



National Aeronautics and
Space Administration

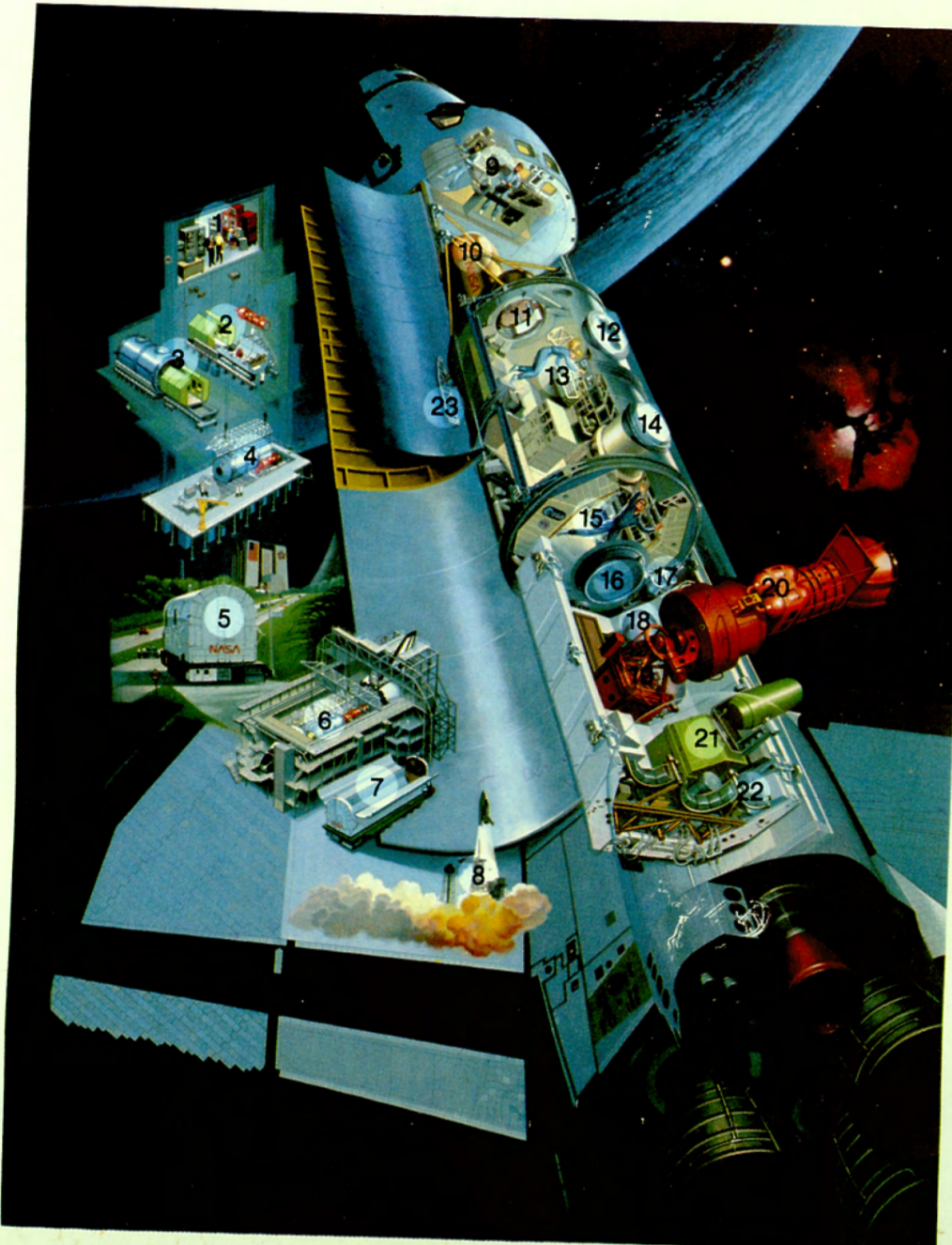
Spacelab permits scientists to engage in observations and conduct experiments in the airless and weightless environment of space. Spacelab is a reusable, comparatively low cost, Earth-orbiting space laboratory that is installed in the cargo bay of the Space Shuttle orbiter. In Spacelab scientists from the United States and ten European nations, working in a "shirt-sleeve" environment, conduct carefully selected experiments in a comfortable, "air-conditioned" laboratory.

Spacelab's long module—7 meters (23 feet) long and 4 meters (13 feet) in diameter—combines the core and experiment segments and has the dimensions of a medium-size house trailer. It has a 5.4-meter-long (18-foot) center aisle lined with special 48-centimeter-wide (19-inch) laboratory racks that hold up to 290 kilograms (645 pounds) of equipment and instruments. The entire Spacelab fits into the 18.1-meter-long (122-foot) orbiter.

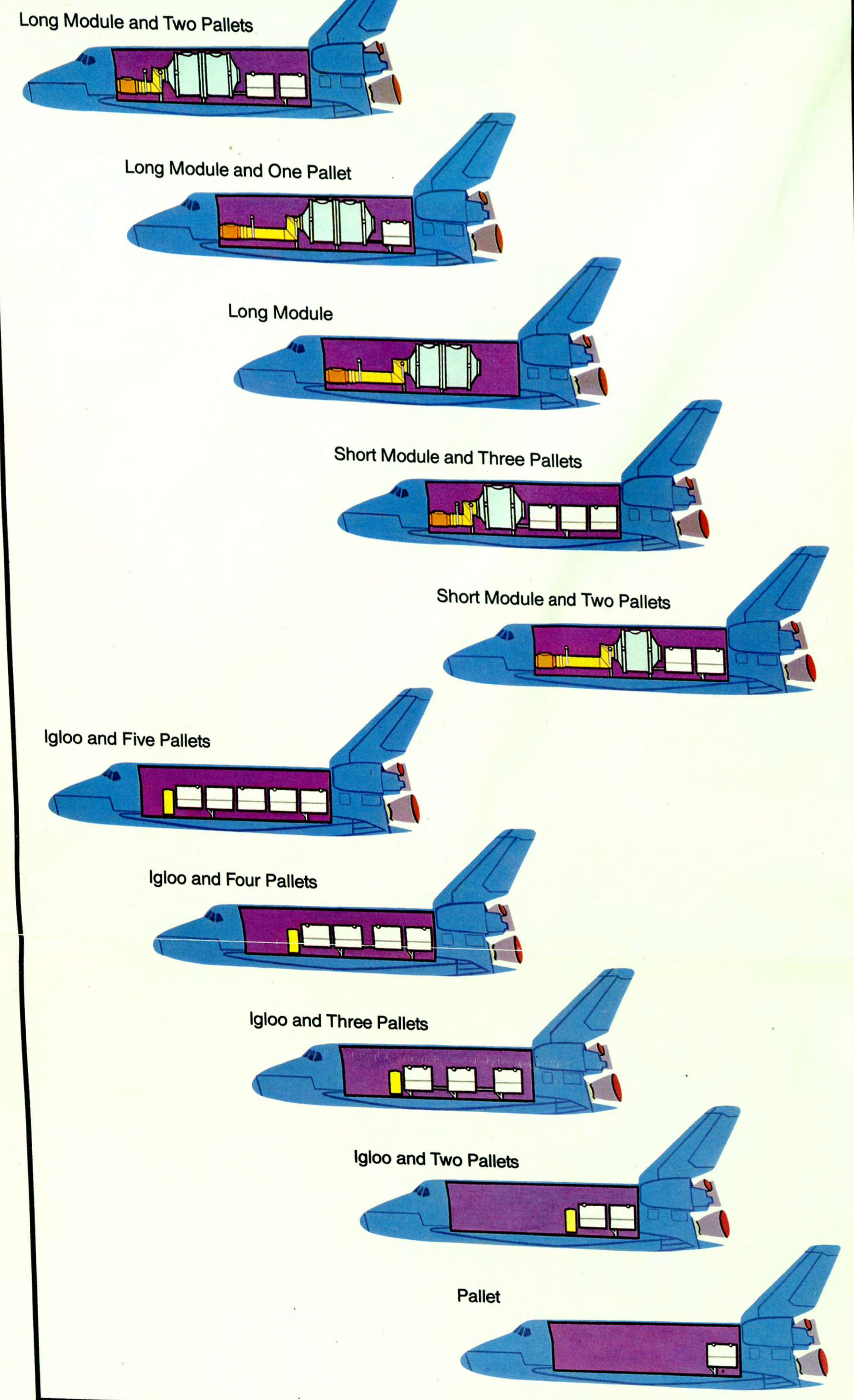
Crews of six or seven persons will fly the orbiter, operate the Spacelab and perform the experiments. On many missions, one of the crew will be a physician to tend to the health needs of fellow crew members. A typical crew consists of a Mission Commander, a Mission Pilot, two Mission Specialists and two or three Payload Specialists.

Spacelab

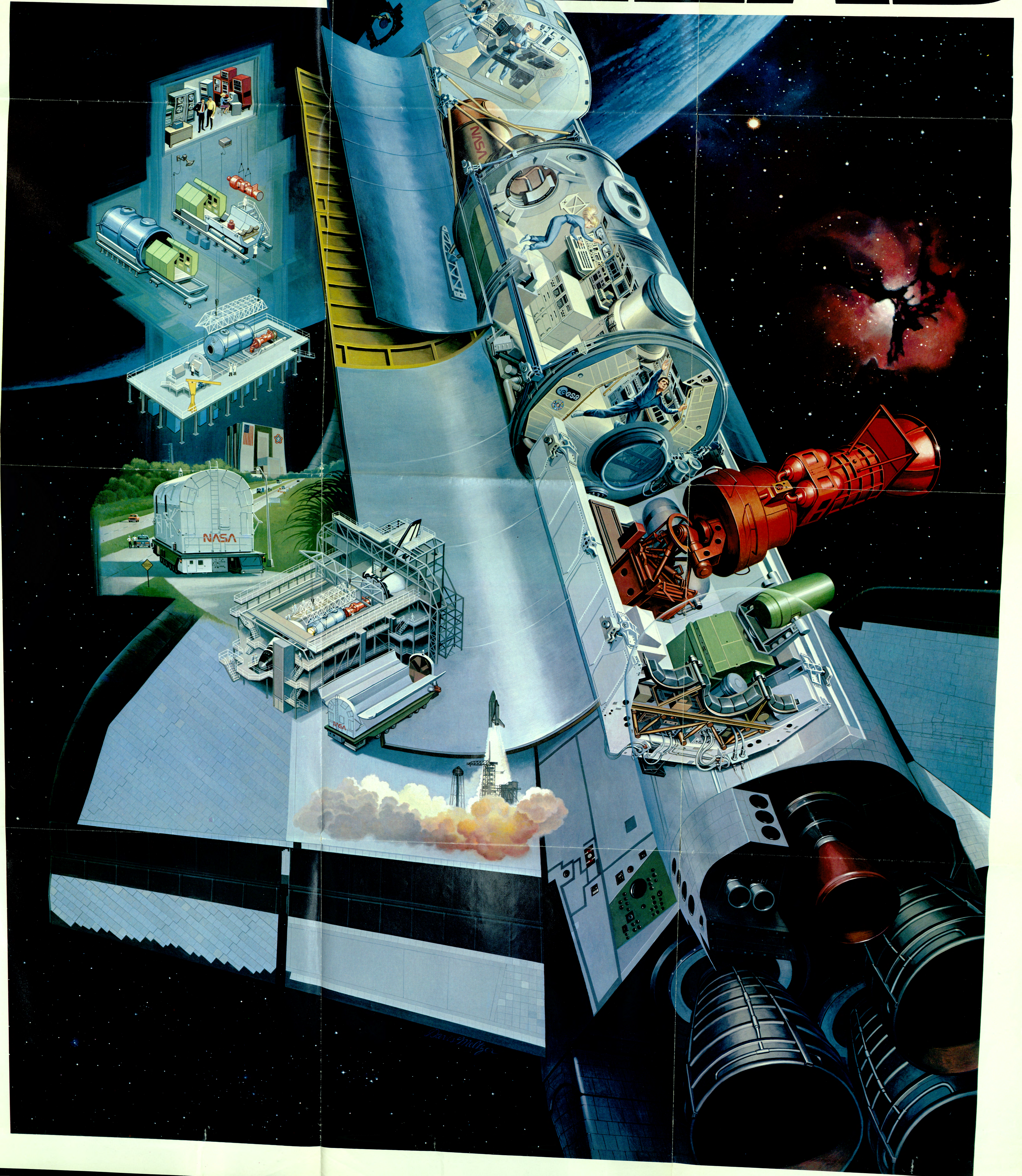
1. Spacelab Control Room
2. Pallet and Rack Staging/Equipment Integration
3. Spacelab Integration
4. Spacelab Installation in Cargo Integration Test Equipment Stand
5. Payload Carrier on Transporter
6. Spacelab Installation into Orbiter at Orbiter Processing Facility
7. Payload Carrier (Open)
8. Launch (J.F. Kennedy Space Center, Florida)
9. Orbiter Flight Deck
10. Spacelab Transfer Tunnel
11. Spacelab Entry
12. Viewport
13. Payload Specialist at Control Center Rack
14. Experiment Airlock
15. Payload Specialist at Air End-Cone
16. End-Cone Closure Plate (Fixed)
17. Freon Pump/Water Pump
18. Payload Gas Carrier
19. Instrument Pointing System (IPS)
20. Instruments on IPS
21. Instruments on Pallet
22. Payload Clamp Assembly
23. Keel Support Structure



Spacelab Configurations



SPACELAB



25th Anniversary
1958-1983

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