

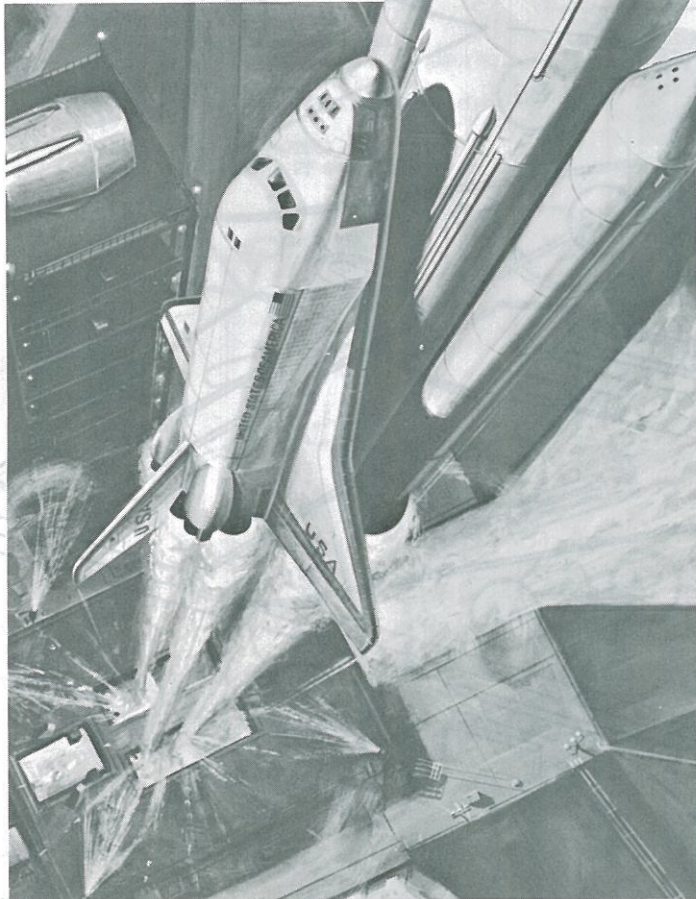
# Space Shuttle

EST 1284

*Masters™*  
S E R I E S



ESTES INDUSTRIES  
1295 H STREET  
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ET, SRB, OMS--Abbreviations like these tell the story of a transportation system for a new era in space. This is the age of the Space Shuttle, the system that gives America a true operational capability in space.

The key is the reusable Orbiter. This delta-winged, airliner-sized vehicle, flown by a crew of three, is designed to carry payloads--up to 65,000 pounds into orbit and up to 32,000 pounds from orbit to Earth.

The Orbiter is carried aloft by two 2.65 million pound thrust Solid Rocket Boosters (SRB) and its own three 375,000 pound thrust main engines which use propellant from the External Tank (ET). The SRB motors drop off after using up their fuel and parachute down for recovery and reuse. The main engines continue to burn until just before orbital velocity is reached. The ET is jettisoned to re-enter and burn up. The Orbiter's Orbital Maneuvering System (OMS) engines provide the needed kick to enter orbit. The OMS engines are fired again to slow the spacecraft for re-entry. Typical missions will remain in orbit for seven days, but longer missions are possible.

Re-entry is made into the atmosphere at a high angle of attack. At low altitude, the Orbiter goes into an aircraft-type approach and landing. The Orbiter is then towed to a hanger to be prepared for another flight.

Satellites, manned laboratories, telescopes, and countless other scientific packages will be carried into orbit by the Shuttle. Coming back the Shuttle may bring a satellite needing repair, or its cargo may be superprecision ball bearings, electronic components, or vaccines--products made possible only by space manufacturing techniques. The real payload from the Space shuttle, though, will be knowledge--and a chance for a better life for Earth's people through that knowledge.

**MODEL NOTE:** Your Space Shuttle kit is a precision 1/162 scale model of America's manned launch vehicle. Because the "real" Space Shuttle employs complex electro-mechanical systems for guidance and stability, your model requires added fin area for safe flying. Auxiliary fin units are provided in the kit: DO NOT ATTEMPT to fly your model without the fin units or without the Orbiter (glider).

The booster portion of your model returns by parachute. When the parachute ejects, the booster slows abruptly. This automatically releases the Orbiter for a glide return.

**SKILL LEVEL 4—This Kit is Recommended For Master Modelers**

## ASSEMBLY TIP

Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don't fit properly, sand as required for precision assembly.

## PARTS AND SUPPLIES

Locate the parts shown on pages 2 & 3 and lay them out on the table in front of you. In addition to the parts included in the kit, you will also need:



SCISSORS



RULER



HOBBY KNIFE



PENCIL



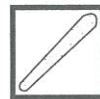
PEN



GLUE (white)



SANDPAPER



EMERY BOARD



PLASTIC CEMENT



CONTACT CEMENT



MASKING TAPE



LIQUID PLASTIC CEMENT



SPRAY PAINT (gloss white)



SPRAY PAINT (flat white gray)



SPRAY PAINT (medium metal gray)



SPRAY PAINT (flat black)



SPRAY PAINT (flat light tan)



SPRAY PAINT (flat brown)

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PARTS IDENTIFICATION  
AND OVERALL ASSEMBLY

