WHAT IS CLAIMED IS:

1. A system for detecting distortion in a component of a gas turbine engine, the system comprising:

at least one detectable datum marker configured between layers of the component; and

a non-destructive inspection tool configured to monitor a location of the detectable datum marker over time,

wherein distortion of the component is detected as a function of movement of the location of the detectable datum inside the layers of the component.

2. The system of claim 1, wherein the component comprises a process-formed component constructed at least in part of a first material.

3. The system of claim 2, wherein the process-formed component is formed via at least one of composite laminate layup, infusion, molding, or casting.

4. The system of claim 2, wherein the at least one detectable datum marker is constructed of a second material, wherein the first and second materials comprise varying densities.

5. The system of claim 4, wherein the second material comprises at least one of a metal, a metal alloy, a radio-frequency identification (RFID) chip, or a polymer plastic.

6. The system of claim 5, wherein the metal or metal alloy comprises at least one of tin, aluminum, nickel, lead, stainless steel, copper, or phosphor-bronze.

7. The system of claim 1, wherein the non-destructive inspection tool comprises at least one of the following inspection methods: ultrasonic, magnetic-particle, liquid penetrant, radiographic, remote visual inspection (RVI), eddy-current testing, or low-coherence interferometry.

8. The system of claim 1, wherein the at least one detectable datum marker comprises a plurality of detectable datum markers located at a plurality of predetermined locations.

9. The system of claim 1, wherein the gas turbine engine comprises an aircraft engine.

10. The system of claim 9, wherein the aircraft engine remains installed on an aircraft during inspection.

11. The system of claim 1, wherein the component of the gas turbine engine comprises at least one of a turbine blade, a turbine vane, a compressor blade, a compressor vane, a fan blade, a nozzle, a disc, or a shaft.

12. A method for detecting distortion in a component of a gas turbine engine, the method comprising:

forming the component of the gas turbine engine with at least one detectable datum marker configured between layers of the component;

installing the component containing the detectable datum marker within the gas turbine engine; and

monitoring, via a non-destructive inspection tool, a location of the detectable datum marker within the gas turbine engine component over time,

wherein distortion of the component is detected as a function of movement of the location of the detectable datum inside the layers of the component.

13. The method of claim 12, wherein forming the component with at least one detectable datum marker configured at least partially therein further comprises forming the component via at least one of composite laminate layup, infusion, molding, or casting using a first material.

14. The method of claim 13, wherein the at least one detectable datum marker is constructed of a second material, wherein the first and second materials comprise varying densities.

15. The method of claim 14, wherein the second material comprises at least one of a metal, a metal alloy, a radio-frequency identification (RFID) chip, or a polymer plastic.

16. The method of claim 15, wherein the metal or metal alloy comprises at least one of tin, aluminum, nickel, lead, stainless steel, copper, or phosphor-bronze.

17. The method of claim 12, wherein the non-destructive inspection tool comprises at least one of the following inspection methods: ultrasonic, magnetic-particle, liquid penetrant, radiographic, remote visual inspection (RVI), eddy-current testing, or low-coherence interferometry.

18. The method of claim 12, further comprising forming the component of the gas turbine engine with the at least one detectable datum marker comprising a plurality of detectable datum markers located at a plurality of predetermined locations.

19. The method of claim 11, wherein the gas turbine engine comprises an aircraft engine.

20. The method of claim 19, further comprising installing the aircraft engine on a wing of an aircraft and while the aircraft engine remains on-wing, monitoring, via the non-

destructive inspection tool, the location of the at least one detectable datum marker between the layers of the component over time.