

Hyde Park Substation, London

JB Rawcliffe & Sons Ltd has strengthened its knowledge & experience in technical handling of heavy equipment with the lifting of transformers in central London utilising strand jack technology.



With the transformer located 8m beneath a car park JB Rawcliffe & Sons Ltd were tasked with providing a solution to remove a transformer from its operation position and replace with it a new transformer.



With low permissible ground loadings due to the substation below and limited room at ground level JB Rawcliffe & Sons Ltd produced a solution proven with engineered calculations, 3D drawings, swept path analysis and finally and test rig. The solution involved the utilisation of JB Rawcliffe & Sons Ltd hydraulic lift system and stand jack technology were the two components were united to produce a unique jacking system with an unlimited lifting capability.



With the opening provided by the civil contractors, the hydraulic lift system was constructed around the opening with special bridging mats placed to support the system over the hatches on the key site strong points. Due to the time sensitive nature of the project JB Rawcliffe & Sons Ltd preassembled the strand jack frame to allow this to be lifted directly from the delivery vehicle and placed ready for operation to reduce rigging time on site.



The redundant transformer was lifted from its operating position 8m below ground level and loaded directly to transport in one simple and safe operation. The replacement transformer was placed to its operating position by the same safe and simple operation but in reverse.



Location: Hyde Park Substation, London
Project: Removal and reinstallation of transformers.
Dimensions: 40,000kg Transformer, 5.3m x 2.7m x 3.8m
27,000kg Transformer, 5.1m x 2.5m x 2.9m
Challenge: 8m below ground level, access restrictions, congested & restricted site, time sensitive, ground loading.
Equipment: Hydraulic lift system, stand jacks, bridging mats, modular axles, road plates.

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All the engineering, planning and sleepless nights were rewarded with a successful project which was completed safely within schedule.