Two planes

Two supersonic planes are moving along perpendicular straight-line trajectories towards the point of their intersection. At a distance of $r = 40$ km from the point where the plane paths intersect, there is a sound sensor. The sensor detected sond signals from both planes simultaneously, and after a time $t = 15$ c the planes collided. The sound speed is $c = 330$ m/s, and the speed of the first plane is $v_1 = 370$ m/s.

Find the speed of the second plane v_2. (*10 points*)

Planes and sensors are located in the same surface.

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First hint — 11.05.2020 14:00 (Moscow time)
Second hint — 13.05.2020 14:00 (Moscow time)

Final of the third round — 15.05.2020 22:00 (Moscow time)