Safe & Easy Access In A Height Restricted Working Environment

Semmco worked with Alstom and Arriva TrainCare to develop a double sided roof access and door access platform incorporating two off jib cranes.

The Challenge

Alstom maintains and services the Voyager Trains operated by CrossCountry, and to carry out this work they use maintenance facilities, some of which are owned by Arriva TrainCare. Alstom is currently carrying out maintenance work to replace doors and change the HVAC units. This is an ongoing maintenance requirement, and because of the complexities of the work, specific access, combined with lifting equipment needed to be installed in the Arriva Gateshead facility, so that doors and HVAC units could be replaced efficiently but, most importantly, safely.

Due to recent changes in legislation, Alstom are under time pressures with this type of work too because once doors are identified as defective i.e. a seal is broken, they have just six days to carry out a repair or replacement. Therefore, it was critical that any access or lifting equipment that was installed would enhance and support the work environment, enabling the maintenance engineers to carry out the work requirements easily and safely.

The project was made doubly difficult because of the age of the maintenance facility, its restricted height and curved roof. Alstom and Arriva worked together and appointed Semmco to design, manufacture and install a suitable solution.

Solving the Problem

The biggest challenge was designing a platform that worked in conjunction with the cranes and included enough head room so that the HVAC unit could be lifted out of the top of the train and a new one installed. All three parties, Alstom, Arriva and Semmco, worked together, exploring several scenarios until the perfect design was reached – a double sided roof and door access platform incorporating two Pelloby Cranes. Callum Dolman, Outstations Manager for Alstom explained "we had to change the design several times to reach the right solution and nothing was too much trouble for Semmco. Any issues or concerns raised were

acted on swiftly, with solutions provided that had been thought through meticulously. This approach and attention to detail sets Semmco apart from other manufacturers".

The design of the roof access platform incorporated gates (one fixed, one able to open) that created a 'boxing ring' or safe area for engineers to work while on the roof of the train. The entire system not only created a safe way of accessing all areas and therefore being able to carry out the work efficiently, but enabled the HVAC unit to be lifted from the train, with millimetres to spare!

The Benefits

"This type of maintenance work is usually carried out during the night shift and careful planning ensures we can achieve either a door or HVAC change on each shift. Obviously, the easier the work environment the easier it is to achieve this amount of work. The installation of these access platforms and lifting equipment has made the entire process so much easier and considerably more efficient" explained Callum Dolman.

Throughout the design and installation process, Callum and Andrew Harte, the Depot Manager with Arriva TrainCare, involved the engineers who are responsible for the work so that they could input their experience into the design and raise any questions or concerns along the way. This involvement was essential to ensure they adopted this new way of working and recognised the benefits it would bring. Additionally, because this type of maintenance work has been made more accessible it has created more work, increasing job opportunities and training requirements to upskill the engineers.

Callum Dolman was very impressed with the team from Semmco who managed the entire project - Andrew Walling, Senior Sales Manager for the Rail Division and Oliver Middleton from the Design Team. Once the new access system was successfully installed, Andrew Walling carried out training on how to safely use the platforms and cranes and a detailed operations manual was also supplied. "These little things make all the difference," said Callum, "and meant that the project went well from start to finish. We are extremely pleased with the system that has been fitted into a very restricted space. It enables us to carry out the maintenance work safely and efficiently within the time constraints and working environment we have."