



Engineered for life

ITT'S BREAKTHROUGH FUEL LINE
ACTUATOR USES LIGHT INSTEAD
OF ELECTRICITY TO ELIMINATE THE
■ POSSIBILITY OF IGNITION.

safer skies

Five years ago, aircraft manufacturers were directed to review their fuel systems and eliminate all sources of possible ignition. Through our Aerospace Controls division, we provide thousands of parts for passenger aircraft, including electric motor-driven actuators used in fuel systems for Boeing planes. Immediately after the directive, ITT engineers began exploring alternative technologies to replace electric switches in its actuators.

THE OPTO-ELECTRONIC OPTION

An engineering team led by Andrew Campany, vice president of engineering, investigated Hall-effect switches, opto-electronic switches and laser/fiber-optic switches. Through testing, it was determined that the opto-electronic switch, which uses light instead of electricity to trigger the switching mechanism, had the most potential. The team spent the next year perfecting the product design. It was such a leap forward that the ITT opto-electronic actuator design is now patent pending.

At the same time, the team had to come up with an electrically insulated shaft for the actuator.

The team looked at composites and ceramics, but they didn't provide the stress capabilities and electrical insulation levels required. Company recalled a project where rubber bonded to a metal shaft assembly was used.

Sure enough, the rubber-and-metal shaft proved strong and protective, and the design, like the actuator, is now patent pending.

This year, the ITT opto-electronic actuator enters service on Boeing's 777-300, 767 and 737 lines of aircraft. It's now being considered as a retrofit component on the entire existing fleet of Boeing aircraft.

