

Assembly & Test Bench for Automotive Hinge Assembly

TQC has produced a free standing assembly & test bench for the production of automotive hinges. The hinge is designed to lock at a defined angle, to achieve this, a set of detent balls and springs are used within the assembly



The bench layout provides space for hand assembly as required of the hinge and for easier operation of the required assembly processes in sequence. Storage bins for all the necessary components are mounted at the rear of the bench. (see below for sequence of operation)

The final test fixture performs a functional test whereby the hinge is opened and closed, with loads monitored to ensure it operates in a satisfactory manner.

Features

- Manual assembly area
- Automated pin insertion
- Automated ball & spring feeding
- Automatic function test
- Modular bench construction with light and fan for operator comfort

Sequence of Operation

1. Hinge Pin insertion to depth,
 - a. fixture includes poka yoke features
 - b. for checking of pin type and orientation
2. Grease application into 3 orifices
3. Bowl feeding of balls & springs
4. Automatic function test including load and angle checking



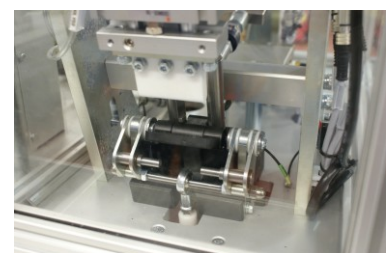
Stage 1



Stage 2



Stage 3



Stage 4

