



ADVANTAGE TO RIO TINTO AS 50TH CUMMINS QSK60 DELIVERED

Representatives from Rio Tinto, Cummins and Komatsu at the Cummins Master Rebuild Centre in Perth to celebrate production of the 50th QSK60 Advantage Plus engine for Rio Tinto.

The project to supply Rio Tinto with more than 230 remanufactured Cummins QSK60 truck engines for its massive iron ore operations in Australia is well underway, with the 50th power module recently delivered to the mining giant.

Rio Tinto is upgrading its Komatsu 830E and 930E haul truck fleet in the Pilbara iron ore region in Western Australia with the latest technology QSK60 engines which are being supplied by the Cummins Master Rebuild Centre in Perth.

This is a project in which Rio Tinto, Cummins and Komatsu have truly partnered for the future. In fact, the support provided by Cummins and Komatsu is described as “exceptional” by Hugh Carlisle – Specialist Engines for Rio Tinto’s Asset Management & Engineering, HME Engineering team.

The Master Rebuild Centre (MRC) is a key element in the success of the project with its best practice manufacturing operations. The Perth MRC – one of two MRCs in Australia – has geared up with the employment of 23 additional technicians and trades assistant to meet Rio Tinto requirements.

The miner is replacing its earlier generation QSK60 truck engines which have HPI unit fuel injection, with the ‘Advantage Plus’ version of the QSK60 which features the high-pressure modular common rail fuel system (MCRS) – a key element of Rio Tinto’s technology road map for reduced operating and maintenance costs.

“The Advantage Plus engine, developed specifically for mining customers in Australia, features a number of upgrades to significantly reduce total cost of ownership plus deliver major environmental benefits,” says Steve Cummins, director of mining business for Cummins South Pacific.

Rio Tinto’s data shows an 11% fuel saving with the technology it has implemented through its work with Cummins and Komatsu – a saving that is far-reaching in terms of cost reduction (worth millions of dollars a year) and also greenhouse gas (GHG) emissions reduction.

“

... The package we’ve developed with Cummins and Komatsu ticks all the boxes for Rio Tinto...



The 50th remanufactured QSK60 Advantage Plus engine ready for delivery to minesite.

Not only that, diesel particulate emissions are slashed 63% with the Advantage Plus upgrades meaning less soot loading in the oil, less visible smoke and reduced particulate exposure.

The Advantage Plus QSK60 combines component technology from Cummins' Tier 2 and Tier 4 Final engines and has single-stage turbocharging with a world-first 2700 hp calibration for Rio Tinto. This rating was previously only available with dual-stage turbocharging on the QSK60 in the 930E. Rio Tinto now has standardisation across its 830E and 930E fleet, eliminating the dual-stage QSK60 in the 930E for simplified maintenance.

The Advantage Plus engine also has a full-length 378-litre oil pan which replaces a 261-litre sump and eliminates the need for a separate oil reserve system for 1000-hour extended service intervals. Cummins' Eliminator filtration system is a key element of the 1000-hour intervals for Rio Tinto.

"The package we've developed with Cummins and Komatsu ticks all the boxes for Rio Tinto in terms of our technology road map, lower life cycle costs, simplified product and improved maintainability and serviceability," says Hugh Carlisle.

Rio Tinto's iron ore production in the Pilbara hit 330 million tonnes in 2017. The miner also celebrated its 50th year of exports from the Pilbara in 2017, shipping its five billionth tonne of iron ore. ■