



## PUNCTURE PLUG

### TO REPAIR THE PUNCTURE OF TUBELESS TYRE'S

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**Abstract** —the main objective of the plug is to overcome the limitations of conventional puncture repairing system that is to repair the puncture at minimum cost as well as at minimum time in effective way. Hence by this paper you will come to know the easiest and effective way to repair the puncture of tubeless tyres at your own. This will help the society to use modern techniques, for better and safe future.

**Keywords**-Rubber plug; die; repairing tool; cost reduction; adhesive

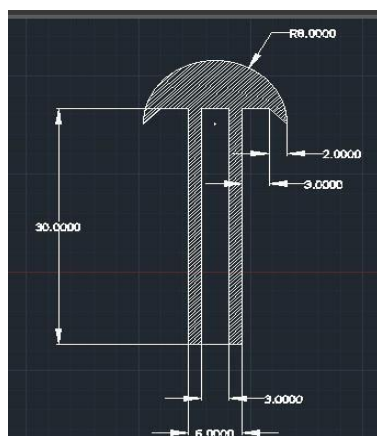
## I. INTRODUCTION

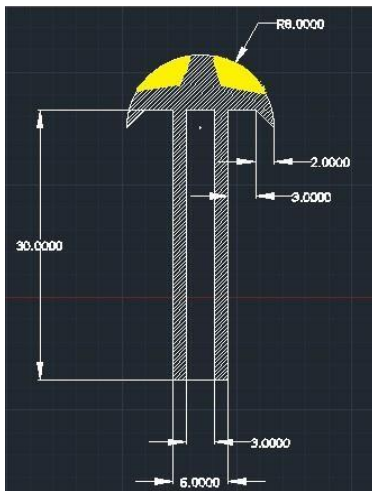
In present market of production, the tubeless tyres are brought in use in vehicles (i.e. cars, bikes etc.) because of its numerous advantages such as its more life, easy maintenance, no sudden leakage of air after the occurrence of puncture and saves the time. But if we go in the deep, we'll come to know though it has numerous advantages. But the main disadvantage is the cost of repairing puncture. To overcome this limitation we have tried to design a plug with a cheaper manufacturing cost in mass production. Which will take a minute of time to repair the puncture and save the precious time of our society. And the puncture can be repaired by the riders/drivers themselves.

## II. CONSTRUCTION

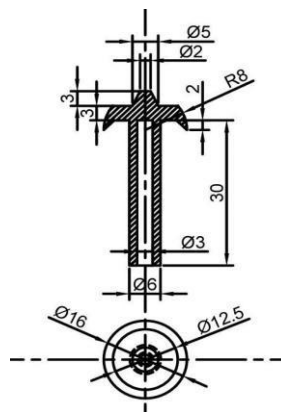
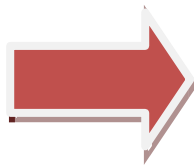
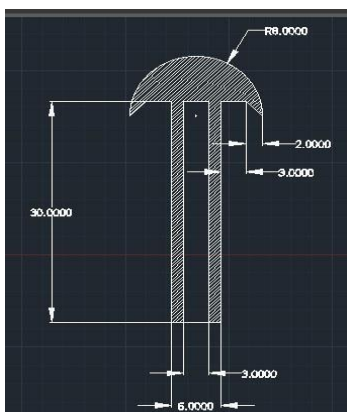
### IDEA GENERATION:-

1. A Rubber Plug which would get inserted in the puncture hole with the help of a specially designed tool.
2. While insertion the flanges would bend inward and will get opened inside the tyre.
3. While removal of tool the flanges would resist the plug thus plug would remain inside the tyre, due to the air pressure firm contact between the circumference of plug and tyre's internal surface airtight seal would be formed.



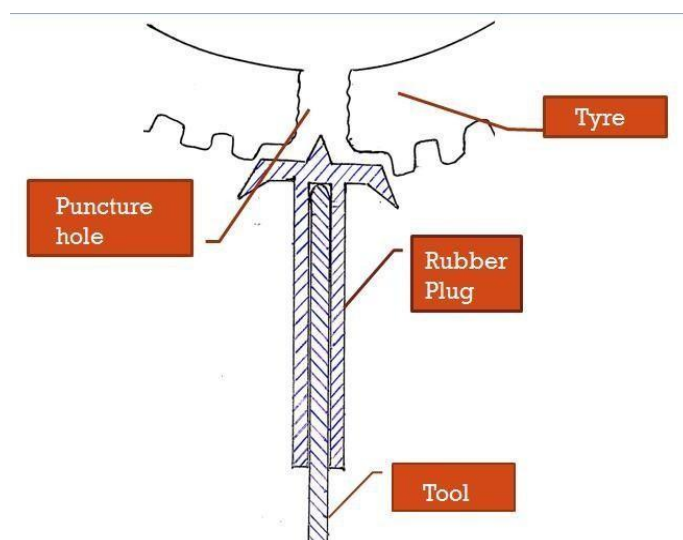


The (Highlighted area) under tension would be difficult to bend and thus may cause difficulty in insertion of plug.



### III. WORKING

1. By applying adhesive the plug would be inserted in the puncture hole with the help of specially designed insertion tool.
2. After insertion due to the pressure in the tyre the plug would be pushed in the outward direction which will fix the plug to the inner surface of the tyre.
3. Because of adhesive and flexibility of rubber an air tight seal will form resulting in repaired puncture.
4. Like this the puncture is repaired.



#### **IV.ADVANTAGES**

1. Easy to use
2. Low cost required
3. Simple in design and construction
4. No special skill is required for repairing puncture

#### **V. DISADVANTAGES**

1. Temporary repair

#### **VI. APPLICATIONS**

1. For repairing punctured tubeless tyre

#### **VII. CONCLUSION**

Thus to conclude, the plug can be used for repairing the puncture of the tubeless tyres with a very effective cost reduction and less time consumption. An individual can repair the puncture by themselves.

#### **VIII. REFERENCES**

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