

Glacier Bay, Inc. Installs High Efficiency "Proof of Concept" Air Conditioning System on Electric PIVCO City Bee Station Car

ALAMEDA, CA – (Nov. 6, 1996) – Glacier Bay, Inc., a leading developer of high efficiency battery powered climate control systems, delivered the first air conditioned PIVCO City Bee to the Northern California Calstart office today. The new car is destined for service as part of the BART station car program in Walnut Creek, an area known for high summer temperatures.

The successful incorporation of the air conditioning system into the City Bee represents a significant milestone for both Glacier Bay and PIVCO. Earlier attempts by the auto manufacturer to produce an air conditioning system at the PIVCO factory in Norway resulted in a system which was noisy and underpowered. By teaming with Glacier Bay, the company was able to take advantage of developmental work which was already underway as part of that company's R&D effort. According to Glacier Bay, Inc., President G. Kevin Alston, "The PIVCO project was very timely. We had been looking for an opportunity to install a working system to serve as a performance benchmark for future improvements. As a company, PIVCO is very innovative and open-minded. Their flexibility allowed us to optimize the performance of the equipment and clearly establish our current state-of-the-art".

Prior to delivery, extensive testing established the total system operating efficiency at an impressive EER 7.19 (COP 2.10) at extreme 110⁰ F ambient temperatures. At temperatures more typically encountered, 90⁰ F ambient, the EER rose to 10.53 (COP 3.09). Responding to the test results, Alston stated, "It is clear that our current technology provides at least a 30% improvement over the best performance EPRI found in their Sanden/Ford tests. Additionally, our numbers include the energy used by the evaporator and condenser blowers which the EPRI numbers do not. This validates our approach and sets a very high standard for future development work".

As Glacier Bay, UK's Chief Engineer, Mike Bailey points out "Efficiency is fine, but, as anyone who has ever gotten into a blazing hot car can verify, you've got to have sheer cooling power as well. In our heat soak test we brought the PIVCO's cabin temperature down from a saturated 120⁰ F to comfortable 72⁰ F in under 18 minutes. That's considerably better than you'll get on any gasoline powered car sitting in traffic".

Over the next year and a half, Glacier Bay will improve the performance, reducing size and incorporate heating functions (ie. heat pump) under a recently awarded DARPA grant.

For more information visit www.glacierbay.com.