



CASE STUDY: PEM® TACKSERT® REDUCES INSTALLATION COMPLEXITY FOR COMPANY A PRODUCT FROM COMPANY B

Global automotive supplier Company B produces column drive electrically powered steering products based on a modular, scalable design for A to C/D segment vehicles with up to 12 kN rack loads. The technology supports CO₂ reduction, fuel economy and automated driving.

Assembly includes an Electric Power Pack – a highly integrated, compact design with common E/E architecture across Company B's EPS technologies. As performance standards of steering products grow, Company B was challenged to create more power from the Power Pack without increasing product dimensions.

CHALLENGE

- Wasted space on the PCB due to screw head diameter
- Depth of aluminum casting to accommodate screw length
- Pressure to reduce assembly time/cost
- Time-consuming, dirty screwing process
- Tamper-proof solution/safety-critical classification
- Stringent technical requirements.
- Integrated production for Company B's 8 global locations

TOTAL SOLUTION

- Over 80% reduction of keep-out space on PCB (9mm vs. 1.8mm)
- 50% reduction of installation time (3s vs. 1.5s)
- 70% reduction of engagement length (10mm vs. 3mm)
- 89% reduction of head height (2.52mm vs. 0.27mm)
- Retention force exceeded requirement by over 50% (415N vs. 200N)
- Press-in vs. screw-in installation method met cleanliness requirement
- Permanent TackSert® fixation delivered tamper-proof solution
- Global support for all Company B locations

RECOMMENDATIONS

Today, more autonomous driving devices are deemed safety-critical and require increased cleanliness levels. OEM's are also demanding more device output with the same envelope dimensions.

The TackSert® solution meets challenges such as head height/diameter of screw solution, screw length engagement, clean assembly, and reduced assembly time for high volumes.

Key customers involved in ADAS:

Bosch, Denso, Continental, Magna, Aisin Seiki, Hyundai Mobis, Valeo, Faurecia, Yazaki, Aptiv, Veoneer, Mitsubishi, Hella, Visteon, Nexteer, Infineon, Gentex, Samsung.

