



## The Project:

### Automotive Industry

Due to increasing consumer demand, Matrix Tool received a problematic transfer tool that was unable to produce acceptable product at a previous molding vendor. The customer needed to relocate the tool and place it at a vendor capable of expediting high precision tool conditioning with advanced injection molding services. Due to Matrix Tool's technical expertise, full service tooling capabilities, and high precision injection molding machines, the customer decided Matrix Tool would be a perfect fit for their 4 cavity, 96 position connector tool used to supply a large automotive industry OEM.

## The Overview:

Matrix Tool was contacted with an urgent request from an existing customer regarding a complex tool that was crippling their ability to meet customer orders resulting in ongoing line down situations. Their current vendor was struggling to make product shipments as they were sorting out 2 nonconforming cavities and then sorting the remaining 2 for defects prior to each shipment.

Given these inefficiencies, our customer needed to quickly relocate the tool to a company that was able to dedicate resources to expeditiously sample the tool, identify tooling conditions contributing to the part quality deficiencies, and implement the necessary modifications to support continued production without any line stoppages. Matrix Tool was asked to receive the tool and determine an immediate short term plan of action to address the lack of tool capability and associated inventory shortage. Once a bank of parts could be established, a long term prevention plan would be executed to ensure the tool could achieve forecasted production needs.

## The Challenge:

The main challenge of this project was the immediate need to condition the tool and bring it to an acceptable production-capable state while maintaining part shipments to prevent further line down situations. This project would demand orchestrated collaboration



Fig 1: 96-Position Automotive Connector

from all departments of the Matrix Tool organization to seamlessly deliver acceptable product without impeding the supply chain. Systematic planning, execution, and the ability to work methodically as a team were all needed for this transition to be a success.

## The Solution:

The tool was received by Matrix Tool on a Thursday at midnight and all hands were "on deck" immediately working towards a solution. Cross functional teams were quickly established so multiple corrections could be implemented simultaneously given time constraints. A group of debug specialist toolmakers and tool engineers performed a quick, but thorough, evaluation of the received mold. It was determined that numerous conditioning tasks must be completed before sampling given poor tool upkeep. Our teams went to work. Third shift changeover specialists provided a partial strip and clean of the tool. RJG certified master molders worked to address numerous issues with the existing but previously unused RJG componentry. Process and tooling engineers worked to address worn tool components (interlocks, leader pins, sprue bushing, and nonconforming cavity steel replaced) in preparation for the pending sample. A customer representative arrived at our facility at 6:00 a.m. to oversee the tool transfer and offer on-site support. He was pleasantly surprised to see the conditioning progress made through the night as a result of our staff's collective efforts. The

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## The Solution, Continued:

### Automotive Industry

tool was finally ready for its initial sample by Friday morning at 10:00 AM and a robust D3 process was established by Matrix Tool's Process Development Engineers. Short-term deviations were established through our customer liaison approving production and allowing for the first expedited shipment later that day. The tool then ran for (30) consecutive days with shipments being sent each day via an overnight service. Once immediate product needs were met, we scheduled a weekend to conduct a much needed strip and clean and further conditioning activities. A plan was then established to permanently address long-term production requirements and remaining tooling inefficiencies (including spare steel replenishment) in order to remove any active customer deviations from the initial start-up at Matrix Tool.

### The Benefits:

The customer was able to relocate a problematic tool causing "line down scenarios" and seamlessly transition it to Matrix Tool without disturbing the short and long-term supply of parts to their end users. Along the way, the customer was able to experience a significant increase in the capability and output of their mold, while also seeing major improvements in part quality and sizeable reductions in molded part costs. This project showcased our ultra-fast turnaround capabilities and the willingness of Matrix Tool's staff to go above and beyond to provide exceptional customer service.

***Whether a large or small project, Matrix Tool is ready and awaiting the challenge!***

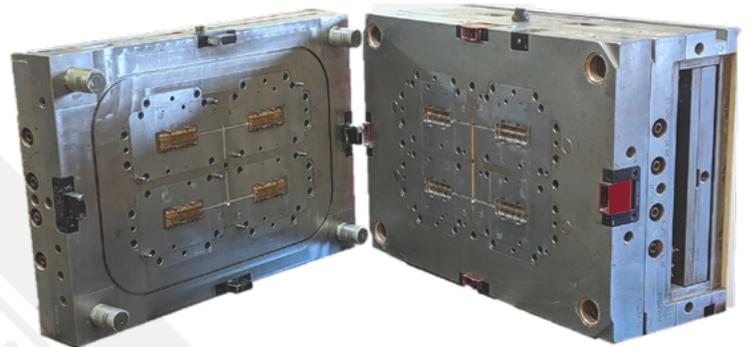


Fig 2: 96-Position Automotive Connector Tool

**For a quotation or additional information, contact Matrix Tool Inc:**