

BIKE MODIFICATION AND UPGRADATION-2

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Abstract: - The basic of this project was to customization of normal motorcycle into custom motorcycle. The purpose of our project was to determine the various concept of modelling and designing with full features of accessory components. We focused on customization as well as performance. We make custom motorcycle firstly we have found raw material for frame designing like white cast iron and grey cast iron. The most the parts are taken from the older bike and rest of the parts are designed and manufactured. The instrument we use is fully digital. The engine we use is oil-cooled carburetor engine and we are taking hub centered steering system instead of conventional fork steering system for better handling and having wide tyres of wheel for better gripping with roads, and the breaking system we installed advance anti-lock breaking system. Then we have done different type of customization regarding our project.

Keywords: - Modelling, Customization, designing, components and manufacturing.

1. INTRODUCTION

A motorcycle's relativity simple design and availability of replacement or accessory component make it easy, inexpensive and popular to modify with unknown safety consequence. Virtually every part of a motorcycle can be modified not even the engine component. Modification aimed at improving or changing the way of machine works including those directed at engine performance, comfort, handling, breaking etc. The vehicle which is modified as street-bike which is powered by 150cc oil-cooled DTSI engine. It is to be modified for dual purpose on-road and off-road sports bike. Some changes are made to personalized and customize the appearance such as fitting new tyres can change a motorcycle handling. Some changes (such as upgrading suspension, tyres, or break component) can be purely beneficial.

The modification favored by motorcycle change with technology some change such as major frame modification, can change the entire character of the motorcycle. About this project we stroke different ideas at different stages so we decided to build custom motorcycle by De-assembly, Designing, Assembly and Testing.

2. CUSTOM BIKE DESCRIPTION

2.1 Design and Style

TAB-HI, the performance nameplate provided with a new additional to its ever evolving custom family. Maintaining the flow with the current design language. The overall profile of the bike has been kept as unique design and style.

2.2 Instrument Console

A fully digital instrument console has been fitted to the new custom motorcycle. The display is good for a speedometer, tachometer, odometer and fuel gauge. Below the screen will see the turn indicator LED's, high beam indicator and neutral light.

2.3 Engine and Gearbox

TAB-HI user a 150 cc single cylinder, oil cooled engine. The engine was expected to have a medium performance with around 14.9 Bhp and 12.5 NM of torque whereas the actual figure reveal a different story.

The carburetor fed motor produces just 14.9 Bhp at 9000 rpm and 12.5 NM at 6500 rpm. The gear box is 5-Speed unit.

2.4 Brakes and Suspension

The TAB-HI wins the braking section with its dual channel ABS. The feature can save you anytime when the road are

bad and safety should not be compromised on the Indian road.

The front and rear brakes are petal disc brake (270mm for front and rear) whereas the tyre have been upgraded for a better grip.

2.5 Tyres

TAB-HI equipped with 185/65/R-14 tyre at front and rear both of them are Apollo tyre.

3. METHODOLOGY

3.1 DESIGN AND ENGINEERING RELATIONSHIP

We will nominally approach each problem from a every point of view during the time of design and our approach leads to empirically weighing the cause and effect of each design decision against the project's technical and economic design targets.



Figure 1. Custom Frame

3.2 RESEARCH AND CONCEPT DESIGN

As the normal procedure of developing a new motorcycle involves the same steps in other professional design disciplines: identifying a target, researching them to identify benchmarks and project targets, then propose the concept directions in a written form. Finally a satisfactory design is established on paper then full scale modeling begins to realize the design in tangible 3D form.

3.3 STYLE

We often used as an interchangeable term with "design", styling is in fact just one component of the design process. Typically, our styling is developed through sketches, renderings and illustrations then realized in 3D form. As the most subjective part of the design process, the members of the team give ideas suggested methods and finally the judgment to create an appropriate look.

3.3 PARALLEL DEVELOPMENT

Because of the need to reduce time and costs, the "styling" design model is usually developed in parallel with the engineering 3D design. While there is an increasing amount of digital design input in our design process and for analysis. We decided to use suitable 3D software packages SOLIDWORKS.

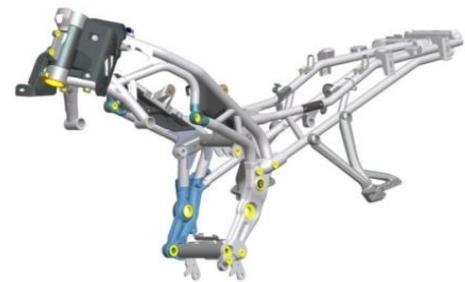


Figure 12. Frame Design

4. CONCLUSION

This project conclude that a custom motorcycle concept build is a complete one of the innovative and require countless hours poured into each build regardless of the style and base motorbike. We have found that it is important that each and every build that leaves the project works of assembly is a true old empire motorbike and this is why we took so much time considering each build and whether they are suitable to be part of this very special breed of motorbike.

5. RESULT

Due to the high importance of mechanical components or even exposed engines to motorcycle styling, the professional and specialists will collaborate on each project development. So we allowed the design to focus on the more intangible or subjective aspects of design, such as styling.

A new set of wheels: there are many styles out there—but in general most riders option for wider ones.

Hub center steering mechanism analyses as through as possible to build in a customize bike.

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BIOGRAPHIES



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