Jan 2008: Creative Solution by DTB = Satisfied Customer

One way to define creativity is to call it the ability to generate multiple uses out of something that was designed for a single purpose. DTB employees have always had an eye for innovation, so when we were recently called upon to perform a very low-temp test on an item that could not fit in our regular chamber, we were able to quickly find an alternate solution.

Originally our 15 cubic ft. Thermotron Temperature chamber had a low-temp range of -54C, but our team converted it to LN2 cooling for a temperature cycling test from -105C (-157F) to 115C (240F) with 5C/min transitions. They achieved this by removing all the refrigerant from the chamber's mechanical refrigeration cooling system and used liquid nitrogen in the existing evaporator coils to achieve the required extreme low temp condition. The chamber ran this profile very well. We also ran the chamber at a maximum rate from -40C to +70C. Transition rates were 31C/minute cooling and 17C/min heating.

Such extremely low temperatures are often needed to test products that are intended for use in outer space. Once again, DTB was able to make a customer happy through creative problem-solving.