



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 : Bull Dozer



CONTENT



- Introduction
- Need for Bull Dozer
- Components
- Construction & Working
- Advantages & Disadvantages
- Applications
- Manufacturing Companies



INTRODUCTION



- A **bulldozer** is a crawler equipped with a blade at front to push large quantities of loosen materials.
- The ripper at rear to loosen densely compacted materials.
- It can be found on a wide range of sites, mines and quarries, military bases.





NEED FOR BULL DOZER



- Normally before the construction of road and building, land surface is to be levelled.
- With the help of man power, it takes more time.
- So in order to overcome this problem, bulldozer is used.
- It can move large amount of soil.

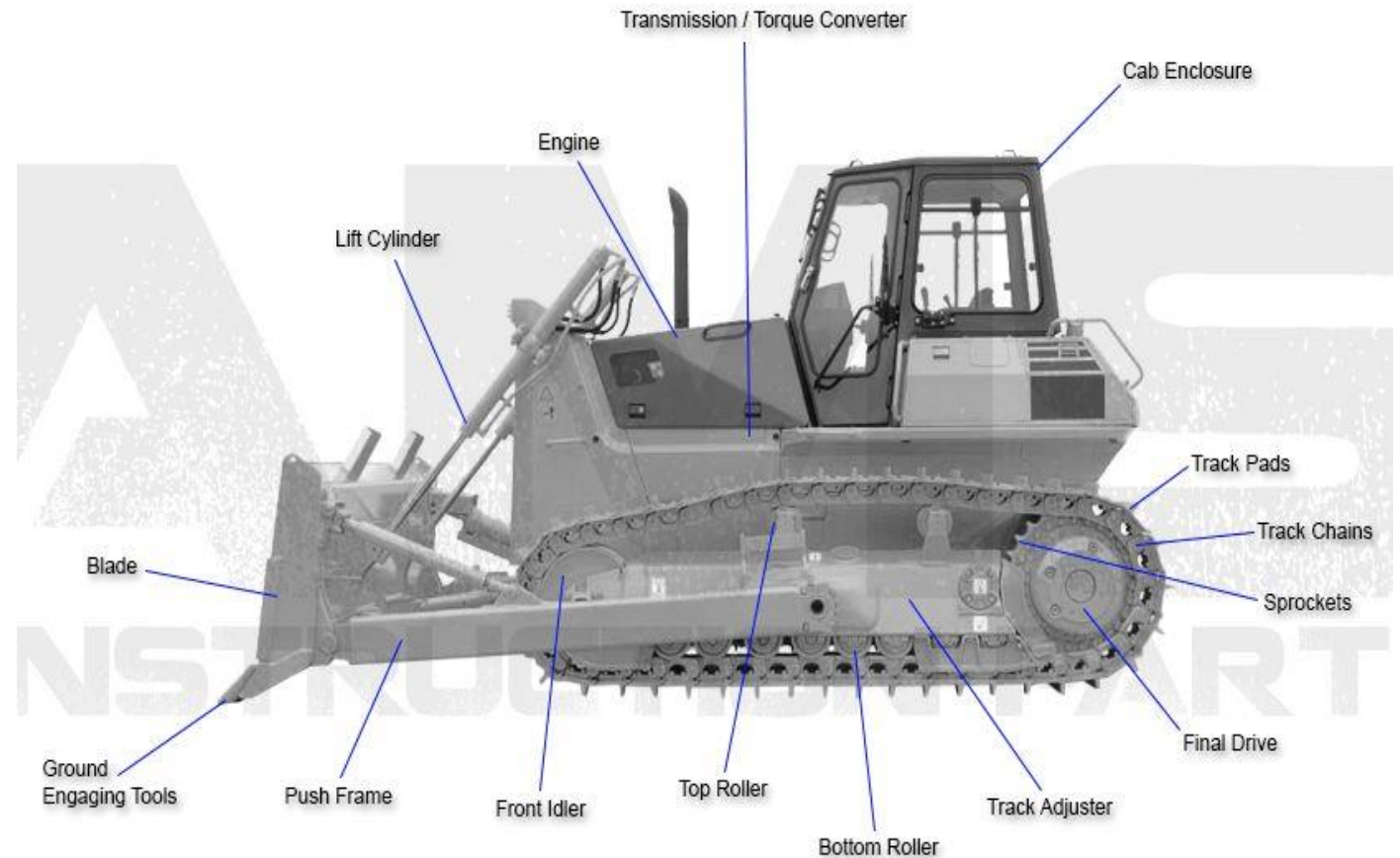




COMPONENTS



- Engine and Transmission unit
- Hydraulic unit
- Main control valve
- Front Loader
- Track assembly
- Driver cabin
- Cletrac Differential steering
- Hydraulic braking System
- Ripper





CONSTRUCTION

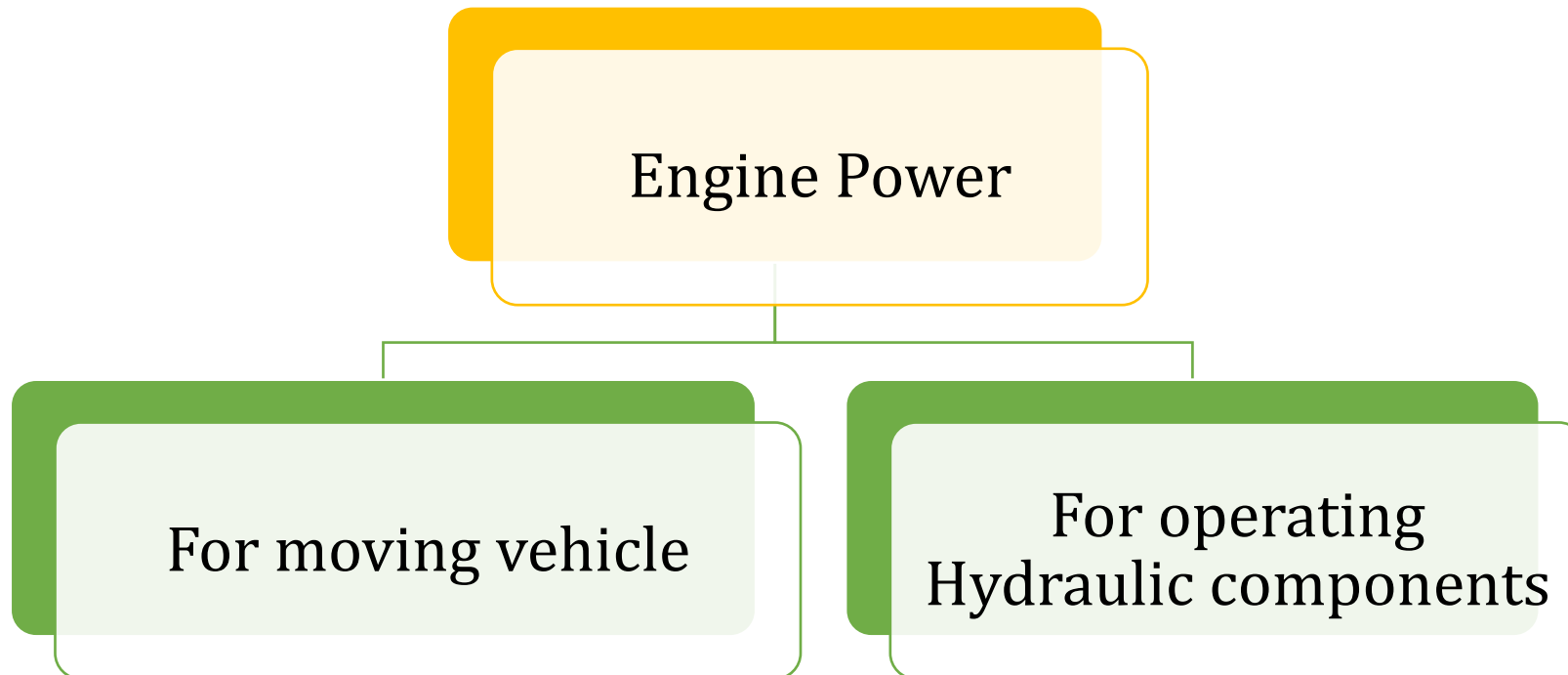


- The Front end comprises of a blade for pushing the loosen materials.
- The ripple is provided in rear to loosen the dense soil .
- The bulldozer is mostly equipped with tracks.





WORKING

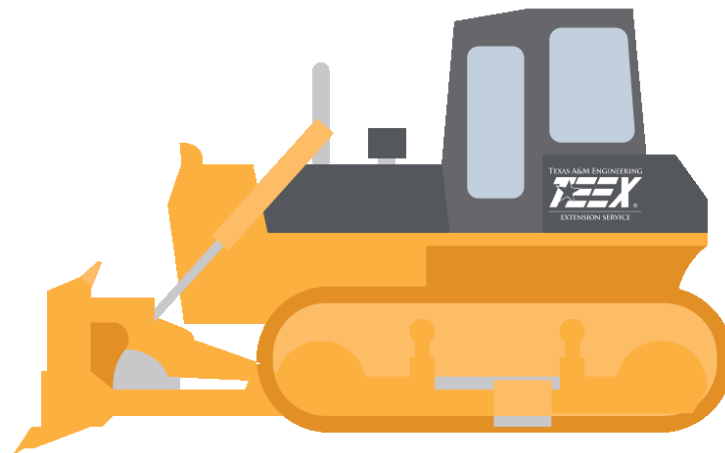




WORKING



- 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 Works can be done.
- Reduces man power
- Less operating time
- More efficient work than manual process.
- Easy to operate in tough terrains





DISADVANTAGES



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





APPLICATION



- Building of the roads
- Demolishing old unnecessary structures
- To move huge quantities of earth
- For construction purposes
- For clearing enemy's base
- For deforestation





MANUFACTURING COMPANIES



- ❖ Volvo
- ❖ Caterpillar
- ❖ Mahindra
- ❖ JCB
- ❖ Komatsu
- ❖ John Deere

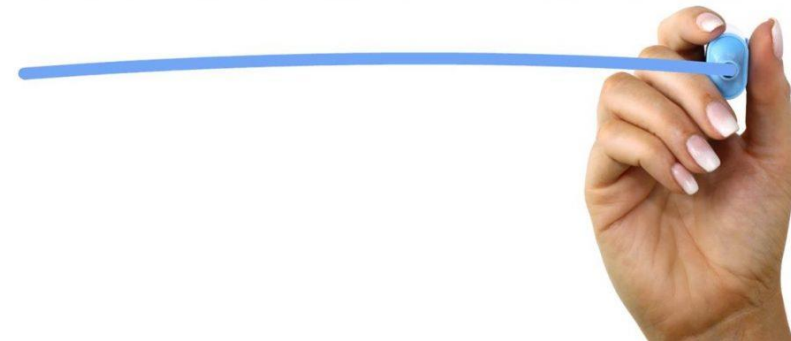


KOMATSU



1. Mention the type of steering system used in Bull Dozer.
2. What is the use of Ripper?
3. What is the cost of Bull Dozer?

ASSESSMENT





REFERENCE



- ❖ <https://en.wikipedia.org/wiki/Bulldozer>
- ❖ <https://www.youtube.com/watch?v=GrclClARGoU>



THANK YOU !!!