



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

DEPARTMENT OF AUTOMOBILE ENGINEERING

COURSE NAME : 19AUE308 - SPECIAL VEHICLES

III YEAR /VI SEMESTER

Unit 1- Earth Moving Vehicles

Topic 4 : Back Hoe Loader



CONTENT



- ❖ Introduction
- ❖ Need for Back Hoe loader
- ❖ Components
- ❖ Construction & Working
- ❖ Advantages & Disadvantages
- ❖ Applications
- ❖ Manufacturing Companies



INTRODUCTION



- A backhoe loader combines a **loader and a tractor** into one piece of equipment.
- Each piece of equipment is suited to a particular sort of work.
- On a typical construction site, the backhoe operator usually uses all three components to get the job done.





NEED FOR BACKHOE LOADER



- Normally the front end loader is used for grabbing the loosen materials.
- But the front end loader has no potential to dig a hole or to demolish a particular object.
- So, for performing this kind of works the Back Hoe Loader is used.





COMPONENTS





CONSTRUCTION

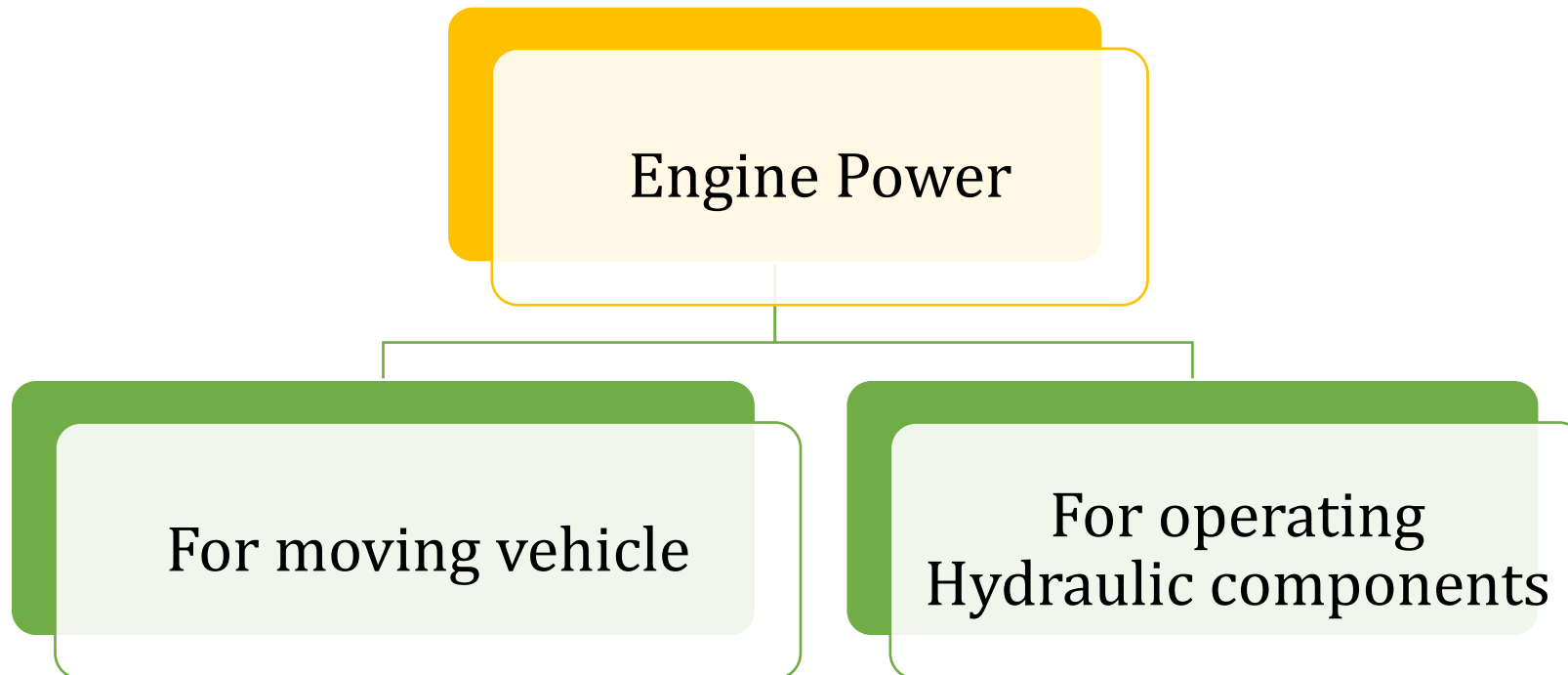


- The backhoe assembly comprises of the combination of Boom, Stick and Bucket.
- The Front end comprises of a bucket supported by the boom for loading purpose.
- The stabilizer leg is provided for maintaining the vehicle stability in different terrains.





WORKING





WORKING



- The engine power runs the hydraulic pump.
- The hydraulic pump forces the hydraulic fluid to the hydraulic cylinder.
- Through the movement of the hydraulic cylinder, the required job is done.
- The controlling of the hydraulic system is done by the use of valve control lever.





ADVANTAGES



- Multiple jobs can be done in single vehicle
- Reduces man power
- Less operating time
- More efficient work





DISADVANTAGES



- High Capital cost
- High operating cost
- Requires Skill driver





APPLICATION



- Digging holes
- Uproot a tree
- Carrying loads
- Demolitions





MANUFACTURING COMPANIES



- ❖ Volvo
- ❖ Caterpillar
- ❖ Mahindra
- ❖ JCB
- ❖ Komatsu



KOMATSU



1. Mention is the type of steering system used in Backhoe loader
2. Mention the applications of Backhoe loader.
3. what is the cost of Backhoe loader?

ASSESSMENT





REFERENCE



- ❖ https://en.wikipedia.org/wiki/Backhoe_loader#:~:text=A%20backhoe%20loader%2C%20also%20called,a%20backhoe%20on%20the%20back.
- ❖ <https://www.youtube.com/watch?v=pVj2NNkKRXI>



THANK YOU !!!