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Success Story

PROPULSION DIRECTORATE ENGINEERS WIN YATES TECH TRANSFER AWARD



Transfer of the Propulsion Directorate's "+100" fuel additive to Florida police departments demonstrates the huge potential of this technology to reduce costs and increase reliability for all users of turbine engine-powered vehicles.



Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

Mr. Robert W. Morris and Mr. George E. Buckhalter of AFRL's Propulsion Directorate won the General Ronald W. Yates Award for Excellence in Technology Transfer. Morris and Buckhalter were recognized for their work in transferring the JP-8 +100 additive developed by the directorate's fuels branch to the Tampa Florida Police Department and the Hillsborough Florida Sheriff's Departments. Major General Richard Paul, AFRL's former Commander, presented the award.

Background

The "+100" additive, developed by the Propulsion directorate to increase the thermal stability of jet fuel by 100°F, is currently used in over 2,000 USAF fighter and trainer aircraft as well as by other Air Forces. Besides the thermal stability, the fuel additive performs like fuel injector cleaner to inhibit the formation of gums, varnish and coke, which are chief causes of power loss in turbine engines. Before using the additive, the Hillsborough and Tampa police helicopters required repetitive fuel injector cleaning to maintain availability of their helicopters. After using the "+100" additive, the Tampa's police department experienced a two-fold improvement in the time interval allowed between injector cleanings, while the Hillsborough's sheriff department increased their interval from 100 to 1,000 flight hours. Since using the "+100" additive, neither department's helicopters have seen any reduction in engine power, a sign of injector fouling. As part of their tech transfer effort, Mr. Morris and Mr. Buckhalter also worked with fuel pump manufacturers to develop a method to pump fuel with or without the additive. In addition, they developed procedures for documenting the additive's effect on the helicopters' engine performance. Due to the JP-8+100 additive, cleaner fuel injectors, are saving both departments thousands of dollars in maintenance costs due to a reduction in maintenance man-hours and reducing the number of required replacement parts.

Propulsion Directorate
Awards and Recognition

Additional information

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