

Automated Solutions

# *Advanced Seating Assembly Solutions*



*Today's market place demands quality manufacturing with sustained consistency in quality processing.*

### **Facts:**



- Seat assembly is one of the most labor intensive processes in the JIT (*Just In Time*) industry.
- Trim to foam assembly operations is generally done by hand, leaving concern for consistency & quality.
- Ergonomic operator issues come into play due to repetitive motions.
- ❖ By use of special assembly equipment you can reduce labor content, minimize ergonomic issues and improve throughput without sacrificing the quality of the product.



# Introducing the latest Patented Technology

Presenting the **Trim to foam clipping machine** to attach a trim cover to a foam bun

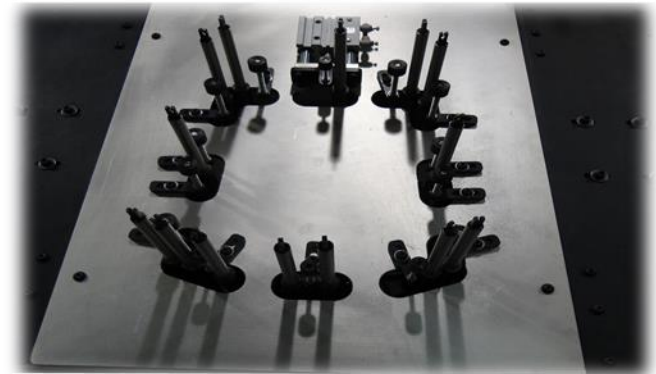


## Benefits of use:

- Removes costly material such as Velcro, listing wires, hog rings, etc...
- Eliminates operator fatigue from use of hog ring tools and finessing trim.
- Improves quality of product with consistent seam lines and crisp contours.
- Improves productivity throughput/ increased efficiencies.
- One time investment of capital expenditures for the main body of the machine.
- Replaceable tooling for new programs that eliminates capital costs all together.

## Features:

- Ergonomically designed for optimal use.
- Rugged steel construction frame.
- Casters and Hilo tubes for rapid redeployment.
- Electric height adjustable for ergonomics.
- Overhead task lighting.

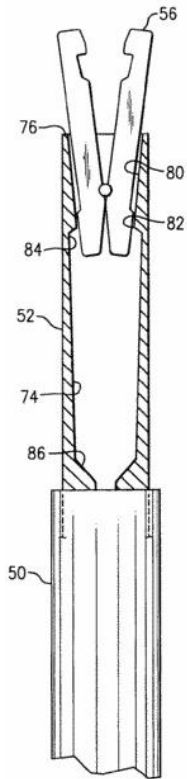


# Trim Clip Machine – Ease of use

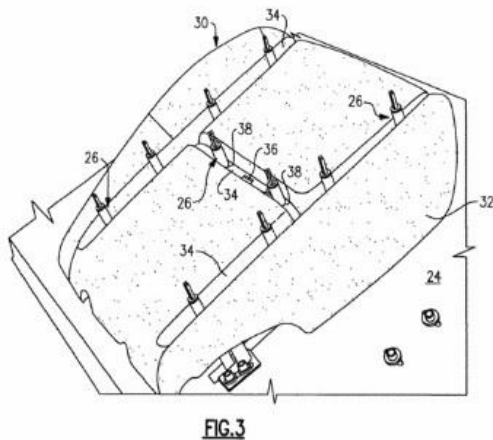
## Sequence of Operations:

1. Operator scans the build ticket (if applicable).
2. Operator loads foam onto tooling fingers.
3. Operator loads trim strips (trim welts) into fingers.
4. Operator depresses cycle starts to actuate fingers closed.
  - a. Finger plates retracts to apply trim strip into clips
  - b. Fingers actuate open.
  - c. Finger plates returns to home position.
5. Operator removes completed trim to foam piece.

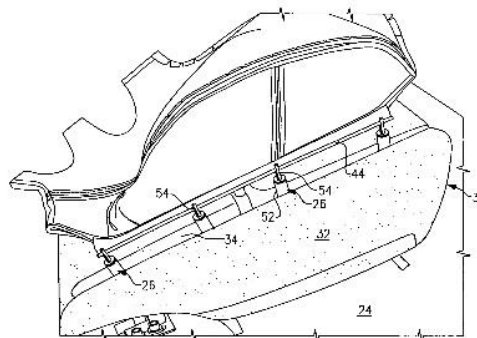
Finger Ass'y.



Loading foam onto machine



Loading trim onto fingers



Fingers pulling welt into foam clips

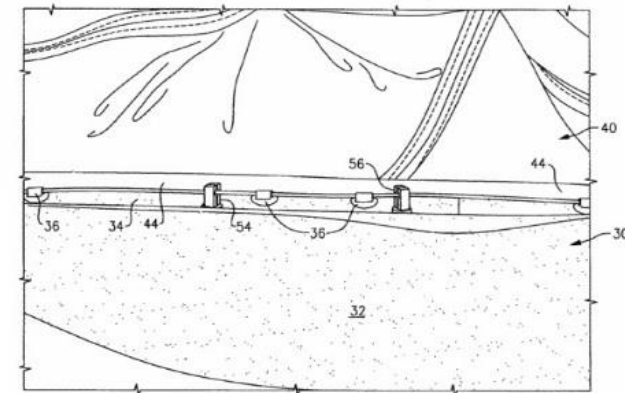
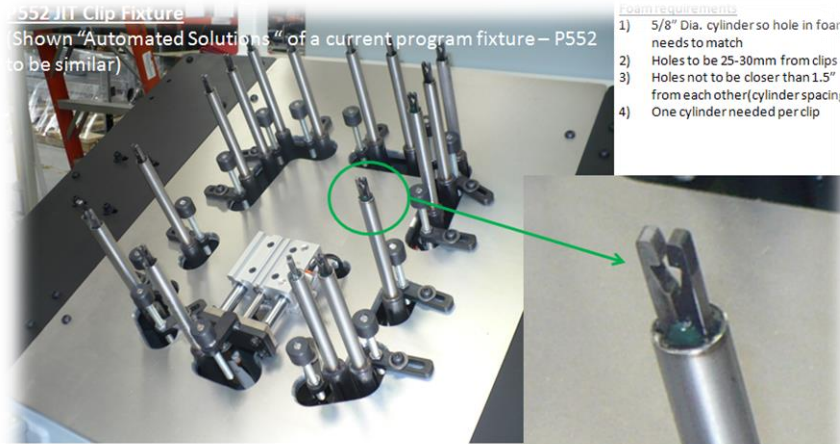


FIG.9

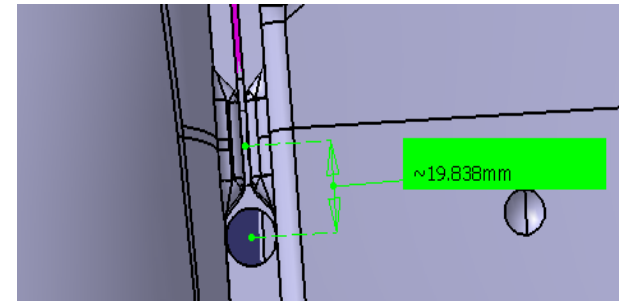
## General requirements for use

### General design requirements for foam:

1. Plastic clips are typically embedded into foam.
2. 5/8" diameter hole is required next to the clip for trim gripper to go through the foam.
3. Minimum spacing from centerline of clip to centerline of hole should be approximately 20mm to 30mm- *illustration 1*.
4. Avoid foam holes to be no closer than 40mm (50mm recommended) to eliminate the need for special gripper fingers - *illustration 2*.
5. End to end welt length on trim should extend beyond trim gripper holes.



**Illustration 1.**  
25mm to 30mm spacing from hole to clip



**Illustration 2.**  
40mm to 50mm spacing from hole to hole in any direction to avoid "special" Gripper fingers

