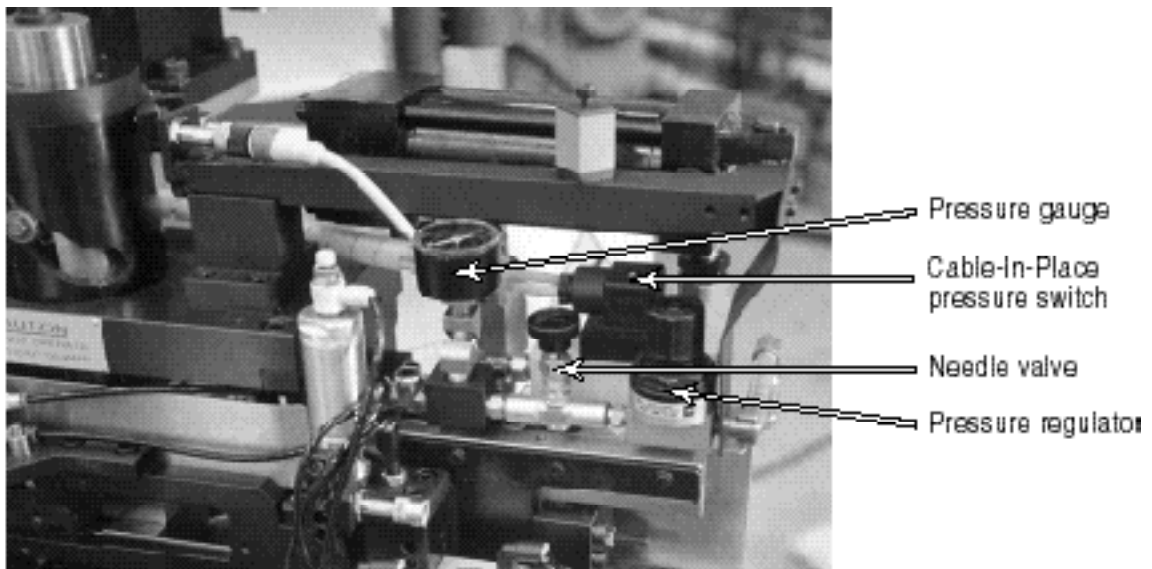

SECTION B2: CABLE PROCESSOR MODULE COMPONENTS

The Cable Processor Module is a fixture which holds and controls the motion of the IMA tooling. This specialized operating head was developed for the termination, processing or assembly of wire and cable products. The Cable Processor Module is mounted on the IMA machine's moving mechanism. A brief description of the Cable Processor Module components will provide an understanding of the various functions of this unit.

Cable-In-Place sensor

The Cable-In-Place sensor uses an air supply and a pressure switch to sense when a cable or component is in position after the tooling closes. It works in conjunction with the movable tool safety pin. The Cable-In-Place sensor will prevent the injection of alloy if the cable or component is missing.



Cable-In-Place sensor

Cable-In-Place pressure switch

The pressure switch closes when a cable or component is in position in the tooling prior to injection.

Hose

The hose directs the flow of air to the pneumatic passage in the movable tool.

Needle valve

The needle valve controls the flow of air through the Cable-In-Place pneumatic circuit.

Pneumatic pressure regulator and gauge

The regulator and gauge are used to set the appropriate pressure for the Cable-In-Place pneumatic circuit.

Cable Processor Module Closed proximity switch

The Cable Processor Module Closed proximity switch is mounted on the cylinder bracket. The proximity switch actuator is bolted to the cam. The switch is also called the Head Closed switch.

Cable Upsetter

The cable upsetter produces the upset or birdcage on the end on the cable. It contains upsetter tooling and the Cable Loaded proximity switch, (the switch which usually starts the cycle). The upset sensor, (which checks that the cable has been upset correctly), is mounted on the right side of the cable upsetter.

Cam slot and roller

The cam slot and roller provide the means to lock the Cable Processor Module closed during the production cycle.

Flow control valves

Flow control valves are provided to control the speed of the Cable Processor Module's pneumatic actuators. The speed is generally controlled by regulating the exhaust air leaving the actuator.

Main slide

The main slide holds the movable tool, and its motion is controlled by the Close/Open cylinder.

Close/Open cylinder

During the production cycle, the Close/Open cylinder moves the main slide. The cylinder closes and opens the Cable Processor Module as controlled by the Programmable Logic Controller.

Ejector system

The ejector system ejects the cast termination or the assembly from the fixed tool after the tooling opens. It consists of a pneumatic cylinder and a lever mechanism in the Cable Processor Module base.

Ejector pin

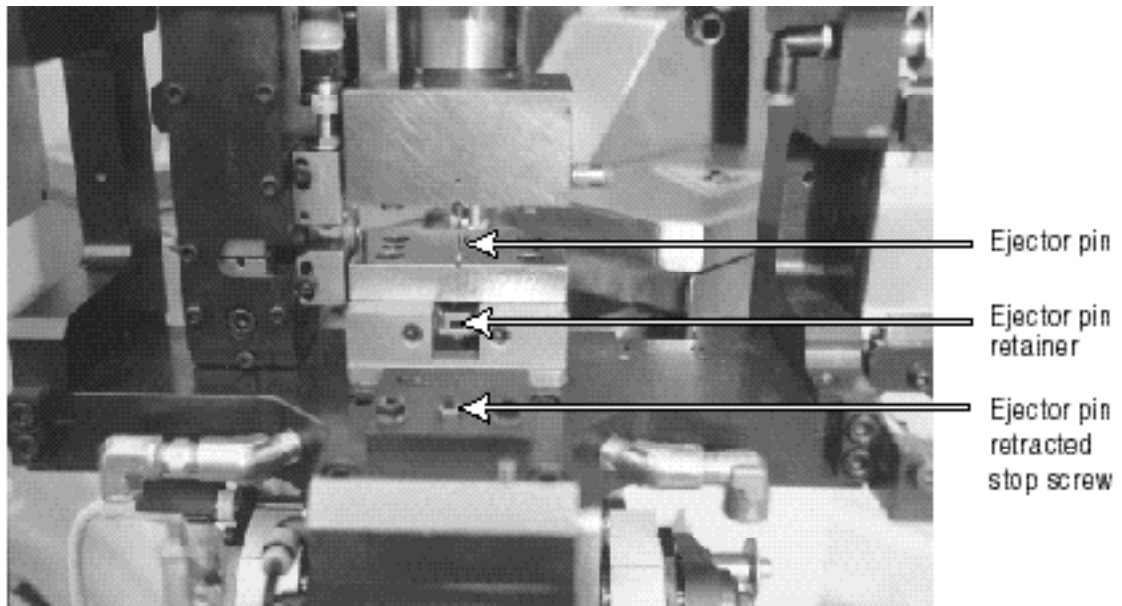
One or more ejector pins in the fixed tool push the terminated cable out of the fixed tool cavity. When retracted, the ejector pins are close to or flush with the bottom of the cavity.

Ejector pin retainer

The ejector pin retainer holds the ejector pins and connects them to the ejector pneumatic cylinder, allowing the pins to be advanced and retracted.

Ejector pin retracted stop screw

The ejector pin retracted stop screw limits the travel of the ejector cylinder in the retracted direction. The stop screw is adjusted so the ejector pins are close to or flush with the bottom of the fixed tool cavity when in the retracted position.



Ejector system

Transfer unit

The transfer unit moves cables from the cable upsetter to the cavity tooling and the cavity tooling to the degating tooling simultaneously. It moves left/right as well as up/down. The transfer unit consistently places the cable in the same position in the cavity tool, ensuring a consistent pull-off strength for the terminations produced. A proximity switch senses whether the transfer unit is closed and locked correctly.

