

understood that various actuator systems and linkages may be alternatively or additionally provided.

It should be understood that relative positional terms such as “forward,” “aft,” “upper,” “lower,” “above,” “below,” and the like are with reference to the normal operational attitude of the vehicle and should not be considered otherwise limiting.

It should be understood that although a particular component arrangement is disclosed in the illustrated embodiment, other arrangements will benefit from the instant invention.

Although particular step sequences are shown, described, and claimed, it should be understood that steps may be performed in any order, separated or combined unless otherwise indicated and will still benefit from the present invention.

The foregoing description is exemplary rather than defined by the limitations within. Many modifications and variations of the present invention are possible in light of the above teachings. The disclosed embodiments of this invention have been disclosed, however, one of ordinary skill in the art would recognize that certain modifications would come within the scope of this invention. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described. For that reason the following claims should be studied to determine the true scope and content of this invention.

What is claimed is:

1. A jet area regulator system for a gas turbine engine comprising:

a ramp adjacent a secondary flow path for a secondary flow and a primary flow path for a primary flow, said ramp axially slidable to regulate said secondary flow, said ramp adjacent to a plenum to facilitate a pressure balance of said ramp, said plenum downstream of said ramp, and wherein said ramp is downstream of a planar primary nozzle of said primary flow path.

2. The system as recited in claim 1, further comprising an actuator system which axially slides said ramp parallel to a longitudinal axis of the gas turbine engine with respect to a passage in communication with said secondary flow path.

3. The system as recited in claim 1, wherein said ramp is pressure balanced to a reference pressure.

4. The system as recited in claim 1, wherein a passage in communication with said secondary flow path is transverse to a longitudinal axis of said engine, said ramp axially slidable with respect to said passage to regulate said secondary flow therethrough.

5. The system as recited in claim 1, wherein said secondary flow is selectively sourced from a fan section of the gas turbine engine.

6. The system as recited in claim 1, wherein said primary flow includes at least a combustion core gas exhaust flow sourced from a turbine section of the gas turbine engine.

7. The system as recited in claim 6 wherein said secondary flow includes a variable cycle third stream fan flow selectively sourced from a fan section of the gas turbine engine.

8. The system as recited in claim 6 wherein said secondary flow is selectively sourced from a fan section of the gas turbine engine.

9. The system as recited in claim 1, wherein said secondary flow is selectively sourced only from a fan section of the gas turbine engine and said primary flow includes at least a combustion core gas exhaust flow sourced from a turbine section of the gas turbine engine and a flow from a compressor section.

10. The system as recited in claim 1, wherein said plenum is downstream, relative to said secondary flow, of said ramp.

11. The system as recited in claim 1, wherein said plenum urges said ramp upstream, relative to said secondary flow.

12. A nozzle section for a gas turbine engine comprising: a secondary flow duct with a generally planar secondary nozzle to communicate a secondary flow therethrough; a primary flow duct with a generally planar primary nozzle to communicate primary flow therethrough, said generally planar primary nozzle adjacent to said generally planar secondary nozzle;

a ramp axially slidable relative to a passage in communication with said secondary flow path to regulate said secondary flow through said passage, said ramp adjacent to a plenum to facilitate a pressure balance of said ramp, said plenum downstream of said ramp; and wherein said primary duct is generally circular in cross-section at an upstream segment and transitions into said planar primary nozzle at a downstream segment.

13. The nozzle section as recited in claim 12, wherein said ramp is pressure balanced to a reference pressure.

14. The nozzle section as recited in claim 12, wherein said secondary duct is bifurcated.

15. The nozzle section as recited in claim 14, wherein said bifurcated secondary duct joins at said secondary nozzle.

16. The nozzle section as recited in claim 12, wherein said passage is downstream of said planar primary nozzle.

17. The nozzle section as recited in claim 12, wherein said ramp is transverse to a longitudinal axis of the gas turbine engine.

18. The nozzle section as recited in claim 12, wherein said generally planar secondary nozzle is downstream of said generally planar primary nozzle.

19. The nozzle section as recited in claim 12, wherein said secondary flow is selectively sourced only from a fan section of the gas turbine engine and said primary flow includes at least a combustion core gas exhaust flow sourced from a turbine section of the gas turbine engine and a flow from said fan section.

20. The nozzle section as recited in claim 12, wherein said secondary flow is selectively sourced only from a fan section of the gas turbine engine and said primary flow includes at least a combustion core gas exhaust flow sourced from a turbine section of the gas turbine engine and a flow from a compressor section.

21. A gas turbine engine comprising:

an engine duct structure and an inner structure which at least partially define a secondary flow path for a secondary flow and a primary flow path for a primary flow, said secondary flow path defined at least partially around a perimeter of said primary flow path;

a secondary flow duct with a generally planar secondary nozzle to communicate said secondary flow therethrough;

a primary flow duct with a generally planar primary nozzle to communicate said primary flow therethrough, said generally planar primary nozzle adjacent said generally planar secondary nozzle;

a ramp axially slidable relative to a passage in communication with said secondary flow path to regulate said secondary flow through said passage, said ramp adjacent to a plenum to facilitate a pressure balance of said ramp, said plenum downstream of said ramp; and wherein said primary duct is generally circular in cross-section at an upstream segment and transitions into said planar primary nozzle at a downstream segment.

22. The engine as recited in claim 21, wherein said secondary duct is bifurcated.