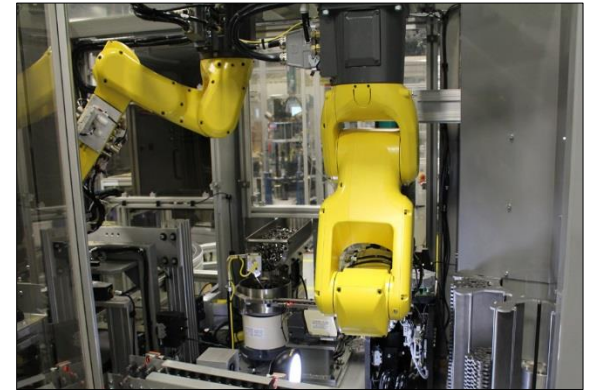


Transmission Oil Pumps



Location: China, Turkey,
Project Value: Canada \$3.0 million
Turnaround Time: 40 Weeks

The custom equipment and assembly solutions we produce at IAT Global are used by industrial customers throughout the world. The project highlighted here was manufactured for a customer in the automotive industry. The equipment is used in manufacturing facilities in China, Turkey, and Canada to assemble and test an oil pump used in automotive systems. The multiple pieces of equipment that comprise this complex system occupy a 25m by 25m footprint and assemble 52 different components using 37 processes, all in a span of 11 seconds.

We excel in finding solutions to complex assembly processes that many customers previously thought could not be automated. The semi-automated assembly process performed by the system includes installation of small rubber seals by vision-guided robots and installation of mating face components with three datum pins using a 6-axis robot equipped with 6-axis force sensing. The system was carefully engineered to ensure that every component is precisely assembled, including a press fit shaft that has a specified perpendicularity requirement of ± 0.02 mm. In-process quality inspections performed by the system include force and distance monitoring of all press-fit bushings and dowels, air gauging, and plane calculations using a combination of touch probes and master parts, vision inspection, and functional testing. Data from every station is stored in a SQL database and complete data traceability is supplied through laser marking and barcode scanning. This extensive project required 40 weeks for design, manufacturing, and functional testing and has a total value of three million dollars.

For additional information about this automated assembly and inspection project, contact us directly at info@iatglobalmfg.com.