A fire test was conducted by the San Antonio Fire Department, on a 707-321B aircraft. Temperature monitoring devices were positioned throughout the aircraft. A large pan was used to create a fuel spill fire under the aircraft's tail. The fire quickly spread into the aircraft interior. As the rear belly of the aircraft burned away, the rear galley and lavatory modules fell out of the aircraft. A SNOZZLE®, penetrating tip was inserted into the fuselage just forward of the well involved rear cabin area and held there. From that single application point, the 250 gpm spray from the SNOZZLE®, dramatically lowered the interior cabin temperature, reduced smoke propagation, stopped the forward horizontal spread of the fire, and ultimately extinguished most of the rear cabin fire. ARFF is patiently waiting for the first use of a SNOZZLE®, on an actual passenger aircraft interior fire to see what it can actually do.

Some initial firefighter caused damage may also prevent the entire destruction of the aircraft. A ventilation opening needs to be cut above the seat of the fire. This should be accomplished by firefighters working off an aerial platform. Do not stand on top of the fuselage during the ventilation process. This will allow the heat and smoke to vent upward and reduce the horizontal fire spread. Even when penetrating nozzles are being used, firefighters will need to cut an opening or openings on the upwind side of the fuselage to completely extinguish and overhaul the fire. It is difficult to determine, from outside the aircraft, how well the penetrating nozzles are performing or how the fire is reacting or behaving. Ventilation and access holes cut on an aircraft fuselage can be repaired. Ordering firefighters to cut holes on a multi-million dollar aircraft is still a tough call for the IC. Does the saying, "you break it, you buy it" apply? The goal should be to confine and extinguish the fire at its area of origin as soon as possible.

The firefighters wanted to use a SPAAT tool. This device, as well as the SNOZZLE®, can discharge "clean streaming" agents into the interior of an aircraft. These agents consist of carbon dioxide (CO2), Halotron, Halon 1301 and 1211. For these types of agents to be effective, the interior of the aircraft needs to be sealed up to contain the agent and extinguish the fire, which is not easily accomplished during an aircraft interior fire. In deep seated burning Class A materials, such as containers densely loaded with cargo, these agents also need some soak time to penetrate and smother all the fire.

Each agent also needs the proper concentration or percent per volume of air to extinguish a fire. According to the NFPA Handbook, Halons need from 4-7 percent per volume. CO2 needs 40-60 percent per volume. To be effective, firefighters have to calculate the volume inside the aircraft and discharge the correct amount of agent. Is this really possible during an aircraft interior fire? This could definitely be pre-planned prior to an incident. With penetrating nozzles, firefighters can estimate their effectiveness at controlling the fire by using thermal imagers and evaluating the color or reduction in smoke production. They still have to access the involved area, somehow, to confirm extinguishment, perform overhaul, and make sure the fire is out.