METHOD FOR REPAIRING FUEL NOZZLE GUIDES FOR GAS TURBINE ENGINE COMBUSTORS USING COLD METAL TRANSFER WELD TECHNOLOGY

BACKGROUND

The present disclosure relates to a gas turbine engine and, more particularly, to a weld repair therefor.

Gas turbine engines, such as those powering modern commercial and military aircraft, include a compressor for pressurizing an airflow, a combustor for burning a hydrocarbon fuel in the presence of the pressurized air, and a turbine for extracting energy from the resultant combustion gases. The combustor generally includes radially spaced inner and outer liners that define an annular combustion chamber therebetween. Arrays of circumferentially distributed combustion air holes penetrate multiple axial locations along each liner to radially admit the pressurized air into the combustion chamber. A plurality of circumferentially distributed fuel nozzles project into a forward section of the combustion chamber through a respective fuel nozzle guide to supply the fuel to be mixed with the pressurized air.

Combustor components may require repair. Oftentimes, the repair is performed with gas tungsten arc welding, plasma arc welding and laser welding.

SUMMARY

A fuel nozzle guide for a combustor of a turbine engine according to an exemplary aspect of the present disclosure includes an annular base with a hub section, the hub section at least partially formed of a Cold Metal Transfer (CMT) weld.

A weld system according to an exemplary aspect of the present disclosure includes a fixture which supports a Cold Metal Transfer (CMT) weld torch and a rotary table which rotates relative to the Cold Metal Transfer (CMT) weld torch.

A method of repairing a fuel nozzle guide for a combustor of a turbine engine according to an exemplary aspect of the present disclosure includes removing a portion of a hub section that extends from an annular base of the fuel nozzle guide. Building up a lip of the hub section with a Cold Metal Transfer (CMT) weld to form

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