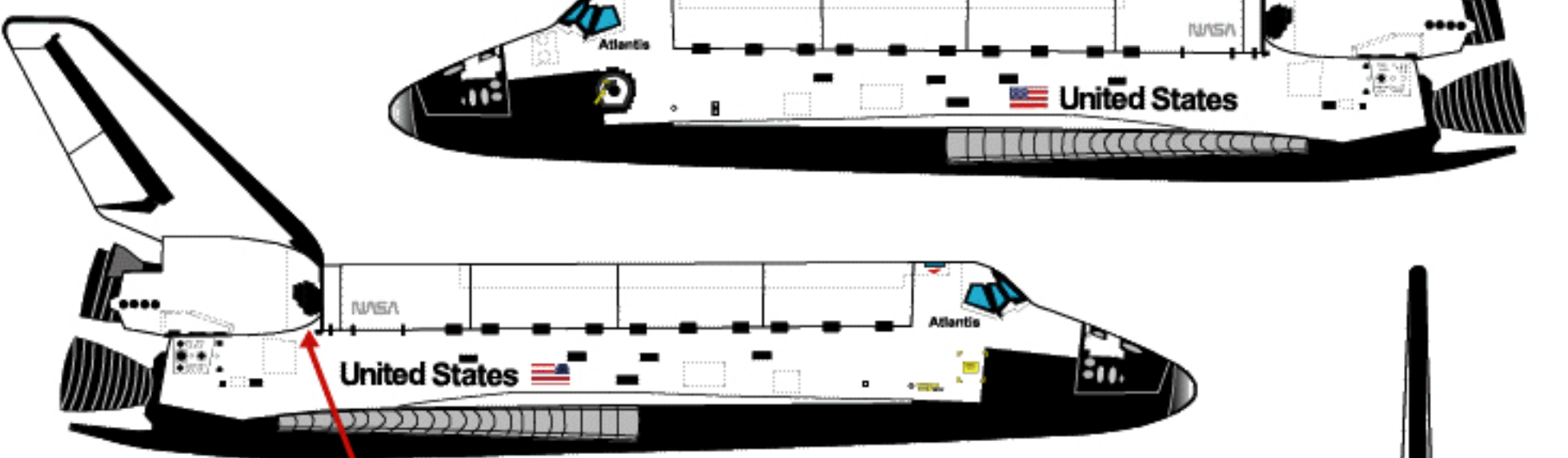
51-J	10/ 3/85
61-B	11/27/85



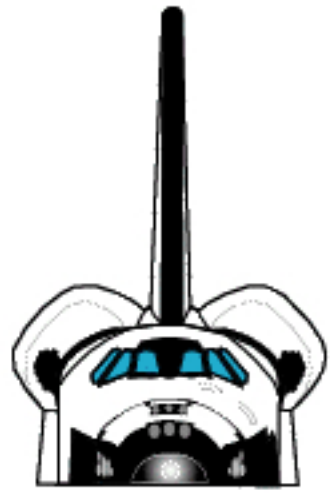
Atlantis

OV-104

-Second Modification-
Dec. 2, 1988

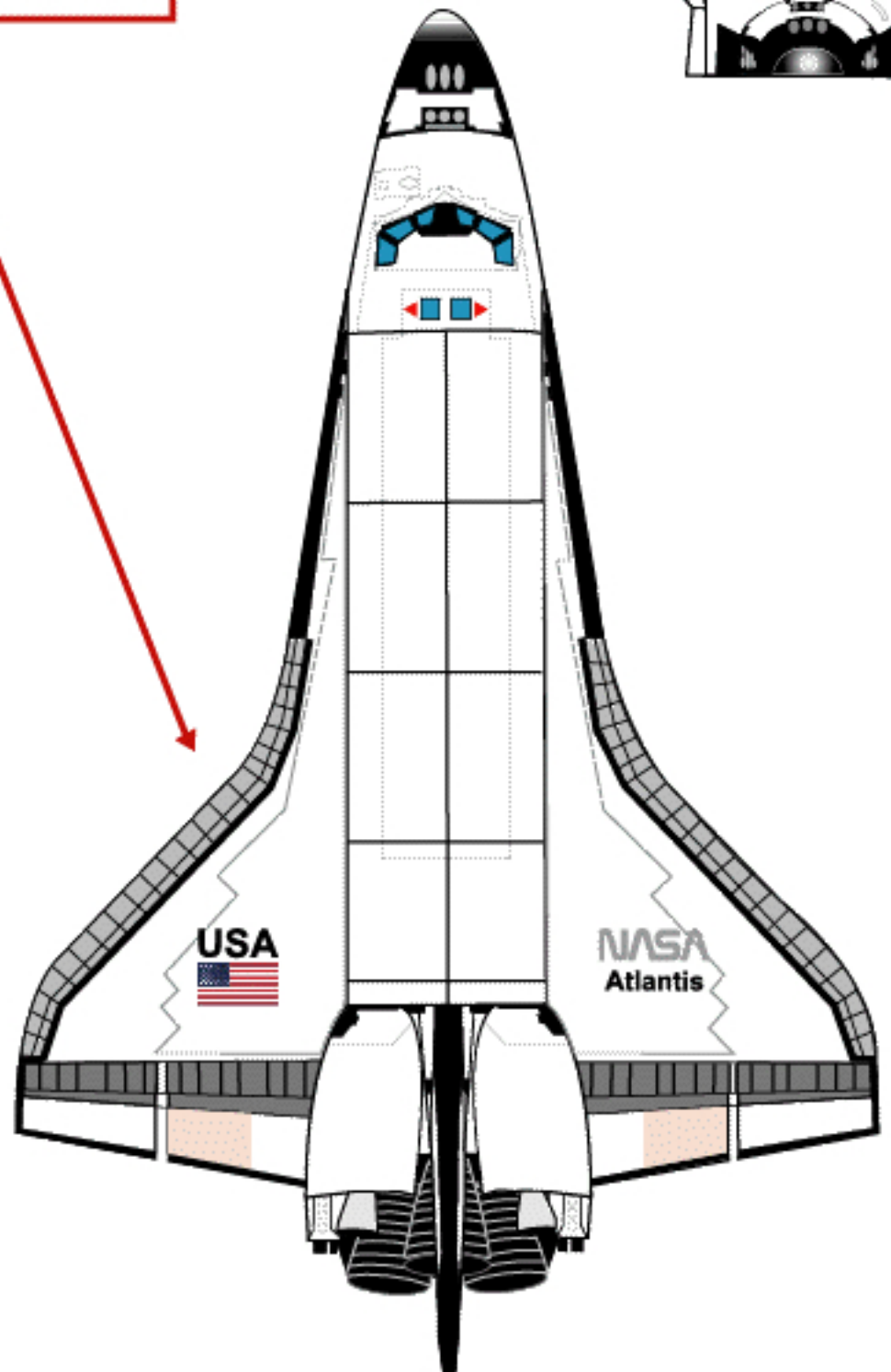


Note black tiles on both OMS pods



Missions flown:

STS-27	12/ 2/88
STS-30	5/ 4/89
STS-34	10/18/89
STS-36	2/28/90
STS-38	11/16/90
STS-37	4/ 5/91

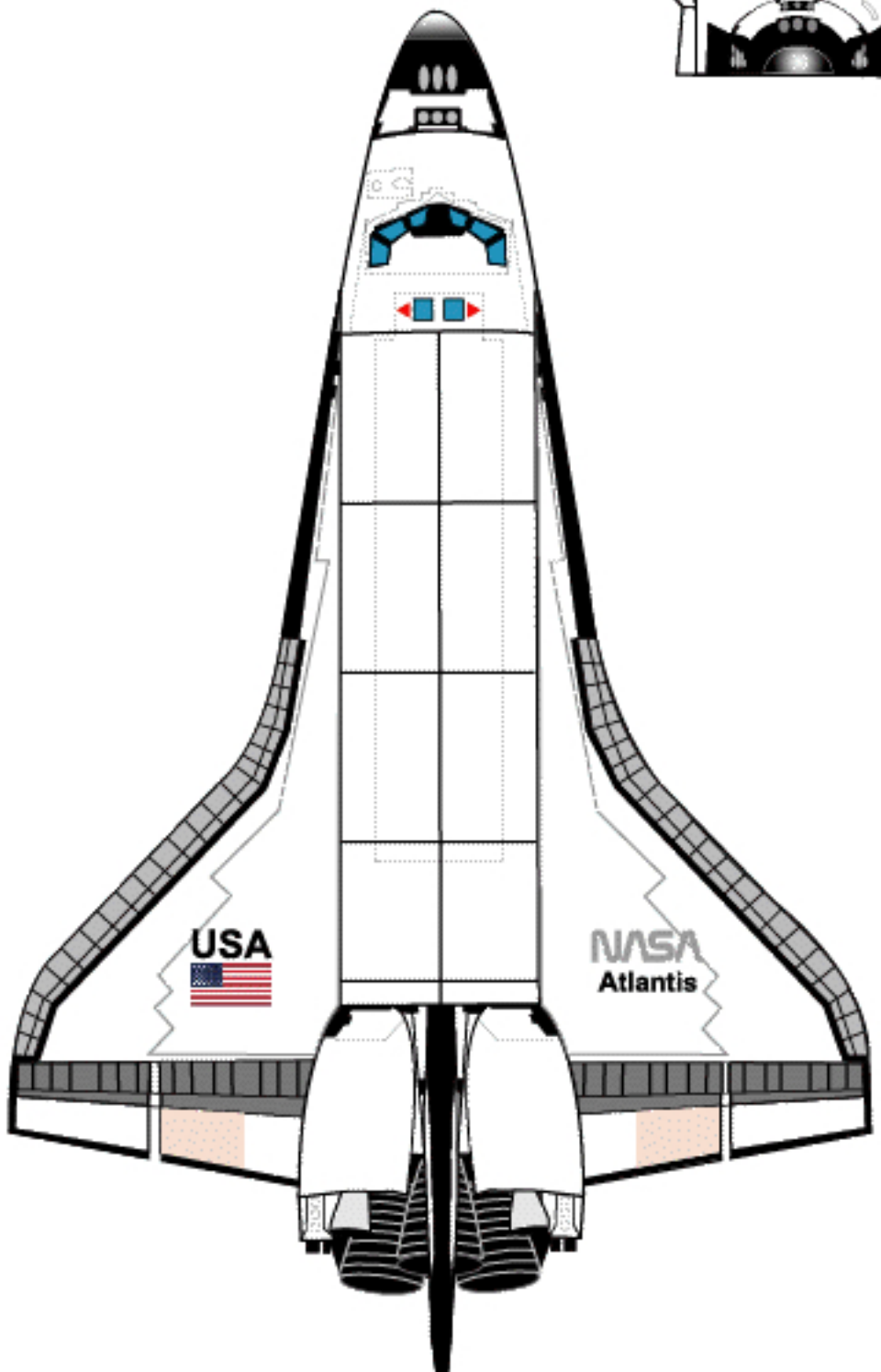
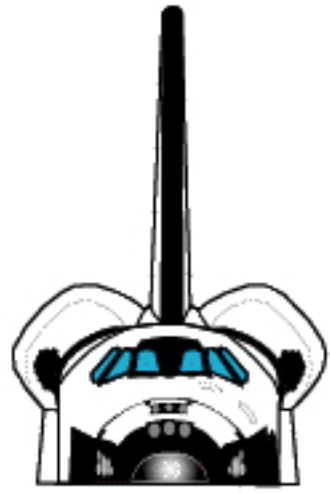
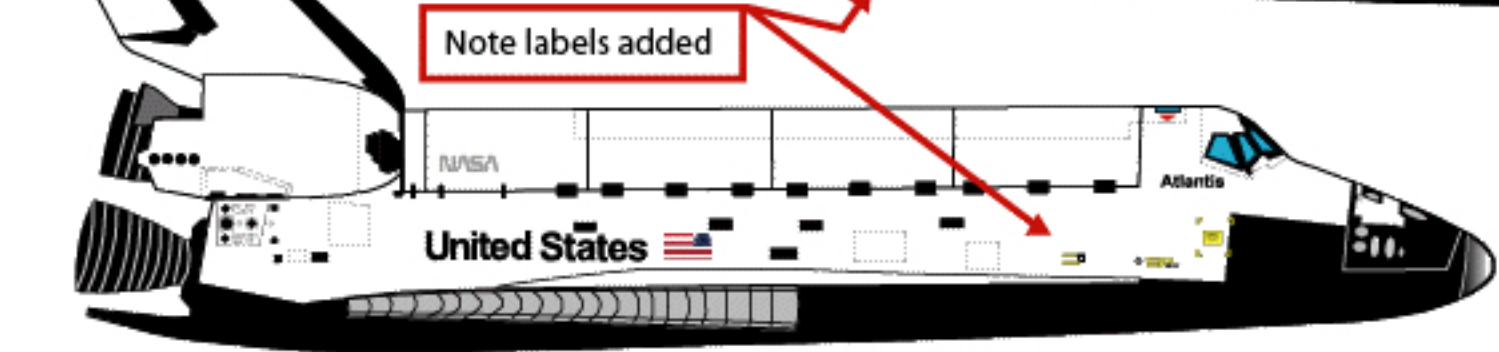
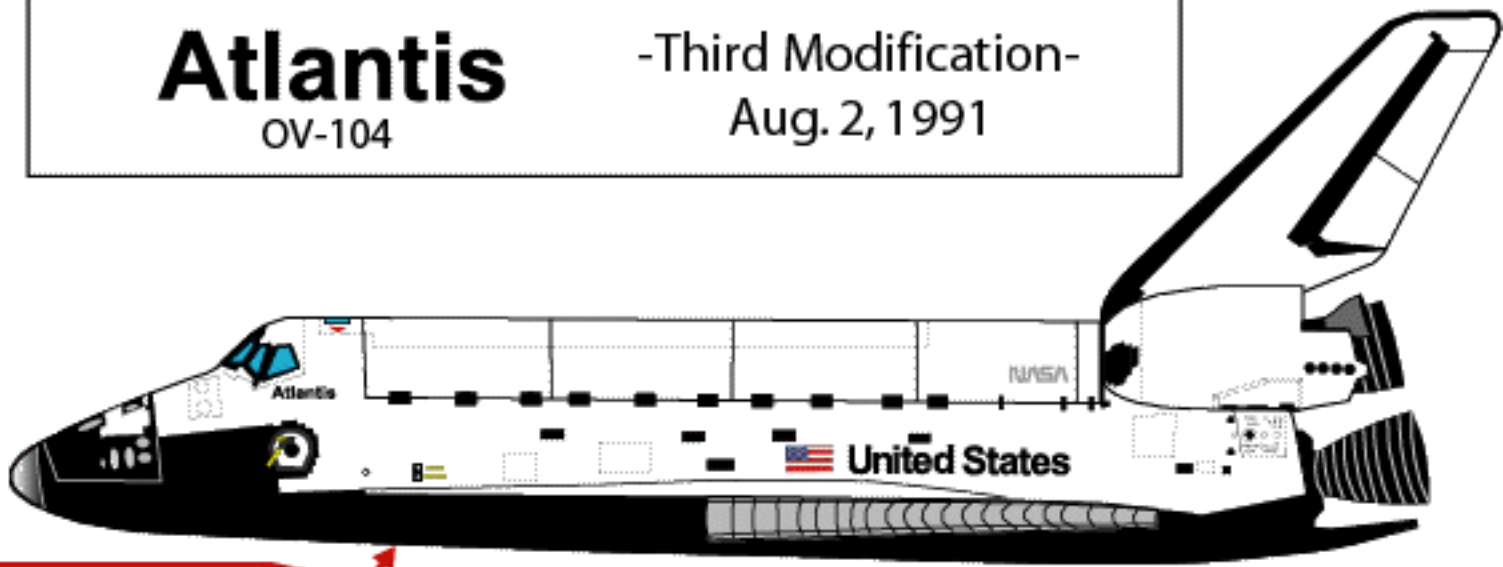




Atlantis

OV-104

-Third Modification-
Aug. 2, 1991



Missions flown:

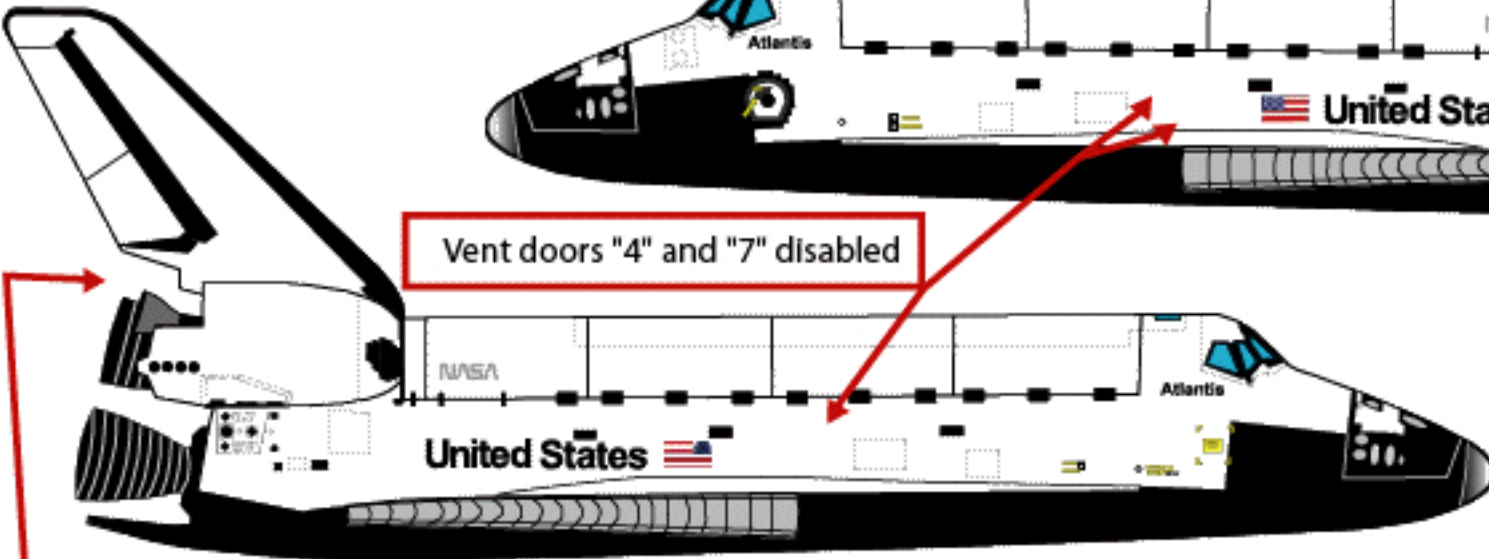
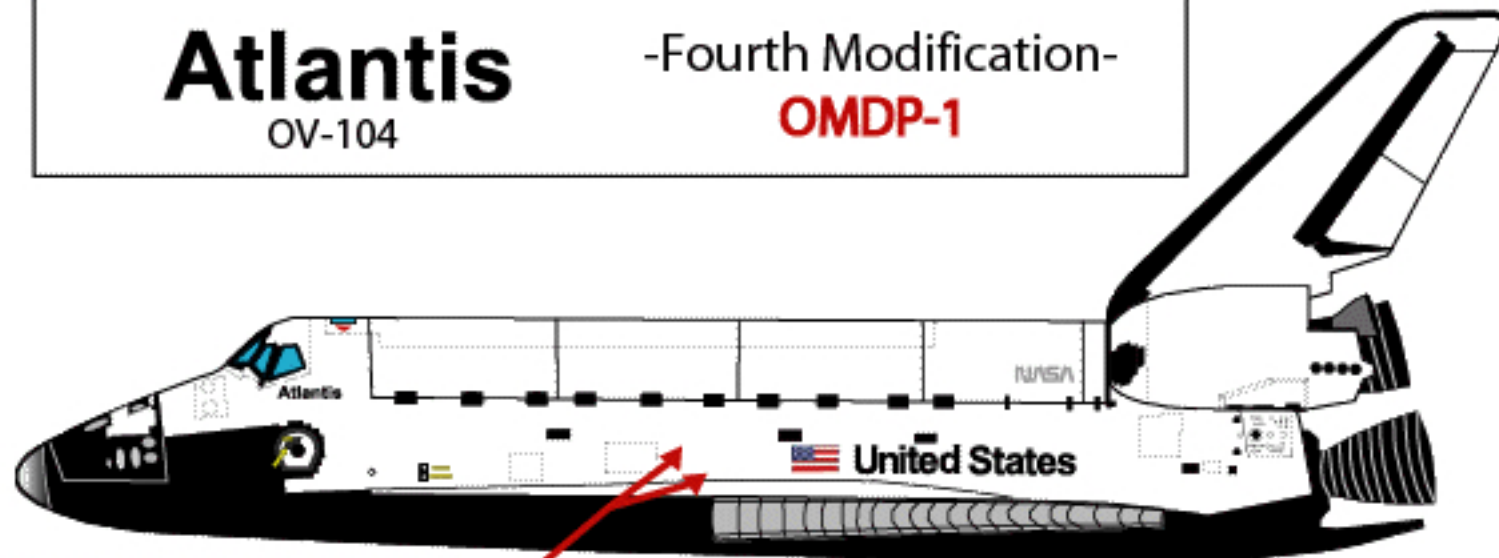
STS-43	8/ 2/91
STS-44	11/21/91
STS-45	3/24/92
STS-46	7/31/92



Atlantis

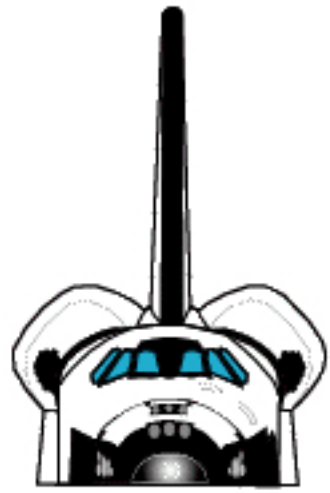
OV-104

-Fourth Modification-
OMDP-1

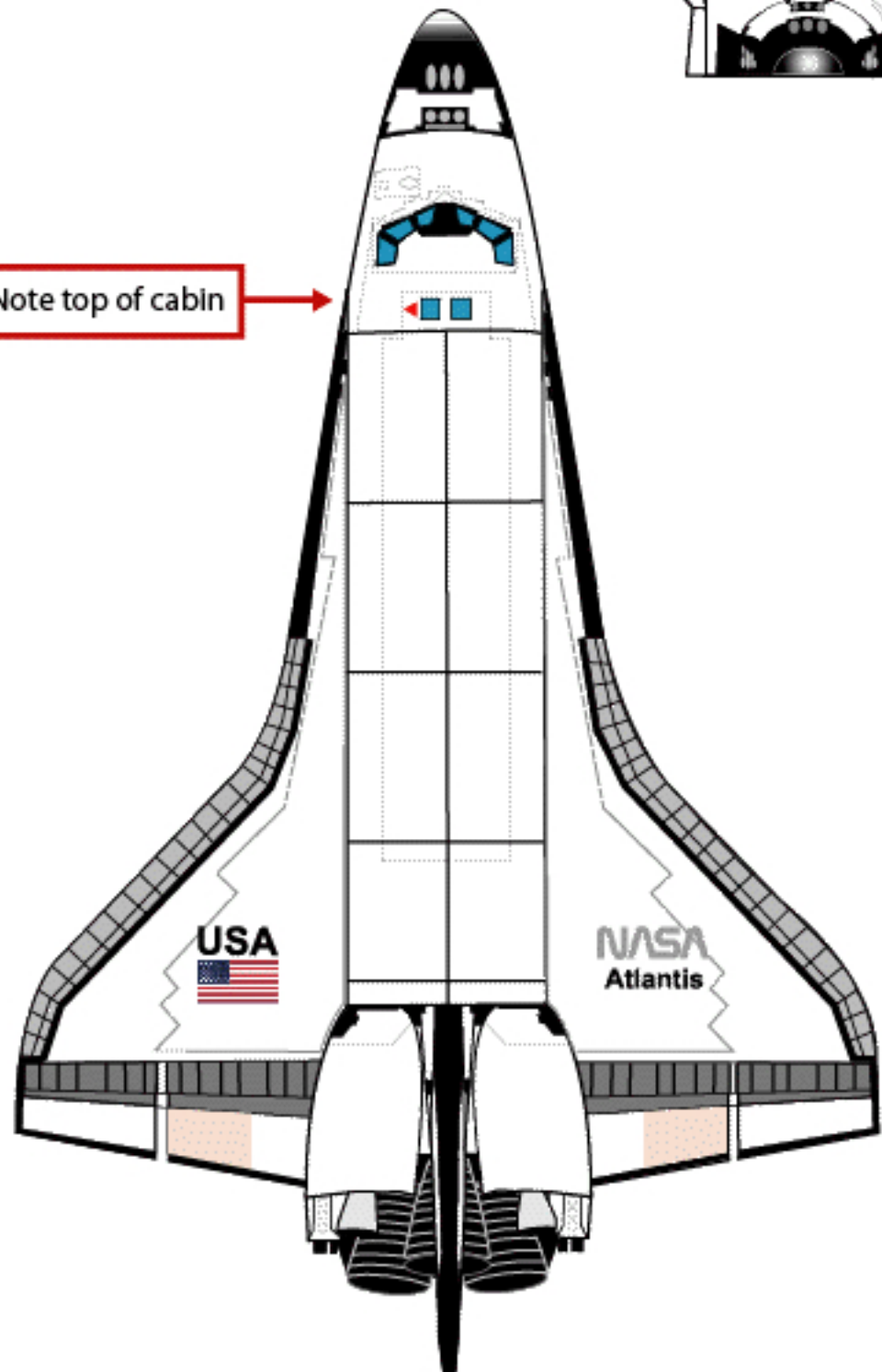


Vent doors "4" and "7" disabled

Note drag chute added



Note top of cabin

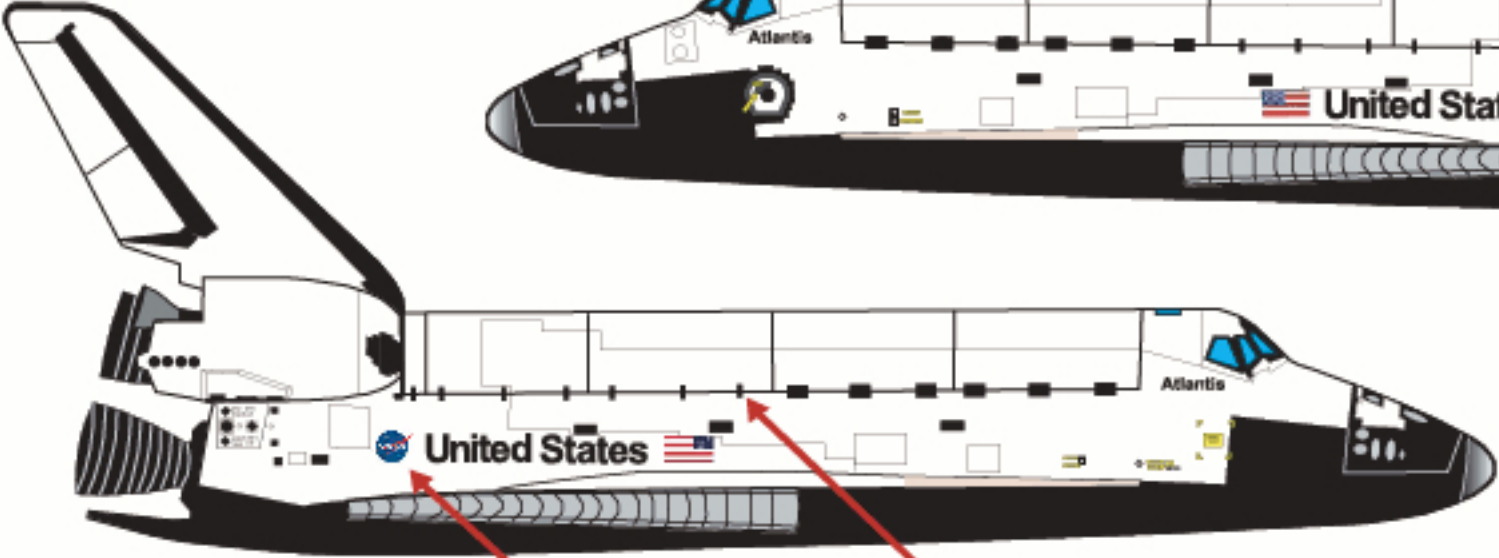
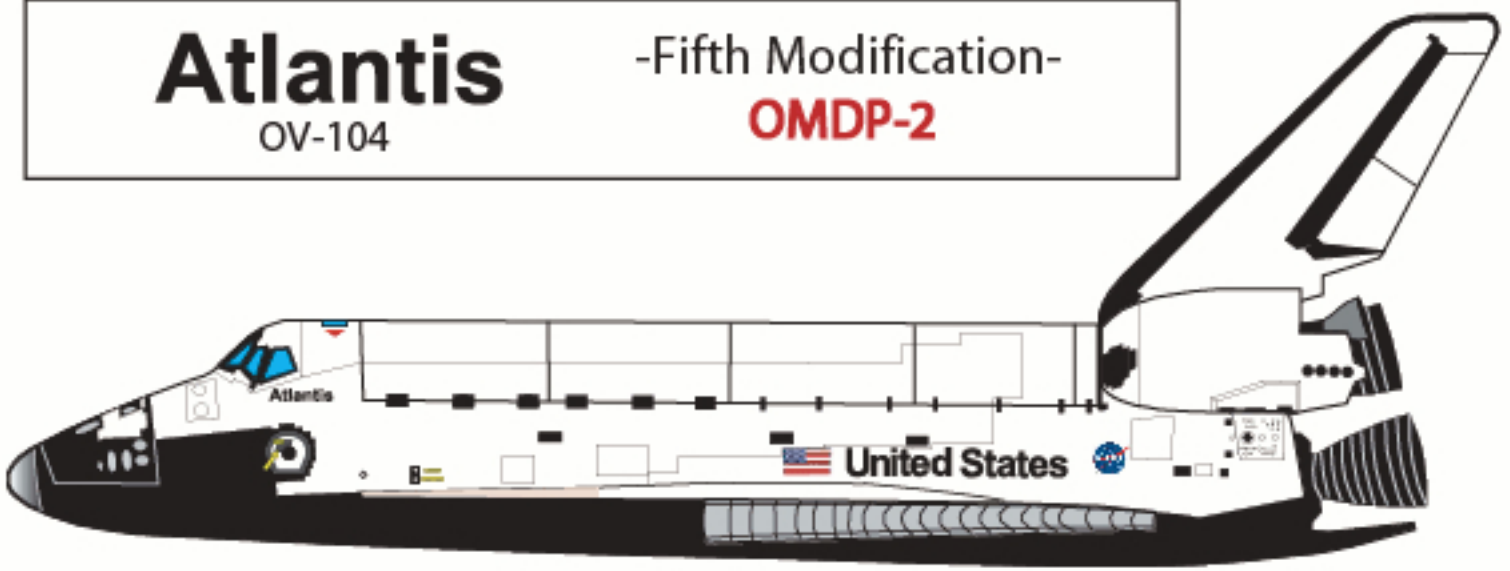


Missions flown:

STS-66	11/ 3/94
STS-71	6/27/95
STS-74	11/12/95
STS-76	3/22/96
STS-79	9/16/96
STS-81	1/12/97
STS-84	5/15/97
STS-86	9/26/97



Atlantis -Fifth Modification-
OV-104 **OMDP-2**



Missions flown:

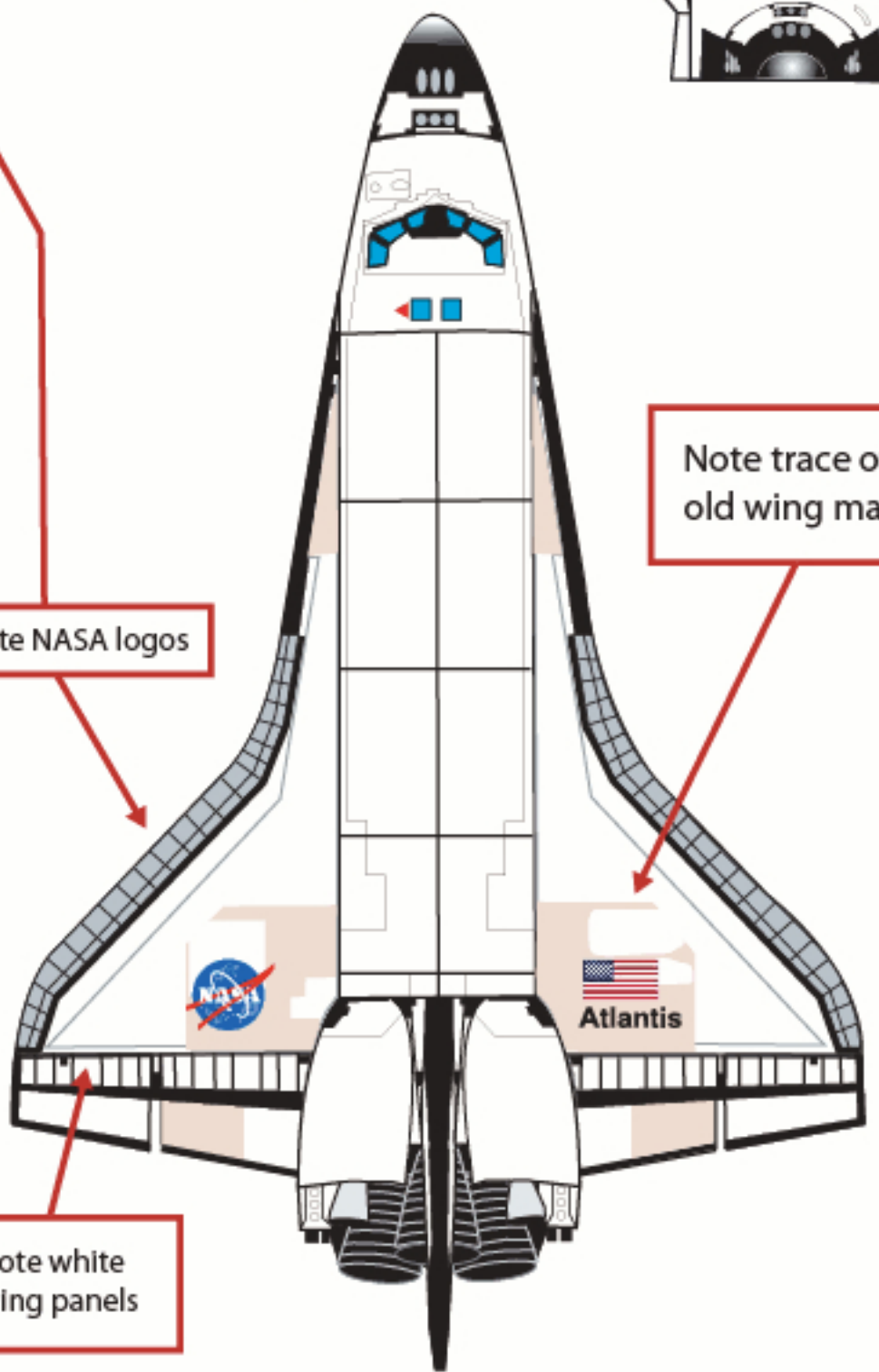
STS-101	5/19/00
STS-106	9/ 8/00
STS-98	2/ 7/01
STS-104	7/12/01
STS-110	4/ 8/02
STS-112	10/ 7/02
OMDP-3	
STS-115	9/9/06
STS-117	6/8/07
STS-122	2/7/08
STS-125	5/11/09
STS-129	11/16/09
STS-132	5/14/10
STS-135	7/8/11 LAST MISSION

Note door hinge pattern

Note NASA logos

Note trace of old wing markings

Note white wing panels





ENDEAVOUR

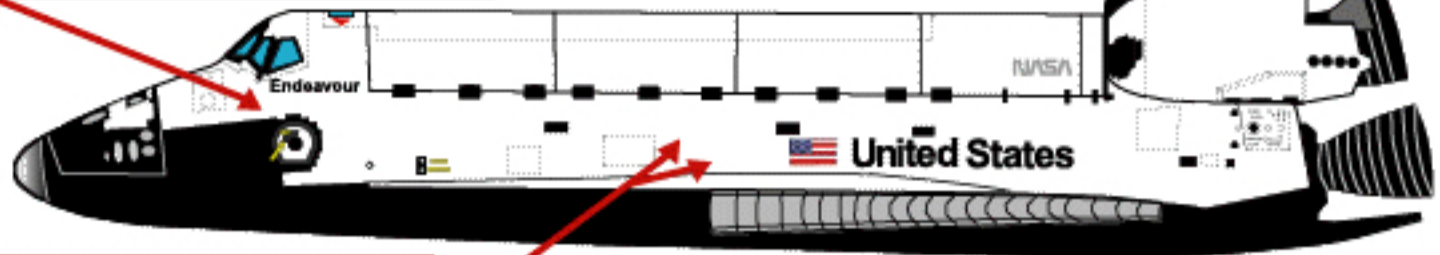
The image shows a rectangular embroidered patch with a white background. At the top is a dark blue horizontal bar that tapers to the right. At the bottom is a red horizontal bar that tapers to the right. The word "ENDEAVOUR" is embroidered in dark blue, bold, sans-serif capital letters. A small bell icon is positioned between the 'E' and 'V' of the word. The entire patch is surrounded by a white border with a decorative stitching pattern.



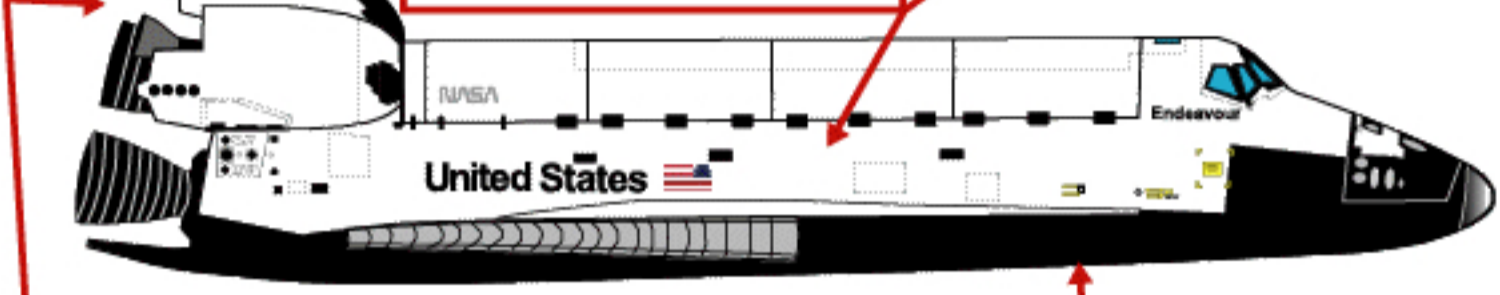
Endeavour -Original Markings- OV-105

May 8, 1992

Note crew hatch and tail pattern as OV-103 and OV-104



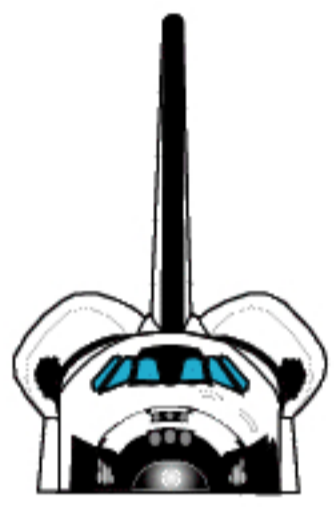
Vent doors "4" and "7" disabled



Note drag chute



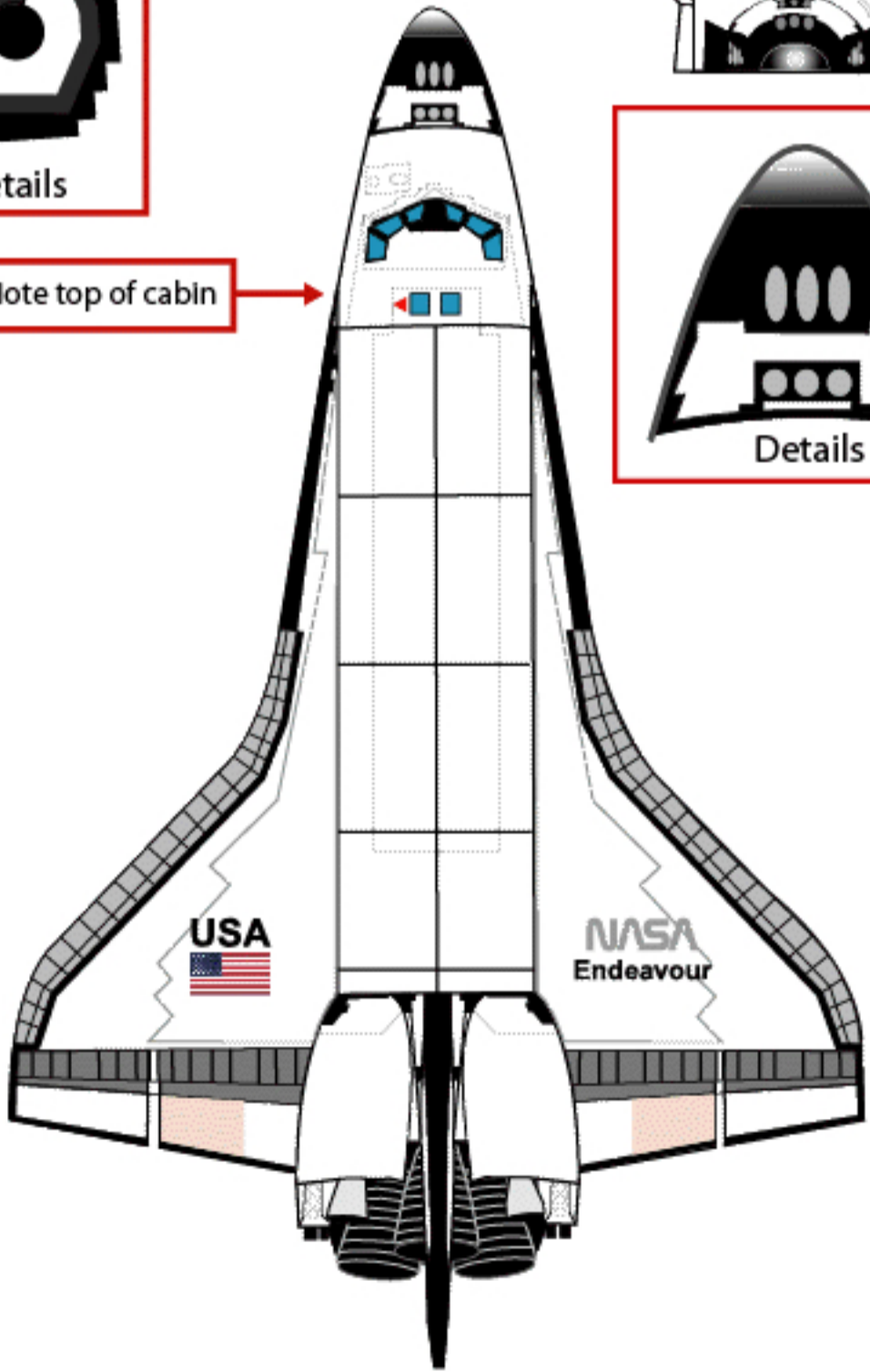
Note labels



Missions flown:

STS-49	5/ 8/92
STS-47	9/12/92
STS-54	1/13/93
STS-57	6/21/93
STS-61	12/2/93
STS-59	4/ 8/94
STS-68	9/30/94
STS-67	3/ 2/95
STS-69	9/ 7/95
STS-72	1/13/96
STS-77	5/19/96

Note top of cabin





Endeavour

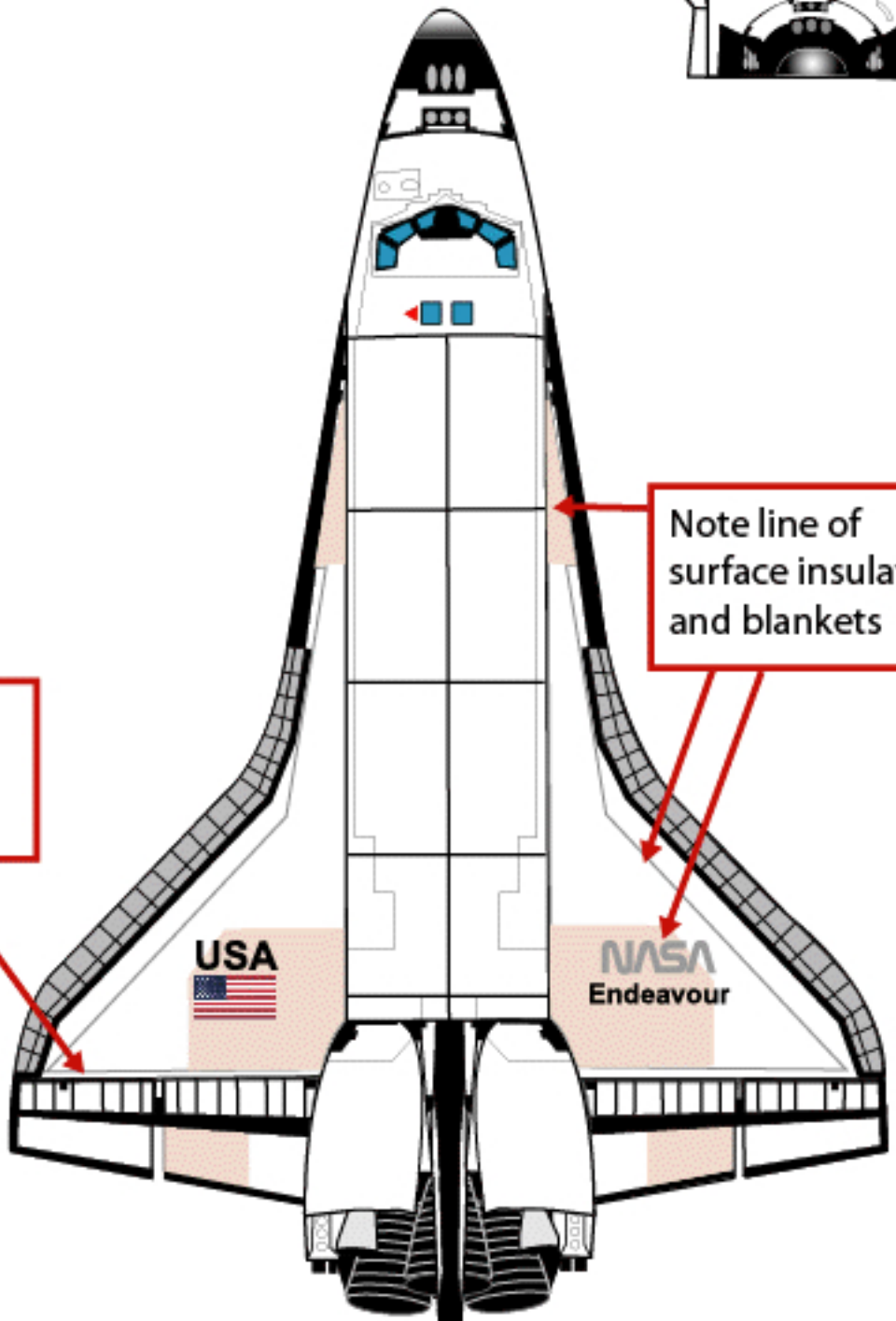
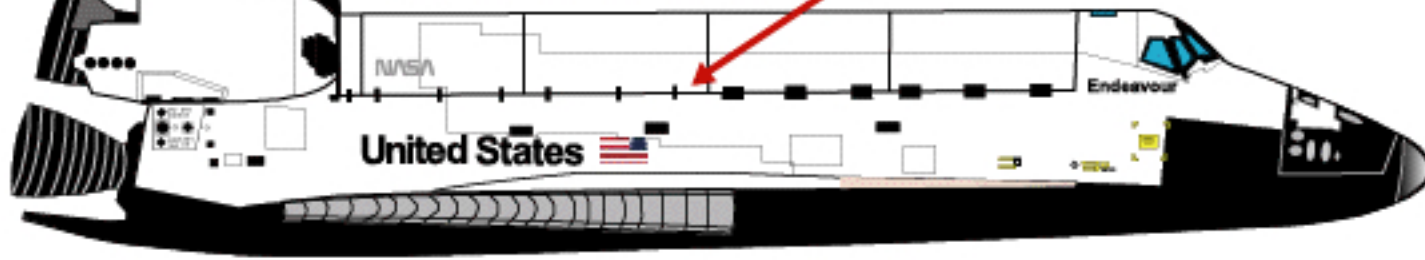
OV-105

-Second Modification-

OMDP-1



Note door hinge pattern



Note white wing panels

Note line of surface insulation and blankets

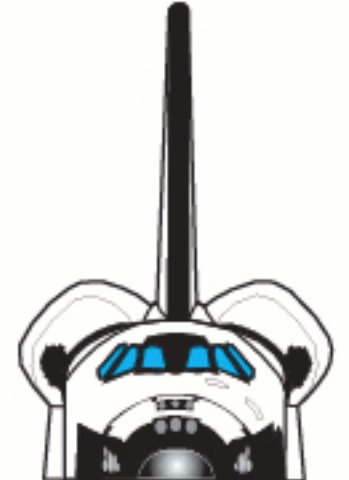
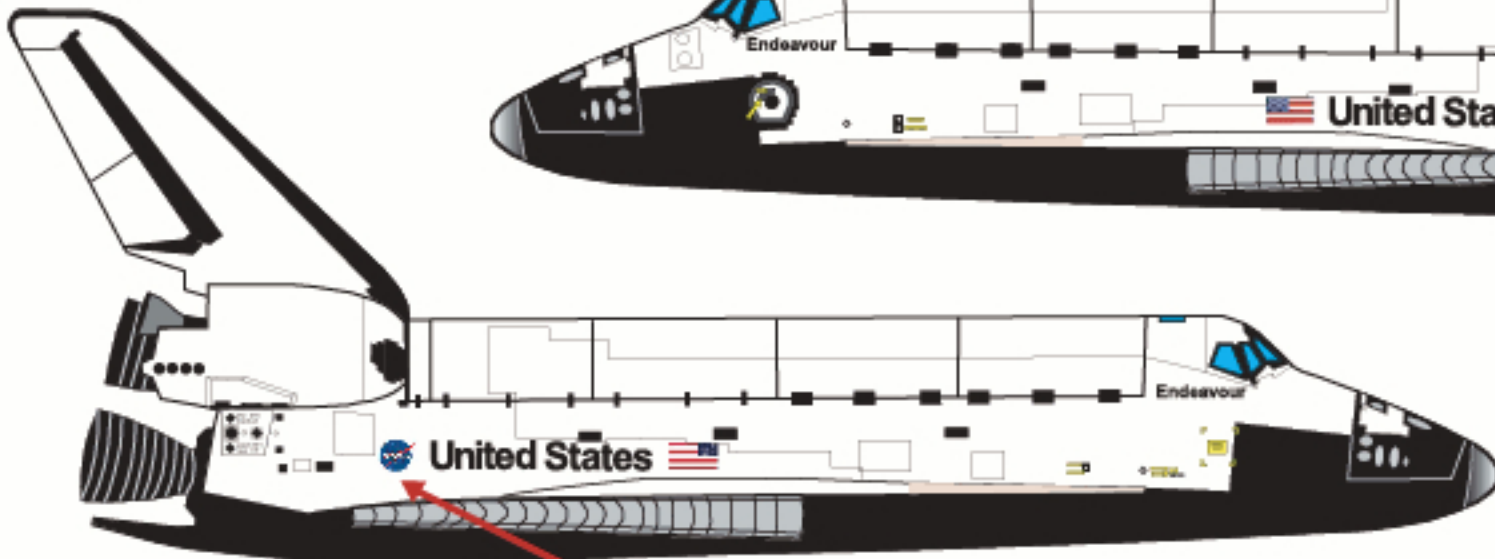
Missions flown:
STS-89 1/23/98



Endeavour - Third Modification-

OV-105

Dec. 4, 1998



Missions flown:

STS-88	12/ 4/98
STS-99	2/11/00
STS-97	12/ 1/00
STS-100	4/19/01
STS-108	12/5/01
STS-111	6/ 5/02
STS-113	11/23/02
OMDP-2	
STS-118	8/8/07
STS-123	3/11/08
STS-126	11/14/08
STS-127	7/15/09
STS-130	2/8/10
STS-134	5/16/11 (Last Flight)

Note NASA logos

Note trace of old wing markings

