

**ANALYSIS OF THE EFFECT OF VARIATIONS IN PRIMARY PULLEY ANGLE  
AND SECONDARY PULLEY SPRING CONSTANT ON TORQUE AND  
POWER ON 150CC 4 STROKE MOTORCYCLES**

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**ABSTRACT**

*In developments in the automotive world, there are several problems and complaints that occur regarding the CVT system, one of which is less than optimal acceleration caused by the CVT chamber being dirty and there is also wear and tear on the CVT components, one of which is the primary pulley. There are several solutions to a worn primary pulley, one of which is modifying the angle of the primary pulley by a certain degree so that the vehicle's performance can return to its original state. This research aims to improve the performance of motorized vehicles with variations in primary pulley angles, 13.25°, 13.50° and 13.75° with the addition of CVT springs with constant values of 3,266 N/m, 4,900 N/m. The results of the research showed that the highest torque value was 13.51 N.m with variations in the pulley angle of 13.75° and the CVT spring had a constant value of 3,266 N/m, while with different CVT spring variations with a constant value of 4,900 N/m the torque result was 13.44 N.m. Then, in the power test, the highest value was obtained at 10.6 HP with a pulley angle variation of 13.75° and the CVT spring had a constant value of 3,266 N/m, while with different variations of the CVT spring with a constant value of 4,900 N/m, a power value of 11 HP was obtained. From these results it can be seen that the vehicle performance has a better value than the performance of vehicles with standard primary pulley angles and CVT springs. This is due to the characteristic pulley angle of 13.75° being more suitable for the use of the tested vehicle compared to standard primary pulley angles and CVT springs.*

**Keywords :** CVT, Torque, Power, Pulley