刷镀快速镍修复发动机曲轴的研究

Study on Repairing Crankshaft With High Speed Nickel Brush Plating

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中文摘要：

利用ＭＭ２００型磨损试验机研究了快速镍刷镀层的耐磨性，通过单因素试验和正交试验，揭示了工作电压和电极相对速度对镀层耐磨性影响的规律，得到最佳工艺规范参数。制定了曲轴的刷镀工艺，并应用它对Ｌ１９５柴油机的曲轴进行了刷镀修复，然后装机在水力测功机上进行各种工况的耐久性试验。结果表明：刷镀快速镍修复的曲轴，耐磨性和结合强度高，能够承受高速重负荷，刷镀修复曲轴技术上可行，经济上合算，为刷镀快速镍修复发动机曲轴提供了依据。

英文摘要：

The abradability of High Speed Nickel film was tested on MM200 wear test machine in this paper. Through single factor experiments and orthogonal experiments, the rules of effect of brush plating voltage and electrode relative velocity on film abradability were developed, the optimum parameters were obtained. The crankshaft brush plating procedure was formulated which was used for repairing a L195 diesel engine crankshaft. The durability of various operating mode was tested on a hydraulic dynamometer . The results showed that the abradability and unite strength of High Speed Nickel brushed crankshaft were improved, which can afford high speed heavy load. Repairing crankshaft with High Speed Nickel was reasonable in technique and economy, which provided basis for repairing crankshaft.

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