EXHIBIT 2 - FLIGHT DATA SIGNATURE OF A B747 CENTER TANK EXPLOSION

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When aircrash investigators have access to Flight Data Recorders and they suspect an explosion was involved in the mishap, they immediately look for a pressure wave signature on the aircraft's pressure instrument data. This data has been ignored in the case of TWA Flight 800.

When an explosion occurs outside the aircraft, altimeter, airspeed and vertical speed instruments will permanently record the pressure "spike" on the flight data recorder. In the case of TWA Flight 800, that pressure spike is evident in a huge drop in altitude (over 3,600') and a huge drop in airspeed (198 knots). They were recorded on the flight data recorder about one second before the aircraft power failed and the aircraft breakup began.

These pressure signatures could only have occurred as a result of an explosive blast pressure wave passing over the aircraft's static pressure ports located outside the cockpit on both sides of the aircraft. A determination can be readily made to see if the source of this explosive pressure wave was from a center wing tank explosion or some other source of explosion in the nearby atmosphere. By assuming the maximum potentials for a center wing tank explosion and comparing the result to actual recorded figures, a center wing tank overpressure event may be either ruled in or out.

Assume:

1. Overpressure in tank @ 60 PSI (highest NTSB estimate)
2. No objects in path of blast wave (Forward spar, water tanks, cargo, etc.) from blast center to static ports
3. 2,400 cubic foot tank is an 8.3 ft. radius sphere (shape with highest blast potential)
4. Distance from blast center to static port is 75.5 ft. (distance from center wing tank)

Aircraft at rest computation:

Divide the distance to static port from the center of blast, 75.5 ft., by the radius of the tank, 8.3, =9.09. Cube the dividend=752.6. This determines the ratio between the original tank volume and the volume of the blast sphere measured at the static port. 1:752.6. Divide the volume multiple into, the 60 PSI original overpressure to determine the overpressure at the static port.

60 psi / 752.6 = .079 psi

Aircraft in Flight Computation – Center Wing Tank Explosion

5. Now we will assume the aircraft in flight, 380 knots true airspeed, and 13,800 ft. altitude. Because FL800 was in flight, the force of any blast originating from aft of the static ports would be radically reduced because the aircraft is flying away from the point of origin. Overpressure waves in the atmosphere are limited by the speed of sound, about 1,100 ft/sec. This slowing of the relative shock wave causes the radius of the overpressure sphere measured to the static port to increase proportionally.
6. @ 633 ft/second the aircraft travels .63 ft. per millisecond (ms) (1/1000 sec.)
7. The shock wave would take 161.6 ms to travel forward to the static ports @ .467 ft./ ms.

$$\frac{75.5 \text{ ft.}}{.467 \text{ ft/ms}} = 161.6 \text{ ms}$$

The blast radius would then be expressed as: **161.6 ms x .63 ft/ms + 75.5 ft. = 177.3 ft. radius**

$$\frac{177.3 \text{ ft.}}{8.3 \text{ ft.}} = 21.36$$

(21.36)3 = 9746.5 Therefore, 60 psi / 9746.5 = .006 psi overpressure measured at the static port

AT FL800's altitude, .006 psi overpressure would cause the aircraft's altimeter to drop only 13 feet.
The actual recorded data shows an altitude drop of 3,600 ft, which equals a pressure wave over, 275 times more powerful than a Center Tank Explosion could have produced.