

# FREE PLAN: MERCURY SURVEYOR

Skill Level 3

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Use standard model rocket construction techniques. **Make certain rocket passes string test for stability before launch.** Clay may be added to nose cone, if necessary, to assure stability.

The fin pattern is full-size. Trace it off and transfer it to three sheets of BFS-20. The other drawing shows all parts in their relative positions except the engine holder which is made in the usual manner.

Launch with B4-2, B6-2, C5-3, or C6-3 engines.

Suggested paint scheme: Red for BT-50 engine holder (represents glowing hot engine). Flat black for both sides of one fin and adjacent sides of the other two fins for heat radiators. The other two sides of these two fins are painted silver blue metallic to represent solar collectors kept pointed at the

sun. All surfaces forward of the fins are painted chrome silver to minimize heat uptake.

The planet Mercury was explored by unmanned spacecraft Mariner X in 1974 and 1975. The surface of Mercury receives nine times as much solar energy as the surface of Earth. The surface temperature at the equator of Mercury reaches 800° Fahrenheit. Mercury's axis of rotation is not tilted with respect to its orbit around the sun, so it may be possible to build exploratory outposts at the north and south poles of Mercury.

The Mercury Surveyor will carry a manned orbital mission to do detailed polar mapping essential to design of the polar outposts. The Mercury Surveyor will be assembled in Earth orbit with parts ferried up by the Space Shuttle.

