WHAT IS CLAIMED IS:

1. A method for performing in situ balancing of an internal rotating disk of a gas turbine engine, the method comprising:

inserting a repair tool through an access port of the gas turbine engine, the repair tool including a tip end positioned within the gas turbine engine and a material supply end positioned outside the gas turbine engine, wherein the repair tool includes a high temperature conduit extending lengthwise between the material supply end of the repair tool and the tip end of the repair tool, and wherein the repair tool includes a nozzle positioned at or adjacent to the tip end of the repair tool;

inserting an optical probe through the access port or an adjacent access port of the gas turbine engine, the optical probe being configured to provide a view of the internal rotating disk within the gas turbine engine;

positioning the tip end of the repair tool adjacent to a surface of the internal rotating disk of the gas turbine engine;

supplying a liquid metal from the material supply end of the repair tool through the high temperature conduit to the tip end of the repair tool; and

expelling the liquid metal from the nozzle in a direction of the surface of the rotating disk such that the liquid metal is directed into a fillable volume defined by a defect on the rotating disk such that the disk is weight balanced circumferentially.

2. The method of claim 1, wherein the internal rotating disk is a bladed disk that includes an airfoil extending from a platform.

3. The method of claim 2, wherein the liquid metal is added to the platform.

4. The method of claim 1, wherein the high temperature conduit is formed from a ceramic material.

5. The method of claim 4, wherein the repair tool further includes a heating element provided in operative association with the high temperature conduit, further comprising generating heat within the high temperature conduit via the heating element as the liquid metal is being supplied through the high temperature conduit.

6. The method of claim 1, wherein positioning the tip end of the repair tool adjacent to the surface comprises positioning the tip end relative to the surface based on the view provided by the optical probe.

7. The method of claim 1, wherein the liquid metal added is sufficient to balance the weight of the rotating disk around an axis.

8. A method for performing in situ balancing of an internal rotating disk of a gas turbine engine, the method comprising:

inserting a repair tool through an access port of the gas turbine engine, the repair tool including a tip end positioned within the gas turbine engine and a material supply end positioned outside the gas turbine engine;

inserting an optical probe through the access port or an adjacent access port of the gas turbine engine, the optical probe being configured to provide a view of the internal rotating component within the gas turbine engine;

positioning the tip end of the repair tool adjacent to a surface of the internal rotating disk of the gas turbine engine;

supplying a solid filler material to the tip end of the repair tool; and

expelling the solid filler material from the tip end of the repair tool at a sufficient flow velocity such that the solid filler material is directed onto the surface and adheres to the surface as the solid filler material impacts the internal rotating disk at a location on the disk such that the disk is weight balanced circumferentially, wherein the solid filler material is directed into a fillable volume defined by a defect on the internal rotating disk.

9. The method of claim 8, wherein the solid filler material corresponds to a metallic-based solid powder material or a ceramic-based solid powder material.

10. The method of claim 8, wherein expelling the solid filler material from the tip end of the repair tool at a high flow velocity comprises expelling the solid filler material from the tip end at a supersonic flow velocity.

11. The method of claim 8, wherein supplying the solid filler material to the tip end of the repair tool comprises supplying a pressurized mixture of gas and the filler material through a nozzle positioned at or adjacent to the tip end of the repair tool.

12. The method of claim 11, wherein the nozzle defines a convergent-divergent nozzle geometry.

13. The method of claim 8, wherein the solid filler material undergoes plastic deformation and mechanically bonds to the surface of the defect as the solid filler material impacts the internal component.