



Laser System Application

Nozzle Guide Vane Repair

Application

Weld repair CF6-50 Nozzle Guide Vane

Precision application of appropriate weld material to forward flanges, aft rail and sides. Seven completed welds in one operation.

Process

Engine repair parts

Laser powder fusion welding with vision system

Multi-axis capability combines operations and completes full part with one setup

Vision system locates the part – adjusts for differences – and generates CNC program

Precise deposition of material minimizes post-weld processing

Material

Inconel 625 or appropriate material

Cycle Time

Depends on weld configuration and quantity of weld

Typical time for this part is 40 minutes

Machine Features and Benefits

Available on the HP-115, HW-185 and HC-205 series laser systems.

Laser powder fusion welding available on 3-, 4- or 5-axis configurations.

Vision system is integrated with the CNC to accommodate incoming part variation and minimize manual operation.

Precise, controlled deposition of filler material.

Very low heat input means minimal distortion and metallurgical damage.

Eliminates need to replace flanges.

With a 5-axis machine, process can build up radial and axial surfaces to restore geometry.

