



## Amphenol's High Vibration Brush Series

### BACKGROUND

Engines create some of the toughest environments in industries like; Automotive, Heavy Equipment, Mining, and Rail Mass Transit, and the components will experience those conditions for the life of the engine. As a result, many failure modes are present for on-engine components like fretting, corrosion, intermittencies, and leakage. When these conditions occur, they create warranty issues and engine downtime which becomes costly for the OEM's and their customers.

### PROBLEM

The micromotion between a traditional size 16 pin and socket in a standard plastic connection system was not performing in the on-engine sensor application of a Heavy Equipment diesel engine. As a result, the OEM had to add a cable assembly jumper to connect to the sensor to absorb the vibration and dampen the effect of it. This added jumper had to be environmentally sealed and robust itself, so it was quite costly and added several dollars per engine.

### AIPG SOLUTION

Amphenol Industrial is bringing the Brush terminal series used in production for over 30 years in military and aerospace applications into the Industrial marketplace. Amphenol's High Vibration Brush (AHVB) terminal series is known as "the problem solver" in that it 1) has low insertion forces 2) zero fretting 3) is made for high mating cycles up to 100k and 4) has passed vibration levels up to 53.8 grms. This terminal series is superior because it has multiple high tensile bristles on each side of the terminal that creates 14 to 70 points of contact, making it unmatched in the industry today. For this engine manufacturer, the AHVB terminals allowed the jumper harness to be removed so the engine harness could mate directly to the sensor, saving money and improving the quality of the system. Likewise, we will work with OEM's or Tier device and sensor suppliers to implement the AHVB terminal series in similar or in-line applications.

