

PASSENGER AIRCRAFT



The area 8-10 inches above the window is also a possible target area. This places the penetrator tip above the seat backs and below the overhead bins. At this location the spray from the penetrator tip has the most coverage. *(Photo above)*

Another quick option is a unused escape door or over wing exit that is open. Even if an escape slide is deployed at the door you will be able to reach the top of the door frame from the side. With the penetrator head high on the door frame there is still room for passengers to escape below penetrator head

PASSENGER AIRCRAFT CONCLUSION

One of the reasons that LAX Airport has penetrators is because of the 1991 US Air incident. 11 people died in the 737 trying to get out of the aircraft, after surviving the crash landing. From 1983 to 2000 the NTSB investigated 26 major commercial accidents, involving 2739 people a total of 1,525 survived, or 56 percent.

With our Fire Departments experience and testing we are training our members that the discharge rate critical for the penetrator in a passenger cabin. When considering the discharge technique for the penetrator you have a couple of options.

·Do nothing and allow the cabin to continue to burn and those that can self rescue will survive. Although with continued burning the thermal layer will continue to rise in temperature and as ventilation (doors opened) occurs more oxygen will add to the intensity of the fire.

·Penetrate and discharge water and agent to try and “cut off the fire” (water curtain) from the passengers. The disruption of the thermal layer and creation of large amounts of steam will force the heat down cook the passengers and reduce the visibility.

·Once the nozzle is inside of the aircraft introduce a short burst (5 seconds) of water/agent to allow the cooling and expansion to occur thus reducing the thermal layers temperature. This short burst does not disrupt the thermal layer and force the products of combustion down to the floor. The introduction of a small amount of water has a cooling effect on the thermal layer inside the fuselage.

To get actual thermal data we created a mock cabin environment with over head bins, seats and side wall panels. The Los Angeles City Fire Department has a Flash-Over Training Center that is used to train our structural firefighters. We were able to use one of the containers to replicate a fuselage, simulate an aircraft interior fire load, burn to get the actual temperature reduction with the introduction of a penetrator tip discharge. *(Photo below)*

For the burn test we used temperature probes and get actual data on the effect of the penetra-

