



NASA'S LUNAR CRATER OBSERVATION AND SENSING SATELLITE (LCROSS) IS PULLING A CENTAUR ROCKET SET TO COLLIDE WITH THE MOON TO TRY AND LOCATE HINTS OF LUNAR ICE; THIS ROCKET, HOWEVER, IS LINED WITH ICICLES COLLECTED FROM HUMID PRE-LAUNCH AIR AND FROZEN DURING LAUNCH, ICICLES WHICH NEED TO BE MELTED BEFORE IMPACT SO AS TO NOT "POLLUTE" FINDINGS WITH TRACES OF EARTH WATER.

The Centaur rocket is lined with foam designed to keep its propellant fuel tanks chilled. While sitting on the launch pad at Cape Canaveral, the foam absorbed significant amounts of water from the humid Florida air. Because of the orientation of LCROSS' solar panels, one side of the rocket is now perpetually faces away from the sun, making it impossible for the ice to melt.

Thus, scientists are steering the pair through a series of "cold side bakeouts," maneuvers which rotate the cold side temporarily towards the sun. However, even the tiny molecules of melted water coming off the rocket can impart their exit velocity and throw the craft slightly off course — a serious problem given the precision target points scientists must choose between for their lunar collision.

LB 2009