

Multi-functional maintenance trains for the Elizabeth Line - update

AJK Rail's Andrew Keens details the latest progress on the new Robel equipment Plasser UK is supplying.

The last issue of *Rail Infrastructure* gave a detailed report on the engineering trains currently being built by Robel for inspection and maintenance tasks on the new Elizabeth Line scheduled to open in December 2018. To quickly recap, in August 2016, Plasser UK was awarded the contract by Crossrail to deliver two engineering trains to carry out a multitude of work tasks:

- Inspection, maintenance and renewal of the rigid overhead catenary system.
- Replacement of switches and crossings.
- Replacement of 20 metre rail lengths.
- Jetting and vacuum clearance of the drainage system.
- Platform glass screen cleaning.
- High level tunnel access for inspection and repair.
- General transportation of material, plant and workforce.
- Emergency recovery of other Crossrail vehicles.

Robel is acting as subcontractor to Plasser UK for the design and construction of the trains. To maximise fleet utilisation, Robel has developed a modular, multi-functional design solution consisting of four power cars of three types (A, B and E) and three transport wagons, accompanied by a number of modules.

Latest progress

Since the last update there has been significant progress with a number of key build milestones achieved in the design and construction of the power cars. Approval of the detailed design, known as 'design freeze', of the core vehicle fleet has been one key milestone achieved following the hard work of the Robel design team through the rigorous assurance process.

With regard to the actual construction, build on Power Car A, the traction supply unit with large loading platform, is now in pre-assembly phase and stands at 10% completion. Power Car B (No: 2) has also now commenced in to pre-assembly, and stands at 10% completion. Power Car B (No: 1), with the welfare module, has moved from



Power Car E - viewed from the front (above) showing the completion of painting, assembly of all major component including bogies, engine and transmission system and final assembly of hydraulic, electric and pneumatic systems. The crane installation at the rear (below).



Power Car A - the driver's cab welded and ready for painting (above left) and the pre-assembled engine room (above right).

New Equipment

Power Car A - the subframe complete with part assembly of hydraulic, electric and pneumatic systems, prior to strip down and painting.

pre-assembly and is now going through the painting phase. Production on this vehicle currently stands at 50% completion. Power Car E, which is fitted with a crane, has now progressed into final assembly and stands at 70% completion.

The next two months will see another major milestone with build completion of Power Car E and Power Car B (No: 1), allowing progression to the testing and commissioning phase. Power Car B (No: 2) and Power Car A will enter final assembly and the construction of the transport wagons will commence with the assembly of their parts.



Power Car B (No: 2) - the driver's cab after painting (above left) and the engine room and welfare module frame before painting (above right).



Power Car B (No: 2) - the subframe complete with part assembly of hydraulic, electric and pneumatic systems, prior to strip down and painting (above).



Power Car B (No: 1) - the painted subframe with the coupling installed and part installation of hydraulic, electric and pneumatic systems (above).



Power Car B (No: 1) - the painted cab and start of final assembly (above left) and welfare module painted and start of final assembly (above right).