Langley Built Satellite Slated For Polar Orbit

A sunlight-reflecting, 100-foot-diameter Echo-type balloon craft, designed and built by Langley Research Center, will be launched into an almost circular polar orbit 2,300 miles above the earth in the first half of 1966, the National Aeronautics and Space Agency announced Monday.

A network of 36 camera sites 2,500 to 2,800 miles apart will use triangulation to provide data needed for establishing precisely all points of the earth's surface.

"It is contemplated that the program will provide a system of locating any point on earth, as measured from the center of mass, to within 22 feet of its true position," NASA said, adding:

"The distance between two surface points 2,000 miles apart could be obtained to the same accuracy.

"This use of geometry to connect islands and continents in a coordinate system will be of value in trajectory planning for space vehicles and will provide added knowledge of the over-all structure of the earth."

The Langley-designed craft will be one of five light-reflecting geodetic satellites— including two with flashing lights—for more precise mapping of the earth's surface and gravitational field.

The first of these, called Beacon Explorer (BE-B), will be sent aloft, possibly in the next week or two, from the Pacific Missile Range in California.

Launched by four-stage Scout rocket into a near-polar orbit 620 miles above the earth, inclined 80 degrees to the equator, the 120-pound BE-B will use:

1. "Doppler" radio signals to measure the effect of irregularities in the earth's gravitational field

2. Highly concentrated beams of light, called lasers, to determine the spacecraft's position

See Langley, Page 10, Col. 6

Langley

Continued From Page Three

in space more accurately than is possible with conventional radio means.

3. Other equipment to carry out the primary objective of determining the count of electrons— negatively charged atomic particles—in cross-sections of the ionosphere.

NASA said that if BE-B is successful, a similar satellite, BE-C, will be launched by Scout rocket from Wallops Island, into a circular orbit 620 miles high, inclined 40 degrees to the equator.

The Johns Hopkins University Applied Physics Laboratory, Silver Spring, Md., builder of the two Beacon satellites, also has designed and built two Geodetic Explorer spacecraft, Geos A and Geos B, to be launched by improved Delta rockets from Cape Kennedy, Fla.