



Fig. 4

precisely the speed of sound and how a finite or large disturbance such as a sonic bang travels at speeds slightly in excess of the speed of sound. As the aircraft exceeds Mach 1.01 it leaves the first sonic bang behind; as the aircraft decelerates through Mach 1.01 the second bang is created. The two bangs overtake the aircraft and speed towards the earth arriving approximately 40 seconds later. The second bang arrives first followed in quick succession by the first. What is heard sounds like a double shot from a gun. The intensity of the bang will depend partly upon the time the aircraft lingered at Mach 1.01 and the time interval between the two bangs will depend upon the maximum speed attained in the dive.

Some of the explanations given are not necessarily rigorous, but what we have tried to do has been to try and fathom the mysteries of shock wave formation and the sonic bang without mention of the still more complex factors of pressure, temperature and density.

So . . . is there a "Sound Barrier?"
Not really.

RL 903-P



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