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Dynamic Load Test Based Data-Logger Turbo matching of B60J67 A58N70 and A58N75 Turbochargers for Tata 497 TCIC-BS III Engine - An Investigation

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Turbocharger, Trim, Compressor map, On road test, Choke surge

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Abstract

Turbocharger matching is a process of matching a turbocharger to the desired engine. Many methods were proposed to perform the best match but they failed at certain cases. Due to inherent character of centrifugal compressor less torque develops poor transient response compared to naturally aspired engine. The mismatch of turbocharger will lead to poor performance. This research adapts, on road test based data logger turbomatching. In this investigation the matching performances of different turbochargers with a TATA truck engine was analysed. Five different routes included were for testing the match performance,

the speed was varied at four levels from minimum to maximum, the load on the vehicle was varied at 6 levels from no load to full load. All the observations were superimposed on the respective compressor map and the match performance was analysed and the best match was suggested.

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