CLAIMS

What is claimed is:

1. A gas turbine engine comprising:

a core nacelle defined about an engine centerline axis;

a fan nacelle mounted at least partially around said core nacelle to define a fan bypass flow path for a fan bypass airflow;

a fan variable area nozzle axially movable relative said fan nacelle to vary a fan nozzle exit area and adjust a pressure ratio of the fan bypass airflow during engine operation; and

a gear system driven by a core engine within said core nacelle to drive a fan within said fan nacelle, said gear system defines a gear reduction ratio of greater than or equal to about 2.3.

2. The engine as recited in claim 1, further comprising a multiple of fan exit guide vanes in communication with said fan bypass flow path, said multiple of fan exit guide vane rotatable about an axis of rotation to vary said fan bypass flow path.

3. The engine as recited in claim 2, wherein said multiple of fan exit guide vanes are simultaneously rotatable.

4. The engine as recited in claim 2, wherein said multiple of fan exit guide vanes are mounted within an intermediate engine case structure.

5. The engine as recited in claim 2, wherein each of said multiple of fan exit guide vanes include a pivotable portion rotatable about said axis of rotation relative a fixed portion.

6. The engine as recited in claim 5, wherein said pivotable portion includes a leading edge flap.

7. The engine as recited in claim 1, further comprising a controller operable to control said fan variable area nozzle to vary a fan nozzle exit area and adjust the pressure ratio of the fan bypass airflow.

8. The engine as recited in claim 7, wherein said controller is operable to reduce said fan nozzle exit area at a cruise flight condition.

9. The engine as recited in claim 7, wherein said controller is operable to control said fan nozzle exit area to reduce a fan instability.

10. The engine as recited in claim 1, wherein said fan variable area nozzle defines a trailing edge of said fan nacelle.

11. The engine as recited in claim 1, wherein said gear system defines a gear reduction ratio of greater than or equal to about 2.5.

12. The engine as recited in claim 1, wherein said gear system defines a gear reduction ratio of greater than or equal to 2.5.

13. The engine as recited in claim 1, wherein said core engine includes a low pressure turbine which defines a pressure ratio that is greater than about five (5).

14. The engine as recited in claim 1, wherein said core engine includes a low pressure turbine which defines a pressure ratio that is greater than five (5).

15. The engine as recited in claim 1, wherein said bypass flow defines a bypass ratio greater than about six (6).

16. The engine as recited in claim 1, wherein said bypass flow defines a bypass ratio greater than about ten (10).

17. The engine as recited in claim 1, wherein said bypass flow defines a bypass ratio greater than ten (10).

18. The engine as recited in claim 17, further comprising a multiple of fan exit guide vanes in communication with said fan bypass flow path, said multiple of fan exit guide vanes rotatable about an axis of rotation to vary said fan bypass flow path.

CLAIMS

1. A gas turbine engine comprising:

a core nacelle defined about an engine centerline axis;

a fan nacelle mounted at least partially around said core nacelle to define a fan bypass flow path for a fan bypass airflow;

a fan variable area nozzle axially movable relative said fan nacelle to vary a fan nozzle exit area and adjust a pressure ratio of the fan bypass airflow during engine operation;

a gear system driven by a core engine within said core nacelle to drive a fan within said fan nacelle, said gear system defines a gear reduction ratio of greater than or equal to about 2.3; and

a controller operable to control said fan variable area nozzle to vary a fan nozzle exit area and adjust the pressure ratio of the fan bypass airflow, wherein said controller is operable to control said fan nozzle exit area to reduce a fan instability.

2. The engine as recited in claim 1, further comprising a multiple of fan exit guide vanes in communication with said fan bypass flow path, said multiple of fan exit guide vane rotatable about an axis of rotation to vary said fan bypass flow path.

3. The engine as recited in claim 2, wherein said multiple of fan exit guide vanes are simultaneously rotatable.

4. The engine as recited in claim 2, wherein said multiple of fan exit guide vanes are mounted within an intermediate engine case structure.

5. The engine as recited in claim 2, wherein each of said multiple of fan exit guide vanes include a pivotable portion rotatable about said axis of rotation relative a fixed portion.

6. The engine as recited in claim 5, wherein said pivotable portion includes a leading edge flap.

7. A gas turbine engine comprising:

a core nacelle defined about an engine centerline axis;

a fan nacelle mounted at least partially around said core nacelle to define a fan bypass flow path for a fan bypass airflow;

a fan variable area nozzle axially movable relative said fan nacelle to vary a fan nozzle exit area and adjust a pressure ratio of the fan bypass airflow during engine operation;

a gear system driven by a core engine within said core nacelle to drive a fan within said fan nacelle, said gear system defines a gear reduction ratio of greater than or equal to about 2.3; and a controller operable to control said fan variable area nozzle to vary a fan nozzle exit area and adjust the pressure ratio of the fan bypass airflow, wherein said controller is operable to control said fan nozzle exit area at a cruise flight condition.

8. The engine as recited in claim 1, wherein said fan variable area nozzle defines a trailing edge of said fan nacelle.

9. The engine as recited in claim 1, wherein said gear system defines a gear reduction ratio of greater than or equal to about 2.5.

10. The engine as recited in claim 1, wherein said gear system defines a gear reduction ratio of greater than or equal to 2.5.

11. The engine as recited in claim 1, wherein said core engine includes a low pressure turbine which defines a pressure ratio that is greater than about five (5).

12. The engine as recited in claim 1, wherein said core engine includes a low pressure turbine which defines a pressure ratio that is greater than five (5).

13. The engine as recited in claim 1, wherein said bypass flow defines a bypass ratio greater than about six (6).

14. The engine as recited in claim 1, wherein said bypass flow defines a bypass ratio greater than about ten (10).

15. The engine as recited in claim 1, wherein said bypass flow defines a bypass ratio greater than ten (10).

16. The engine as recited in claim 15, further comprising a multiple of fan exit guide vanes in communication with said fan bypass flow path, said multiple of fan exit guide vanes rotatable about an axis of rotation to vary said fan bypass flow path.