Launch Complex 39, Pads A and B
KSC Release No. FS-1999-12-25-KSC

External Tank Hydrogen Vent Umbilical and Intertank Access Arm

Also called the External Tank Gaseous Hydrogen Vent Arm System, at the 167-foot level, the 48-foot-long arm allows mating of the external tank umbilicals as well as contingency access to the external tank intertank compartment. The arm rotates 210 degrees to its extended position. The arm is retracted after umbilical/vent line mating, typically at about T minus five days, leaving the umbilical vent line connected to the external tank to support tanking and launch. The umbilical vent line provides continuous venting of the external tank during and after loading of the volatile liquid hydrogen. The vent line is disconnected from the vehicle at first motion and retracts vertically downward to a stored position.

The External Tank Hydrogen Vent Line Access Arm allows the mating of the external tank umbilicals to the pad facilities, and provides work access to the tank area. The arm retracts several hours before launch, leaving the umbilicals attached. At the moment the solid rocket boosters ignite, these umbilicals release from the Shuttle and fall back against the tower, where a curtain of sprayed water protects them from engine flame. The External Tank Hydrogen Vent Line Access Arm is 48 feet (14.6 meters) long, and attaches at the 167-foot (51-meter) level. The arm itself rotates 120 degrees to its stowed position in approximately 3 minutes.