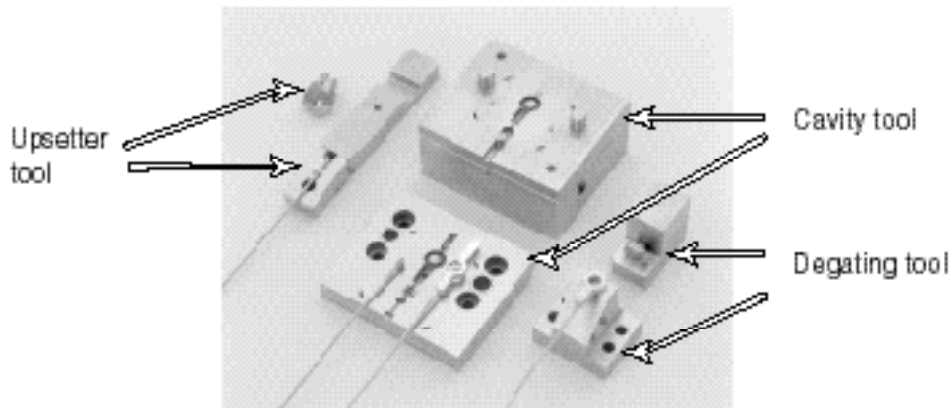

SECTION B3: CABLE PROCESSOR TOOLING COMPONENTS

The tool holds and processes the cable. The tooling is mounted in and is controlled by the Cable Processor Module. A brief description of the tooling components will provide an understanding of the various functions of this equipment.

Cavity

The cavity is precisely machined, (usually using electrode Electrical Discharge Machining), into the fixed and movable tool halves or inserts.

The cavity, in the shape of the termination to be formed, fills with molten alloy during the injection portion of the production cycle. Following solidification of the alloy, the terminated cable or component is ejected from the cavity.



Cable Processor Module tooling

Fixed tool

The fixed tool, comprised of a number of components, is bolted to the Cable Processor Module frame. The fixed tool cavity usually forms half of the termination configuration.

Fixed tool holder

The fixed tool holder forms the majority of the fixed tool and provides the foundation for the rest of the fixed tool components. This design allows for simple insert changes when converting from one termination configuration to another.

Nozzle seat

The nozzle seat, precisely machined in the bottom of the fixed tool holder, seals with the nozzle tip when the Cable Processor Module is advanced.

The precise sealing between the nozzle seat and nozzle tip ensures that there is no loss of molten alloy pressure or escape of molten alloy during the injection portion of the production cycle. Any alloy pressure drops could prevent the cavity from filling properly to form an acceptable termination. Any escape of molten alloy could prevent the system from operating properly during subsequent production cycles.

Fixed tool cavity insert

The fixed tool cavity insert bolts into the fixed tool holder. It usually forms half of the termination configuration.

Runner system

A runner system, machined into the cavity insert, directs the flow of molten alloy from the nozzle seat to the cavity. Alloy solidifies in the runner system at the same time that the termination is solidifying in the cavity. The solidified runner is manually removed following ejection of the terminated cable or component.

Ejector pins

The ejector pins, mounted in a retainer, move up to eject the terminated cable or component from the cavity. When retracted, the ejector pins are flush with the bottom surface of the cavity or runner.

Movable tool

The movable tool is bolted to the Cable Processor Module main slide with a long draw bolt. It usually contains the other half of the termination cavity.

Movable tool holder

The movable tool holder design allows for simple insert changes when converting from one termination configuration to another.

Movable tool cavity insert

The movable tool cavity insert bolts into the movable tool holder. It usually forms half of the termination configuration.

Flash guard

A parting line flash guard, mounted on the movable tool holder, prevents the escape of molten alloy along the fixed tool/movable tool parting line

Safety pin

The safety pin closes the cable loading channel when a cable or component is not in position. When a cable is in position, the safety pin closes an air passage, activating the Cable-In-Place pressure switch, allowing the injection of alloy to take place.

Upsetter tooling

Upsetter tooling consists of a movable jaw, a stationary jaw and an anvil. When mounted in the cable upsetter station of the Cable Processor Module, the jaws grip the cable while the anvil upsets the end.

Degating tooling

The degating tooling consists of a block and spring loaded pin attached to the movable tool, and a nest which is bolted to the bottom plate of the operating head. The degating tooling breaks the runner off of the finished termination.

Transfer tooling

The transfer tooling, mounted in the Cable Processor Module transfer unit, securely grips the cables when moving between the upsetter, termination and runner removal stations.

