

Aptiv™ Dust Cap

Background

- Aptiv replaced a complex plated dust cap for nautical applications with a lighter, cheaper, and easier to produce Carbon-based part

Challenge

- Strict qualification criteria including impact, sand and dust exposure, fungal resistance, and salt spray resistance
- Must include threads and an undercut, but a two-part molded solution would not pass the quality tests
- Must have demonstrated precision and repeatability to meet tight tolerances

Solution

- A M28876 shell size 15 dust cap, printed in FPU 50, Aptiv's first printed part
- Passed the most stringent military standard (MIL-STD) qualification yet, including ID marking legibility after testing and part resilience to engagement/disengagement torque



DUST CAP ASSEMBLED



MALE AND FEMALE DUST CAP