



# EXTENSIONS

Along with the boom position the radius of the fuselage also comes into play. We train to place the penetrator as high as possible to get the best coverage of the agent but with height of a wide body aircraft limits the elevation the penetrator could actually pierce the skin.

At LAX we are fortunate to have 2 apparatus with HRET Booms. With the possibility of having penetration from both sides of the aircraft both apparatus must communicate and coordinate to be most effective. Having the ability to penetrate from both sides of the aircraft is beneficial with a wide body aircraft because the tip with a extension attached will only penetrate to a depth of 5 feet.

The design of the penetrator has a friction clutch that holds the penetrator so any movement in the vertical that overrides the clutch the penetrator tip will move beyond the possible movement range. Height of a DC 10 is 27 feet and with the penetrator arm level it is at 24

feet. If an attempt is made to reach that height be aware of the possibility of penetrator clutch may release and slow your operation down having to manually readjust the penetrator so the penetrator will be in the proper position in the (sweep) range.

The narrow body cargo 727 has very little space around the ULDs so it is imperative that your identification of the target area is critical so as not to allow the uninvolved ULDs to shield the agent from the fire. Another variable with the interior of a cargo aircraft is the type and design of the ULDs or the load configuration. There can be full width Unit Load Device or Half Width Load Devices and even Pallets.

Use the TI camera after flowing agent so you can evaluate your effectiveness of your nozzle stream. Continue flowing agent as you push the penetrator to the maximum depth.

Penetrator extensions are necessary for a cargo application. We have 4 screw on extensions that could be added to the penetrator tip. The lengths of these exten-

sions when attached add additional leverage to the safety friction clutch. We elect to penetrate first with the 18" penetrator tip and then add the extension. A narrow body aircraft fuselage width is a little over 12 feet. The reach of the penetrator tip extended is just about to the middle of the fuselage. With a wide body aircraft fuselage widths can be 22 feet or more. With the extensions attached you will only able to reach about a quarter of the width of the aircraft fuselage. At our station LAX we have two penetrators so we can coordinate a penetration from each side of the aircraft.

We have developed a standardize extension tube location on both apparatus. We modified tips for easy removal, and established a procedure for extension attachment coordinated between the driver and boom operator.

On a cargo aircraft your initial spot with the apparatus is critical in determining the boom head position. If the apparatus spot is close to the aircraft the penetrator head will not be able to lower enough to change to the tip or add extensions. With the lower boom fully raised you have the ability to use the penetrator in its full range.

Because of the leverage that is exerted by the attaching the extensions prior to penetration we have a procedure for attaching the extension tubes on the fire ground.

First penetrate with the existing tube and tip.

- Driver exits cab and retrieves the correct extension tube from compartment.
- Waits for boom operator to retract penetrator and boom arm down.
- Driver removes penetrator tip and attaches extension and tip to penetrator tube.
- Boom operator moves the boom arm up and inserts tip and ex-