

Automotive Assembly

Workpiece Carriers for Front End Assembly

End User:

- BMW

Product:

- Workpiece Carriers
- Frontend Assembly System

Keys to Success:

- Custom designed workpiece carrier
- Trunnion for part access

Results:

- Reduced infrastructure
- Increased flexibility
- Improved product accessibility for operators

Solutions:

- Module Assembly System
- Workpiece carrier with integrated trunnion

Fori Germany recently supplied a custom designed work piece carrier for BMW for their front end assembly project in Spartanburg, South Carolina.

Fori Germany supplied (21) work piece carriers for a front end assembly line. The work piece carriers were integrated with an existing AGV system. The carriers are mounted directly to the AGVs.

The purpose of the workpiece carriers is to provide a repeatable means for locating the parts to the pallet for assembly. The workpiece carrier also provides a means to the operator for adjusting the part location and orientation. Adjustment is completed through a powered trunnion.

The carrier trunnion has an integrated motor in order to tilt the fixture both automatically and manually. The system has (4) automatic tilt angles. The carrier utilizes the power available on the AGV and communicates with the AGV to provide confirmation of the correct position. Upon completion of the front end module, the carrier returns to the home position and the module is unloaded via lift assist.

The system supplied provided a simple means for locating the front end module for the operator. The design considerations were based on a high level of reliability and minimal maintenance.

