

## **ANALISIS DESAIN OVERLAPPING MEKANISME KATUP PADA PENINGKATAN PERFORMA SUZUKI KATANA SPESIFIKASI SPEED OFFROAD**

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### **ABSTRAK**

Speed Offroad adalah salah satu olahraga otomotif yang dilakukan di sirkuit gravel untuk menempuh kecepatan dalam putaran lap tertentu. Salah satu faktor yang harus dipenuhi untuk meningkatkan kemampuan mesin adalah modifikasi mekanisme katup. Tujuannya adalah untuk mencapai *horse power* dan *torque* yang maksimal. Penunjang lain yang dilakukan pada mesin yaitu *porting polish* lubang *intake* dan *exhaust* yang bertujuan untuk memperlancar *flow* bahan bakar dan udara yang masuk ke ruang bakar, papas *camshaft*, penggantian pegas katup, *porting polish manifold*, pemasangan *head*, pemasangan *manifold*. Pengecekan komponen lain pada mekanisme katup ada beberapa bagian yang sudah melampaui batas standart yaitu *rocker arm* perlu melakukan penggantian, *seal valve*, *gasket full*, *camshaft*. Setelah dilakukan *development overlapping* mekanisme katup, penggantian kampas kopling, *porting polish*, penggantian pengapian, suspensi dan tenaga mesin suzuki katana SJ410 ada peningkatan pada *torque* 44,7 Nm dan Power 22,8 Hp yang sebelumnya memiliki *torque* 41.1 Nm dan power 20,1 Hp.

Kata Kunci : *Overlapping Mekanisme Katup*, *Porting Polish* lubang *Intake* dan *Exhaust*, *Porting Polish Manifold*, papas *manifold*, papas *head*, papas *camshaft* speed offroad.

## **DESIGN ANALYSIS OF OVERLAPPING MECHANISM VALVE IN IMPROVEMENT OF SUZUKI KATANA SPECIFICATION SPEED OFFROAD**

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### **ABSTRACT**

Speed Offroad is one of the automotive sports that is done on the gravel circuit to take speed in laps of a certain lap. One of the factors that must be met to improve the machine's ability is the modification of the valve mechanism. The goal is to achieve maximum horse power and torque. Other support that is done on the machine that is breathing ported intake and exhaust holes that aims to facilitate the flow of fuel and air into the combustion chamber, breathing camshaft, valve spring replacement, breathing ported manifold, head breathing, manifold breathing. Checking other components on the valve mechanism there are some parts that have exceeded the standard limit of rocker arm needs to do the replacement, seal valve, full gasket, camshaft. After the development overlapping valve mechanism, replacement of clutch, ported, ignition, suspension and engine power Suzuki Katana SJ410 there is an increase in torque 44.7 Nm and Power 22.8 Hp which previously had torque 41.1 Nm and power 20,1 Hp.

Keywords : Overlapping Mechanism Valve, Ported Ported Intake and Exhaust hole, Ported Ported Manifold, breathing manifold, breathing Head, breathing camshaft Speed Offroad.