

Supersonic Speed For All *by Jude Isabella*

A new technology just might make airplane food obsolete. It's a jet that aims to zip you from Toronto to Vancouver in 25 minutes. An 18 hour flight from Toronto to Beijing turns into one hour and 19 minutes. Speeds of 8000 km/h would be reached in about three minutes.

No need to buckle up your seatbelt just yet though—Scramjet is about 50 years from launching at an airport near you.

Scramjet—short for supersonic combustion ramjet—uses oxygen from the atmosphere to ignite hydrogen in its engines. Rockets or the space shuttle need to carry tonnes of liquid oxygen to fire up the hydrogen fuel. That makes a trip very expensive. In the scramjet, oxygen is compressed by the forward motion of the jet. Because compressed air is hot, it ignites the hydrogen fuel. Hot gas escaping from the back of the engine pushes the plane forward.

But, to draw oxygen from the air, the Scramjet has to climb about 7000 metres. And, its supersonic speed—theoretically Mach 20—means the jet needs serious “skin” to protect it from intense heat. Possible only in a lab, right?

Nope, try the Australian outback. University of Queensland scientists successfully launched a test rocket with the engine—called the HyShot—last summer. Preliminary data suggests that the HyShot did what it was supposed to do during its lofty 314-kilometre-high, ten-minute-long flight. The engine “breathed” in oxygen and the hydrogen combusted.

Hmm, talk about technology that’s “up and over” from the land down under.

