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03/10/95

# **LANDSAT 6 FAILURE ATTRIBUTED TO RUPTURED MANIFOLD**

A panel of experts reviewing the failure of Landsat 6 has concluded that the satellite did not achieve orbit because of a ruptured hydrazine manifold, the Commerce Department's National Oceanic and Atmospheric Administration said today.

Landsat 6, an earth-resources satellite, was launched aboard a Titan II space launch vehicle from Vandenberg Air Force Base, Calif., Oct. 5, 1993. Initial indications were that the spacecraft separated from the booster at the appropriate time and location, but did not achieve orbit. The NOAA review board confirms this and attributes the failure to a ruptured hydrazine manifold. The ruptured manifold rendered the satellite's reaction engine assemblies useless because fuel could not reach the engines. As a consequence, there was a failure to maintain attitude control during the apogee kick motor (AKM) burn. This failure caused the spacecraft to tumble during the AKM burn and not accumulate sufficient energy to attain orbit.

NOAA's review board was chaired by Thomas E. McGunigal, director of NOAA's Systems Acquisition Office. The board worked closely with a similar board convened by Martin Marietta Corporation, builder of the satellite. Both boards reached the same conclusion and recommended that a task force study the best ways to provide hydrazine feed systems that are safe and failure-free.

The Earth Observation Satellite Company, or EOSAT, was responsible for development of the Landsat 6 spacecraft and ground system under a Commerce Department contract. Martin Marietta Astro Space designed and built the satellite. The mission sensor, the Enhanced Thematic Mapper, was designed and built by Santa Barbara Research Center, a unit of GM Hughes Electronics.