

White Paper-2

January, 2009

Helwig grade passes test for high altitude Aerospace application

Situation:

A Federal Aviation Administration (FAA) certified repair facility needed to test and approve a new carbon grade brush to replace the OEM grade. Helwig Carbon was called on to find a replacement for the original OEM grade brush used in high-altitude Aerospace applications.

Application:

Starter Motor, Motor Specs: 5.7 HP, Operating Speed 5000 rpm, Current 500 amp, Volts: 16 VDC, Duty Cycle: 1 min ON, 4 mins OFF.
Operating temperature range: -65°F to 300°F.

Analysis:

Helwig engineers selected Grade K175 due to very high current density with low humidity at high altitude.

Life Tests:

Motors were tested by the customer under above test conditions with both K175 and OEM brushes.

Results:

- There was significant improvement on commutator wear with K175. The OEM brush grooved the commutator after only 8 hrs run time.
- Brush life with the Helwig grade K175 was about 4% longer compared to the OEM grade.

Additional benefits:

With K175 grade, improved commutator condition should result in better life due to lower wear rate on replacement brushes.

Note: Helwig Carbon has a comprehensive motor test lab including a Dynamometer, R&D Dept, Application and Design engineering group.

For more information contact us directly at 800-962-4851 or visit our website at: www.helwigcarbon.com.



-Nitin Kulkarni
Engineering Manager