

CUSTOM  
TEST  
EQUIPMENT

DOORS

CONSOLES

SEATS

INSTRUMENT  
PANELS

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APPLICATIONS

## FAM (Force Applied Machines) Seat Test Case Study

### Challenge

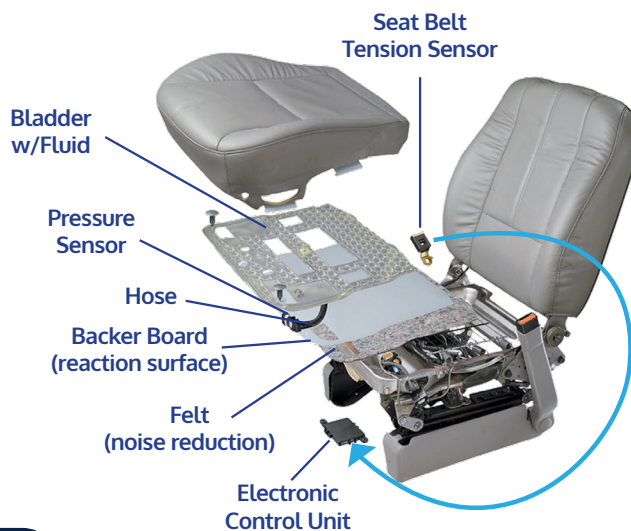
An OEM automotive manufacturer needed to calibrate and verify the proper weight measurement of the occupant detection sensor in passenger seats of vehicles. This is critical because this detection affects if the passenger airbag is deployed and to what extent in the event of a crash. When the seat is first assembled the occupant detector is not calibrated and cannot accurately detect the weight of an occupant.

### Solution

Test Products Inc. (TPI) was contracted to develop an electrical testing system for occupant sensor calibration and certification. This is important because this sensor is integral to the passenger supplement restraint system, particularly the airbag. Depending on the weight of the passenger, the intensity of the airbag deployment is compensated. In order for this system to work properly, the occupant sensor must be accurately calibrated. A key part of this system is collect test data and provide individual traceability to certify safety.

### Results

The TPI team designed and built an innovative system to provide accurate inputs to the system while communicating using a sophisticated protocol to read the data needed for proper calibration and certification of the device. Before the TPI solution was introduced to the industry, the test, at two measurement points, took almost 50 seconds. TPI's system reduced the test time to 34 seconds, increasing throughput of production and saving the customer a significant amount of money without sacrificing accuracy or quality.



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