



CUSTOMER

A London Bus
Operating Company

SECTOR

Bus & Coach

SERVICE

Traction Motor
Overhaul and Rewind

TB08 Traction Motor and Gearbox

A London bus operator runs a fleet of TB08 hybrid diesel-electric buses, all fitted with traction motors featuring hermetic and oil cooling integrated gearboxes. With no repair and maintenance partner appointed, the operating company's only option for failed traction motors was to replace them with entirely new motors, sourced with a significant lead time and cost by the OEM from America. Therefore the operating company was seeking a competitive alternative with a shorter lead time to repair and life extend existing motors.

WHY HOUGHTON INTERNATIONAL?

- Experienced in delivering repair, maintenance and life extension services for traction motors, generators and other drive train components to reverse engineer components
- 120,000sq ft facility equipped with the latest technology including 3D scanning capabilities, VPI plant and bespoke testing facilities
- In-house coil manufacturing facilities and experience working with rare and complex windings
- Able to provide a commercially competitive offer with flexible lead time



THE SOLUTION

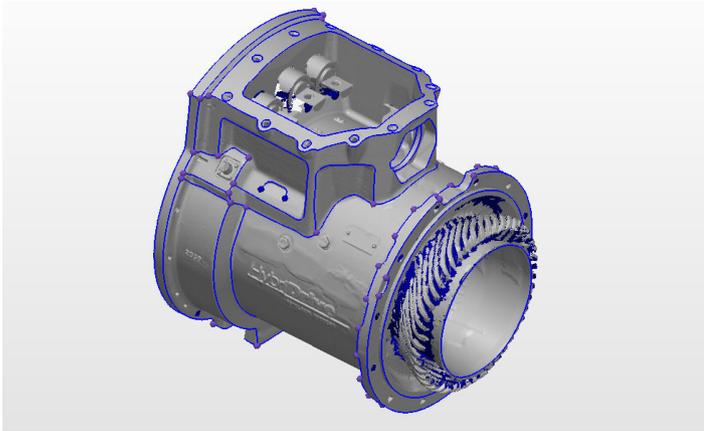
Building on Houghton International's extensive experience, a research and development project was carried out to develop a repair and overhaul specification. This process included a complete 3D scan of the motor to produce a comprehensive 3D CAD model. This was documented in detail to report back to the operating company and Transport for London to provide a detailed working specification for all future requirements.

Houghton International is experienced in repair, maintenance and overhaul of a wide range of electro mechanical assets, meaning the operating company had the added assurance of sending the motor and gearbox to one service provider to be overhauled together. Houghton International drew on prior knowledge and expertise to develop an overhaul procedure for the motor and gearbox with replacement parts reverse engineered where required.

After an initial inspection it was established that the motor required a rewind. Houghton International's engineering team is experienced in working with rare types of coil and bespoke winding procedures.

An unusual style of hollow copper, designed to run coolant through the windings, was used in the motor's coils. Specialist tooling was manufactured and the Houghton International purchasing team engaged with our extensive international supply chain in order to source and import the required copper. The coils were reverse engineered, designed and manufactured in-house, working closely with the winding team to ensure optimum coil fit and windability for a high quality rewind.

The units were tested in line with the operating company and TfL's requirements, including pressure testing to identify any potential coolant or oil leaks, to give the customer added peace of mind before the motor and gearbox unit was returned to service.



THE RESULT

The Houghton International team developed a bespoke repair and overhaul specification for the TB08 traction motor and gearbox. All steps of the process were documented to provide a detailed working specification for future work and reported back to the operating company.

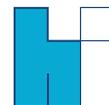
This provided the operator with a cost and time effective alternative to sourcing new motors when existing ones fail, significantly reducing lead-times and avoiding an overreliance on the OEM. All at a reduced cost compared to the price of new.

Houghton International is experienced in the delivery of both volume contracts and ad-hoc casualty repairs, able to mobilise quickly to carry out emergency repairs with quick turnaround times whilst following an established process to provide assurance of quality and consistency. Houghton International is now well equipped with the necessary data and specifications to meet the operating company's needs for ongoing support for electro mechanical assets on their fleet of hybrid buses.



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