

***Orbiter
Aft
Propulsion
Subsystem***



. . . . For The Space Shuttle

MCDONNELL DOUGLAS



SPACE SHUTTLE ORBITER SUBSYSTEMS

Produced by

McDonnell Douglas Astronautics Company-East

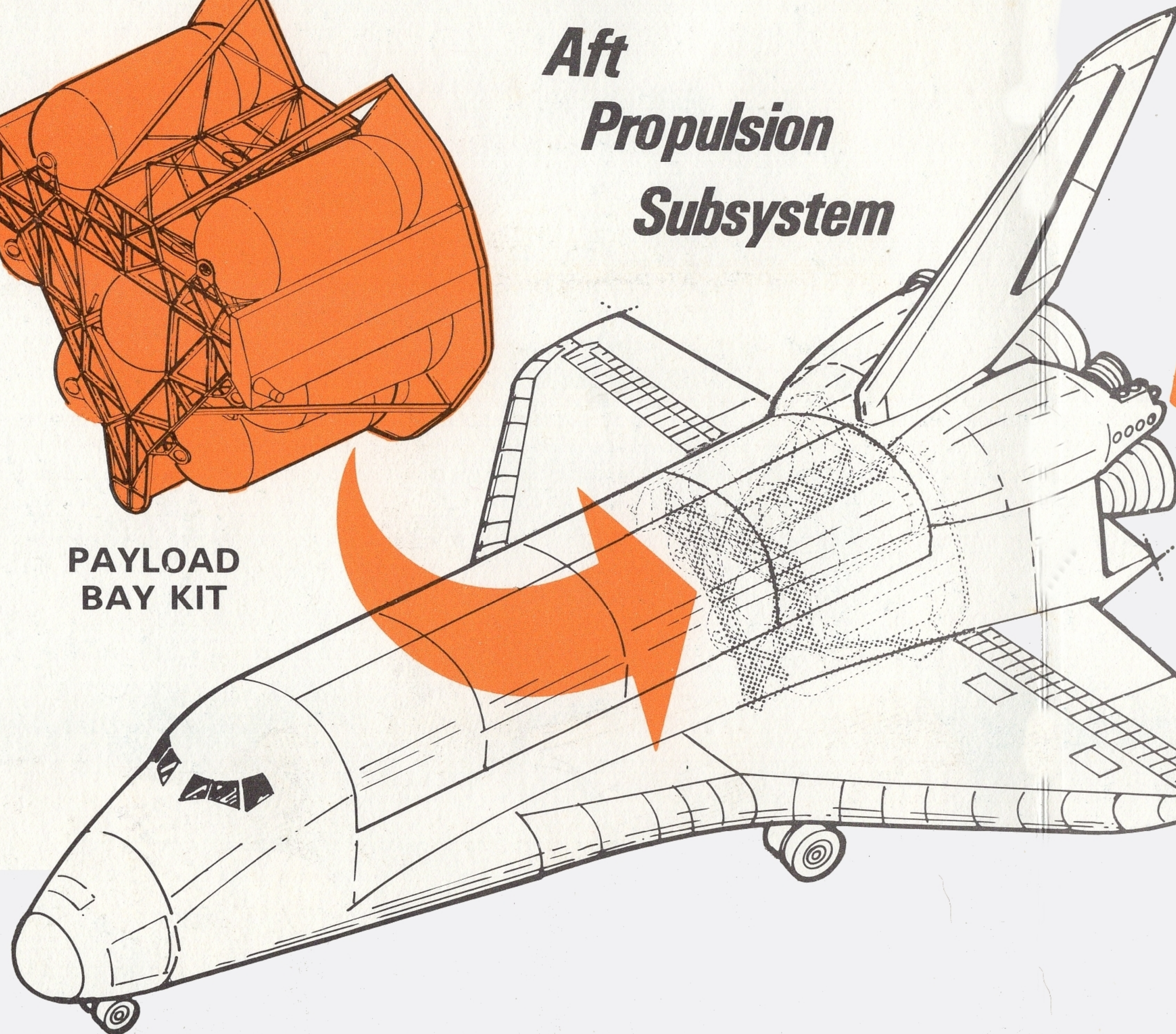
Under Subcontract to

Rockwell International Corporation

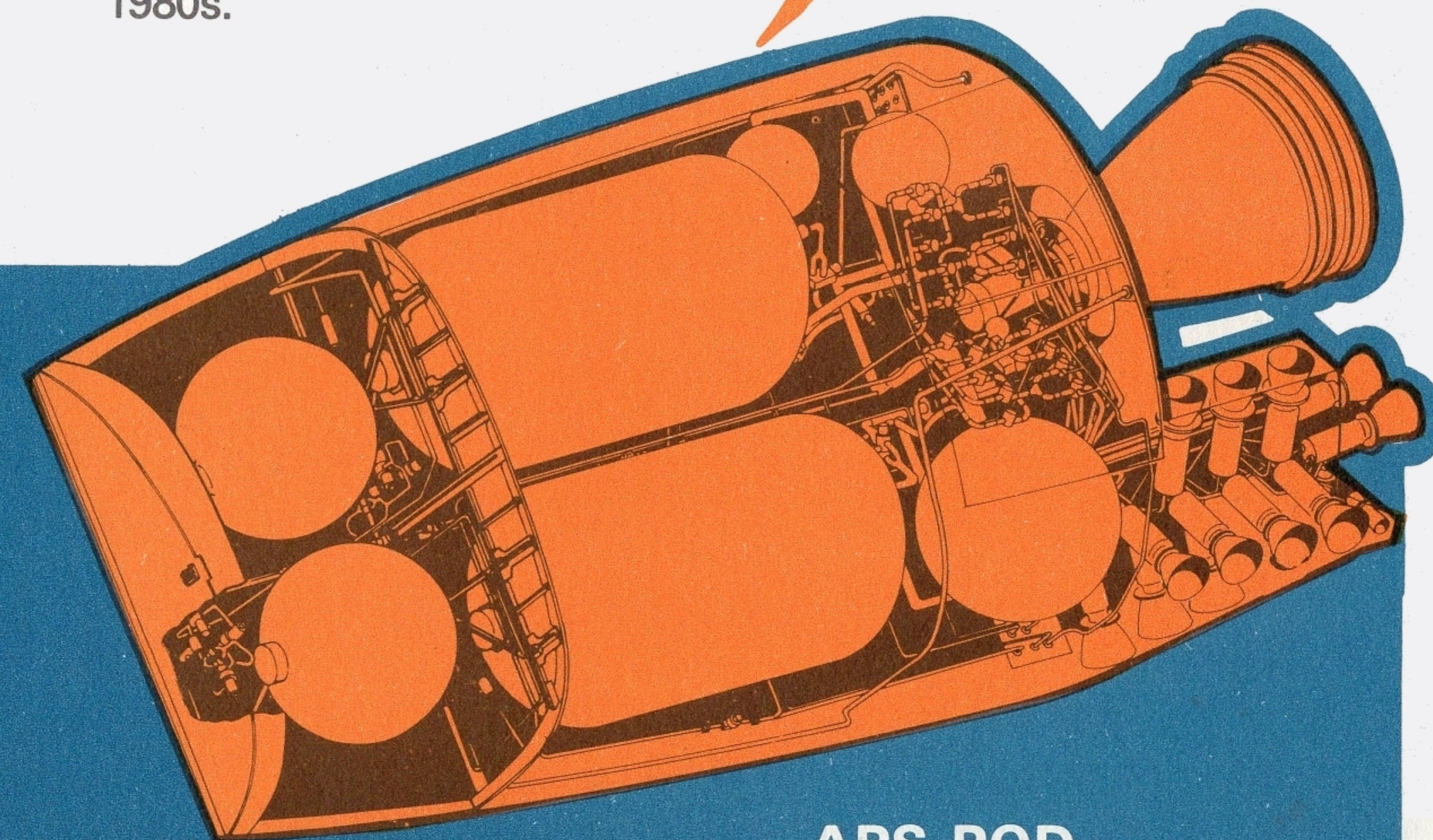
Aft Propulsion Subsystem

- The Aft Propulsion Subsystem (APS) is a program for the design and fabrication of the Orbital Maneuvering Subsystem (OMS) and the Aft Reaction Control Subsystem (ARCS) of the NASA Space Shuttle.
- The APS is housed in two pods located on each side of the Shuttle aft fuselage. It is supplemented by a MDAC-East designed and fabricated auxiliary propulsion fuel system called a Payload Bay Kit (PBK). The PBK is located in the aft portion of the Shuttle payload bay and is intended for use on extended missions where greater fuel capacity is needed.
- The function of the OMS is to provide propulsive thrust for Shuttle orbit insertion, circularization, orbit transfer, rendezvous and de-orbit.
- The Aft RCS, working in conjunction with a Forward RCS provides attitude control during on-orbit and de-orbit missions. It also provides attitude control during Shuttle re-entry into the atmosphere.
- The APS is an important subsystem of the NASA Shuttle vehicles which are scheduled to fly in the late 1970s and the 1980s.

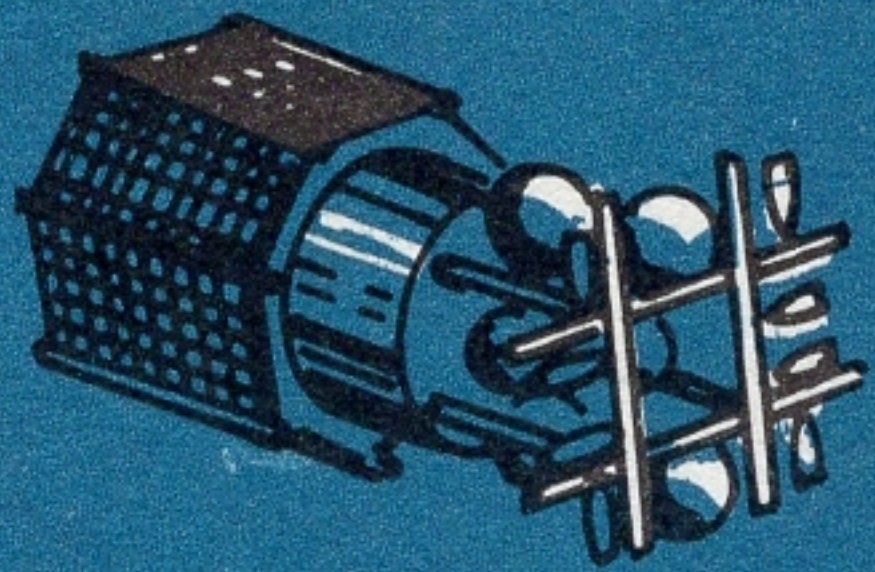
PAYLOAD
BAY KIT



ORBITER ΔV — PODS ONLY.....	1000 FPS	(305 M/S)
— WITH PBK	UP TO 2500 FPS	(762 M/S)
OMS ENGINE THRUST (1/POD).....	6000 LBS	(2722 KG)
RCS PRIMARY THRUST (12/POD).....	850 LBS	(386 KG)
RCS VERNIER THRUST (2/POD).....	25 LBS	(11 KG)
POD TOTAL WEIGHT (W/O TPS).....	19000 LBS	(8617 KG)
POD ENVELOPE		
— LENGTH	22 FT	(6.7M)
— WIDTH	12 FT	(3.7M)
— HEIGHT	6 FT	(1.9M)



APS POD
(PORT & STARBOARD)



MCDONNELL DOUGLAS ASTRONAUTICS COMPANY - EAST

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