## CLAIMS

1. A gas turbine engine comprising:

a compressor section;

a low spool;

a fan;

said fan delivering air into said compressor section, and said compressor section compressing air and delivering it into a combustion section;

the combustion section mixing air with fuel, igniting the fuel, and driving the products of the combustion across turbine rotors;

said compressor section including a variable inlet guide vane which is movable between distinct angles to control the airflow approaching said compressor section; and

a control for said gas turbine engine, programmed to position said vane at startup of the engine to increase airflow across said compressor section during a windmilling condition.

2. The gas turbine engine as set forth in claim 1, wherein said compressor section including a low pressure compressor and a high pressure compressor.

3. The gas turbine engine as set forth in claim 2, wherein said vane is positioned forwardly of an upstream most rotor in the low pressure compressor.

4. The gas turbine engine as set forth in claim 3, wherein said fan is driven with said low pressure compressor by said low spool, and there being a gear reduction between said fan and said low spool.

5. The gas turbine engine as set forth in claim 2, wherein said control includes stored desired positions for said vane to provide increased airflow into the compressor at startup at various conditions

wherein said various conditions include the altitude of an aircraft carrying the gas turbine engine, and an air speed of the aircraft.

6. The gas turbine engine as set forth in claim 5, wherein the conditions also include a speed of a low spool, said low spool rotating with said low pressure compressor when startup is occurring.

7. The gas turbine engine as set forth in claim 5, wherein said fan also delivering bypass air into a bypass duct position outwardly of a core engine including said compressor, said combustor and said turbine rotors, and said bypass duct having a variable area nozzle, and the position of the nozzle also being controlled at startup to increase airflow through said bypass duct and across said fan.

8. The gas turbine engine as set forth in claim 7, wherein a bypass ratio of the volume of air passing into said bypass duct to the volume delivered into said compressor section is greater than about 6.

9. The gas turbine engine as set forth in claim 1, wherein said fan also delivering bypass air into a bypass duct position outwardly of a core engine including said compressor, said combustor and said turbine rotors, and said bypass duct having a variable area nozzle, and the position of the nozzle also being controlled at startup to increase airflow through said bypass duct and across said fan.

10. The gas turbine engine as set forth in claim 9, wherein a bypass ratio of the volume of air passing into said bypass duct to the volume delivered into said compressor section is greater than about 6.

11. The gas turbine engine as set forth in claim 1, wherein the position of said vane is selected to increase airflow across the low pressure compressor while an aircraft associated with the gas turbine engine is in the air, and to increase windmilling speed of the low and high spools.

12. The gas turbine engine as set forth in claim 11, wherein a starter is also utilized in combination with the windmilling while the aircraft is in the air to start the engine.

13. A method of starting a gas turbine engine comprising the steps of:
(a) providing a variable inlet guide vane forwardly of a compressor, and moving said vane to a position at startup of the engine selected to increase airflow across said compressor during a windmilling condition; and
(b) starting said gas turbine engine.

14. The method as set forth in claim 13, wherein said desired position is selected to provide increased airflow into the compressor at startup at various conditions wherein said various conditions include the altitude of an aircraft carrying the gas turbine engine, and the airspeed of the aircraft.

15. The method as set forth in claim 13, wherein said compressor includes a low pressure compressor and a high pressure compressor.

16. The method as set forth in claim 14, wherein the conditions also include a speed of a spool which drives the low pressure compressor.

17. The method as set forth in claim 16, wherein a fan delivers bypass air into a bypass duct positioned outwardly of a core engine which includes said compressor, the bypass duct having a variable area nozzle, and the position of the nozzle being controlled at startup to increase airflow across the fan.

18. A variable inlet guide vane comprising:
an inlet guide vane provided with an actuator to change an angle of the vane; and
a control for the actuator programmed to position said vane at a position to increase airflow across said vane at startup of an associated aircraft during a windmilling condition.