

White Paper-4

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Significant Improvement with Optimum Brush Design

Situation:

A global atmospheric sciences company complained about short brush life on OEM Servo motor brush. Helwig Carbon was called on to find a replacement for the original brush that was dusting away rapidly within few hours. Environment around motor is dusty and hot most of the time.

Application:

Two motors are used to turn the Radar Antenna which is 15 feet in diameter. The motor turns continuously in clockwise direction. Servo Motor Specs: 4 pole motor, 19.5 v, 1.9 Amps, 3150 RPM

Analysis:

Helwig engineers analyzed the situation and found the root cause for brush wear. New brush was designed with Helwig grade H670 with a new spring.

Results:

- The OEM brushes lasted only 40 hours with commutator grooved more than 0.125". The carbon dust accumulated inside the motor end bell.
- Brush life with the Helwig grade H670 brushes was 428 hours.

Additional benefits:

With the H670 grade the commutator grooving was reduced significantly and the ideal medium dark film was achieved on the commutator. This motor will now have good replacement brush life as well.

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.



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