

ES1009 501-KB first stage turbine enhancement

Proven solution can increase thermal life by up to 30%



Engineered solution purpose

This engineered solution increases the mean time between overhaul of the engine

Applicability

All 501-KB and 501-KH engines

Technical description

The enhancement replaces the first stage blades with new Directionally Solidified (DS) blades. The first stage vanes are replaced by new Thermal Barrier Coated (TBC) vanes.

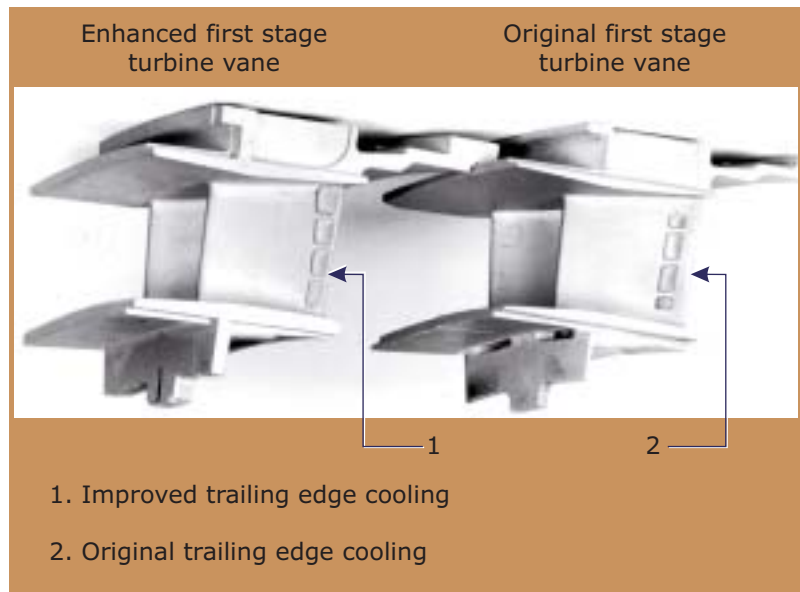
Benefits

By improving the first stage turbine hardware, durability is greatly increased. A 30% improvement in thermal life can be achieved.

Costs for commonly replaced parts are reduced and the honeycomb seals provide for improved fit and increased rub resistance.

Experience

Introduced in the early 1990s, this proven enhancement has accumulated millions of operational hours and is the current production standard on all new units.



Scope of work

Replace first stage turbine blades and vanes.



Bill of materials

1st stage turbine blades
(MAR-M247DS, Pt-Al)

1st stage turbine vanes
(MAR-M247, TBC)

Undertaken

At overhaul

Bundling opportunities

501-KB/KH TOT thermocouple conversion [ES1011]

Controls upgrade [ES6006]