The invention claimed is:

1. An engine wash manifold for delivering wash fluid to an engine with an inlet, a fan, a case with a bypass duct and a core inlet splitter, the engine wash manifold comprising:

a wash delivery segment comprising a pipe shaped to follow at least in part an engine case curvature with a first end to interface with the core inlet splitter and a second end with an inlet to receive the wash fluid, wherein the pipe includes a turn portion configured so as to be able to redirect at least a portion of the wash fluid to a core inlet;

a retention system to secure the wash delivery segment to the engine, the retention system capable of being mounted to a rear of the engine; and

one or more nozzles on the first end of the wash delivery segment to spray wash fluid.

2. The engine wash manifold of claim 1, wherein the one or more nozzles are shaped and positioned to spray into the core inlet.

3. The engine wash manifold of claim 1, wherein the wash delivery segment further comprises one or more additional nozzles directed at the fan.

4. The engine wash manifold of claim 3, wherein the one or more additional nozzles are oriented to spray aft sides of fan blades.

5. The engine wash manifold of claim 4, wherein the one or more additional nozzles each spray the aft sides of the fan blades in an outward direction.

6. The engine wash manifold of claim 3, wherein the nozzles provide an atomized spray.

7. The engine wash manifold of claim 3, wherein the nozzles are configured to spray the wash fluid to overcome fan air velocity to reach a leading edge of fan blades.

8. The engine wash manifold of claim 3, wherein the nozzles are configured to spray the wash fluid to overcome fan air velocity to go beyond a leading edge of fan blades.

9. The engine wash manifold of claim 3, and further comprising: a second manifold connected to the engine inlet to spray the wash fluid at the engine core and/or fan.

10. The engine wash manifold of claim 1, wherein the wash delivery segment comprises a plurality of wash delivery segments connected together.

11. The engine wash manifold of claim 10, and further comprising rings placed where the wash delivery segments are connected together.

12. The engine wash manifold of claim 1, wherein the one or more nozzles atomize the wash fluid.

13. The engine wash manifold of claim 1, wherein the first end to interface with the core inlet splitter is shaped to secure the first end portion to the core inlet splitter.

14. The engine wash manifold of claim 1, and further comprising an integrated nozzle head to house and position the one or more nozzles.

15. The engine wash manifold of claim 1, wherein the retention system clamps the manifold to at least one of the bypass duct, an exhaust duct, and a mixed bypass/exhaust duct.

16. The engine wash manifold of claim 1, wherein the manifold is covered with a protective rubber covering.

17. The engine wash manifold of claim 1, and further comprising: one or more additional nozzles positioned to spray between core stators and penetrate the core inlet.

18. The engine wash manifold of claim 1, and further comprising: a second manifold connected to the engine inlet to spray the wash fluid at the engine core and/or fan.

19. The engine wash manifold of claim 1 and further comprising a second engine wash manifold for delivering the wash fluid to the engine, the second engine wash manifold comprising:

a second wash delivery segment comprising a second pipe shaped to follow at least in part the engine case curvature with an end to interface with the core inlet splitter and an opposite end with an inlet to receive the wash fluid;

a second retention system to secure the second wash delivery segment to the engine; and one or more nozzles on the first end of the second wash delivery segment to spray the wash fluid.

20. The engine wash manifold of claim 19, wherein the first engine wash manifold and the second engine wash manifold are connected by a hose delivering the wash fluid to the first engine wash manifold and to the second engine wash manifold.

21. The engine wash manifold of claim 1, wherein the turn portion of the pipe comprises a hook shaped region.

22. The engine wash manifold of claim 1, and further comprising: an adjustable alignment bar connected to the wash delivery segment.

23. An engine wash manifold for delivering wash fluid to an engine with an inlet, a fan, a case with a bypass duct and a core inlet splitter, the engine wash manifold comprising:

a wash delivery segment comprising a pipe shaped to follow at least in part an engine case curvature with a first end to interface with the core inlet splitter and a second end with an inlet to receive the wash fluid, wherein the pipe includes a turn portion configured so as to be able to redirect at least a portion of the wash fluid to a core inlet;

a retention system to secure the wash delivery segment to the engine, the retention system capable of being mounted to a rear of the engine, wherein the retention system comprises:

a first clamp to connect the retention system to the engine; and

a tube clamp connected to the first clamp, the tube clamp with a trough to receive the pipe, a plurality of ring clamps with clamping elements extending into the trough, a collar to clamp around the pipe and a spring to bias the trough from the collar; and

one or more nozzles on the first end of the wash delivery segment to spray the wash fluid.

24. A method for washing an engine with an inlet, a fan, a core, a case with a core inlet splitter and a bypass duct, the method comprising: securing a first rear mounted manifold in the engine aft of the fan, the first rear mounted manifold comprising a wash delivery segment comprising a pipe shaped to follow at least in part an engine case curvature with a first end to interface with the core inlet splitter and a second end with an inlet to receive a wash fluid, wherein the pipe includes a turn portion configured so as to be able to redirect at least a portion of the wash fluid to a core inlet; a retention system to secure the wash delivery segment to an engine, the retention system capable of being mounted to a rear of the engine; and one or more nozzles on the first end of the wash delivery segment to spray the wash fluid; and spraying the wash fluid from the first rear manifold.

25. The method of claim 24, wherein the step of spraying wash fluid from the first manifold comprises: spraying the wash fluid from the first manifold into the core.

26. The method of claim 24, wherein the step of spraying wash fluid from the first manifold comprises: spraying the wash fluid from the first manifold at the fan.

27. The method of claim 26, wherein the spraying the wash fluid from the first manifold at the fan comprises spraying aft sides of fan blades.

28. The method of claim 24, wherein the wash fluid is atomized wash liquid.

29. The method of claim 24, and further comprising: securing one or more additional rear mounted manifolds in the engine aft of the fan; and spraying and the wash fluid from the one or more additional rear mounted manifolds.