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UPCYCLED CENTER TABLE

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ABSTRACT

India being a developing country has over 200 million vehicles on the road, which averages to about 5-6 million vehicles being scrapped every year. Without proper facilities, the scrap just accumulates overtimes and causes more environmental damage. Sustainable development has become a key issue across the world for individuals as well as business, industries and governments. The focus of sustainable development has been on minimizing the energy consumption and optimizing the use of materials. To reuse automobile scrap parts as an alternative material for furniture design in interior spaces by considering the impact on environmental changes, demographic shifts, global capital disparities, and economic growth-oriented prototyping which are both wasteful and polluting. The objective of the present research focuses on upcycling automobile scrap and applying the same through broad spectrums of product essential applicable in Interior discipline. The outcome of the research shall propose to design a center table model for interior space by the technique of upcycling automobile parts.

KEYWORDS – Automobile, Centre table, Furniture design, Scrap, Upcycle

I. INTRODUCTION

Upcycling is a procedure through which products or materials that are demoded, antiquated, or scrapped, are instead repurposed, repaired, upgraded and remanufactured to enhance their core value. Post industrial revolution, the coherence of mass production gradually initiated, providing benefits of exchangeability, substitute ability and mentality to discard, altogether uplifting production in the direction of economies of scale. In result, A innovative type of consumption that swapped the traditional long-standing arrangement with a product by frequent replacement of products with new varieties and subsequent reduction in quality and consumer anticipations about product performance.

However, Over the last few years have had upcycling as a trend setter, reviving and determined by multiple factors to go ahead, such as growing concern of the exploitation of the environment in general and specifically for resource availability, management and waste capacities that has been growing rapidly. There is also rising environmental awareness about the firmness with which we need to discourse environmental challenges and escalate the appreciative understanding about governance mechanisms for sustainability, requiring assignation of different performers in the switch to a more resource-efficient society. Upcycling is considered as a strategy that aims to lower the environmental impact by combining globular material courses with slower quantity of products and materials and gentler cycles of consumption.

II. METHODOLOGICAL INTERVENTION

The methodology incorporated with reference to the topic is by understanding and analyzing various papers of both quantitative and qualitative study from journals on upcycling automobile scraps to repurpose as a design intervention.

2.1 VISUAL CHARACTERISTICS:

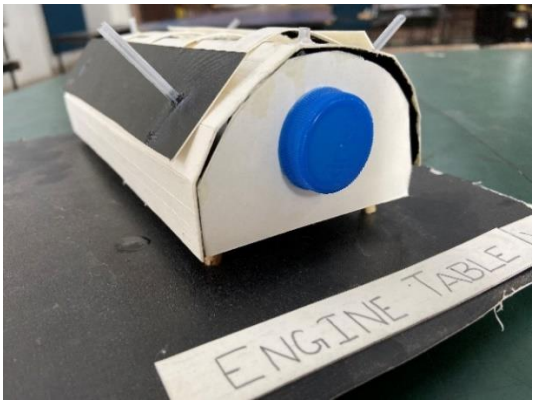
The rusting with exposure and weathering patterns on the metal creates a unique visual and tactile texture on custom built furniture, while in other instances there shall already be some form of art existing on the vehicle which is observed and becomes a piece of statement in the resulting design.

When the surface treatment on to the material is applied, one might never be able to decipher the source of these innovative recycled furniture pieces – predominantly tables and assume that they were the result of an intentional design process to create visual and aesthetical interest and providing variation on the surface uplifting treatments on the metal core body.

2.2 MATERIALS

Urban mining is a key conception for the ecological application of metals. However, the process of recycling or recuperating the metals from end-of-life (EoL) products has become all the time more complex due to the composite structure and configuration of contemporary serviceable products. Aluminium is used as primary material in automobile (Body parts) along with other metals and its alloys. The procedure of recycling of the above currently occurs in a tumbling fashion, where some alloys, used in a limited number of applications, absorb most of the end-of-life scrap.

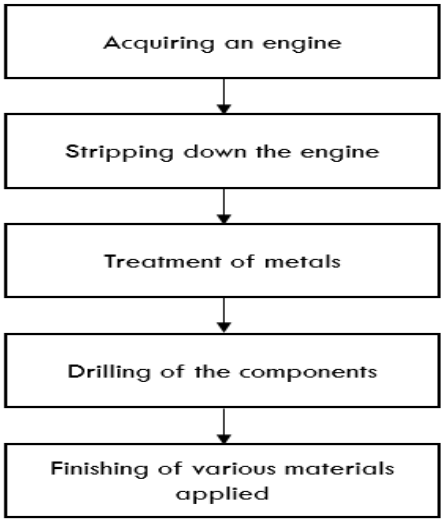
An estimated upsurge in scrap supply in upcoming decades' demands restructuring of the non-ferrous metal cycle to open up new-fangled recycling paths for alloys and escape a potential scrap surplus.



Prototype of engine table is as shown in the image

2.3 PROCESS OF UPCYCLING ENGINE TABLE

The process of up cycling an Engine table includes from acquiring an engine. The engine denoted on above image illustrates a V8 Engine. Secondly, stripping down the engine with retaining the parts essential such as Main block, 4 Pistons, Sprockets and chair. Thirdly, to clean the engine and treat the metal from any weathering - rusting, resistance to corrosion and providing durability for finish. The finish applied can be a Powder coating technique. Followed by protecting the metal, Drilling the piston and providing a clear glass countertop in order to practice as an engine table.



Process of upcycling engine table is as shown in the flow chart.

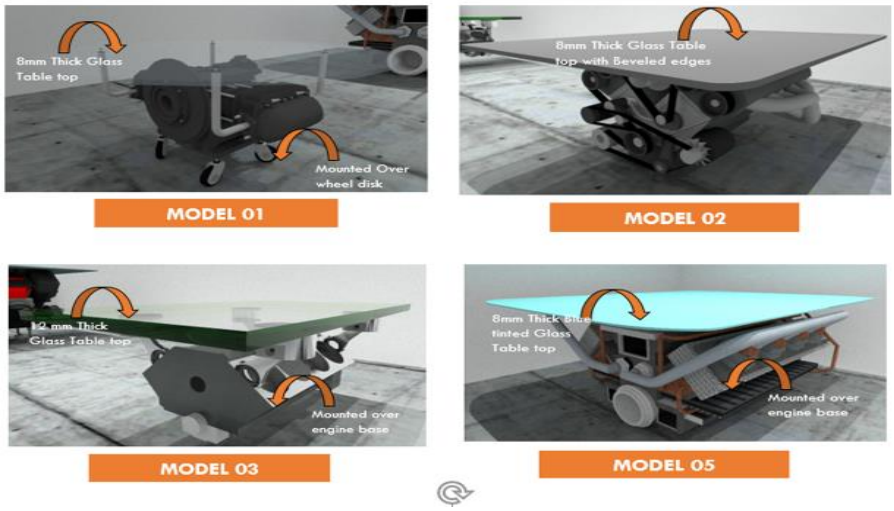
III. OBJECTIVES

The objectives of the present paper are to reuse automobile scrap parts as an alternative material for Centre table design with below mentioned considerations:

- ✓ To well design an Engine table with the functional and aesthetical inputs
- ✓ To provide creative and exquisite solution with no compromise on comfort
- ✓ To consider the durability of the table by providing surface treatments
- ✓ To design a product in a semantic order.

IV. PROJECT DETAILS

Below demonstrated Figure 4, supports the various ideations of an engine centre table with computation and permutations of various engine models, structural stability and counter top material explorations. The design ideation is as demonstrated as below.



Design Ideation

Proposed Design

The proposed design of Engine table built over a V10 Engine bored with narrow 10 cylinders mounted on a four corner clip base. The table top is made of 8mm Clear rectangular glass with flat edge polish on the surface with the present ergonomically way of design and providing ideal surface treatment on both metal and glass finish.

V. RESULT ANALYSIS

A premium center table made of acacia usually costs about Rs. 8,000/- and above range. Whereas a center table made of engine as base scrap comes about Rs. 5,000/- including the raw material charges, all the charges for the treatment and labor.

While a regular center table will take a week to manufacture, a table made from scrap automobile marts will take about the couple of weeks for all the work because it's a labor-intensive process and skilled labor (mechanical knowledge) is required.

VI. CONCLUSION

- The present study concludes that it gives structural stability to the Product.
- It deciphers the surface treatment incorporated on the product for aesthetical and durability.
- The table is designed with the Ergonomics behaviour of the human being.
- The table is a result of adaptive reuse of existing materials due to our environmental concerns.
- The table can be applied to various thematic interiors.

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