

Crankshaft replacement and engine lifting, Mozambique

10 March 2016 by ALE

Overview

ALE has successfully replaced a 9MW gas engine's crankshaft at a power station near Ressano Garcia, Mozambique.

Services Required

ALE was required to execute the lifting of the engine block, removal of the crankshaft, installation of the new crankshaft, and finally the lowering down of the engine block.

The engine block, weighing 35t, was lifted using ALE's 4-point lifting system. Once the engine had been lifted, multiple sets of chain blocks were suspended from the top of the 4-point lifting system through the engine block and attached to the crankshaft. The crankshaft was then moved between the sets of chain blocks in increments until it cleared the engine block and could be lifted with a crane truck. ALE removed the old crankshaft, weighing 6t, and replaced it with a new crankshaft, also weighing 6t. The engine was lowered down four days after being lifted.

The client's crankshafts had never been removed using a 4-point lifting system in this manner previously, as it is challenging to remove the crankshaft if the engine is not skidded away from the sump.

During the project, ALE faced a challenging and relatively confined area. Care had to be taken so that the 4-point lifting system was set up correctly within the site constraints. Due to the site constraints, ALE's crane truck could not be positioned optimally, and as a result, some of the system's components had to be lifted in tandem using the crane truck in conjunction with an overhead travelling crane.

This was the first time ALE's South African branch had executed a crankshaft exchange. The client was extremely pleased with the performance and solution provided by ALE.