



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 9 : Dump Truck



CONTENT



- Introduction
- Need for Dump Truck
- Components
- Construction & Working
- Advantages & Disadvantages
- Applications
- Manufacturing Companies



INTRODUCTION



- A **dump truck** is used for transporting materials.
- A typical dump truck is equipped with an open-box bed, which is hinged at the rear and equipped with hydraulic rams to lift the front.
- Allowing the material in the bed to be deposited on the ground behind the truck at the site of delivery.





NEED FOR DUMP TRUCK



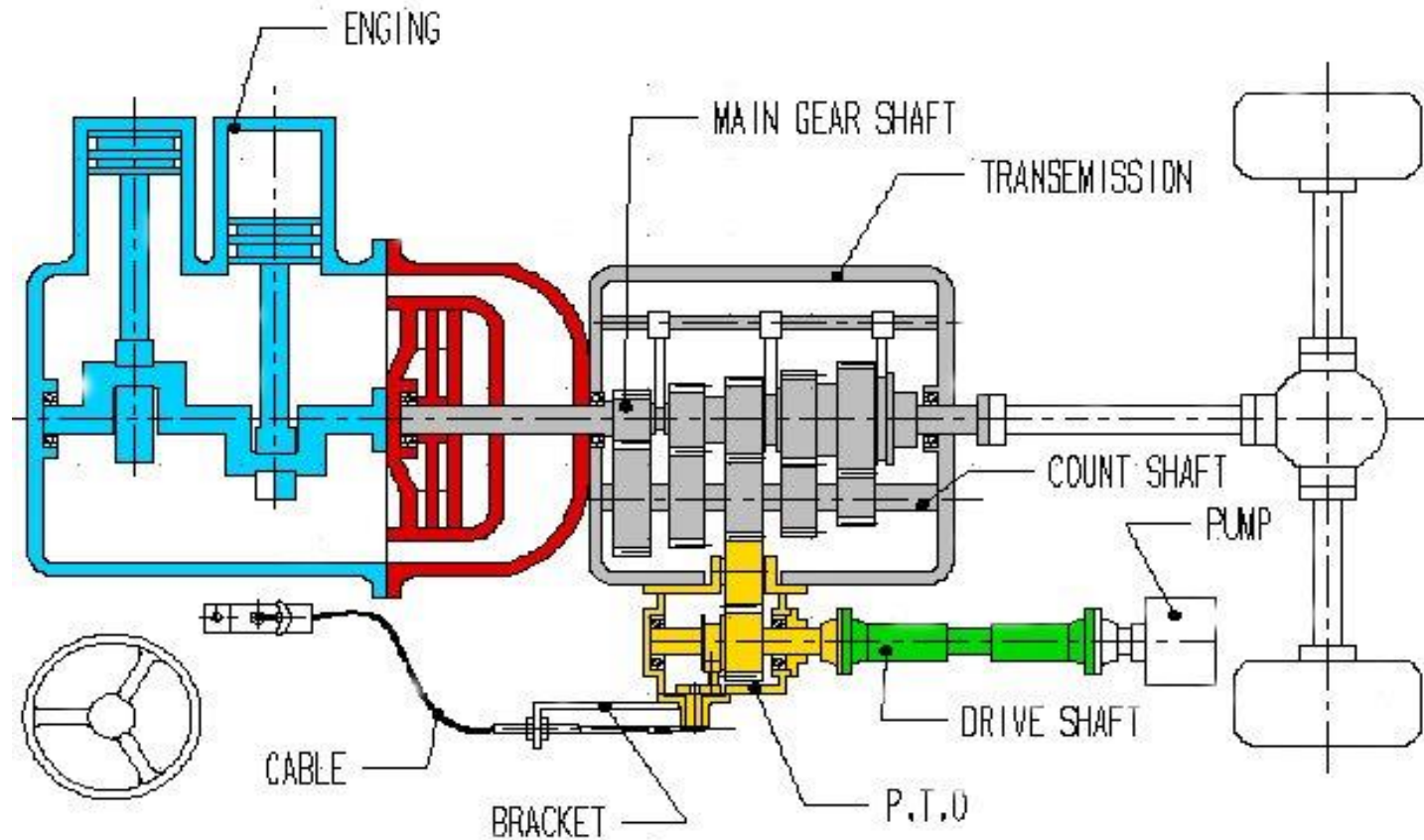
- Normally the loosen materials are deposited from the truck by means of man power
- It consumes lot of time and man power.
- By the use of Dump truck we can easily deposit the loosen material during delivery.





COMPONENTS

- Dump Box
- Lift Cylinder
- Hydraulic Pump
- PTO Gear Box
- Drive Shaft
- Control Valve





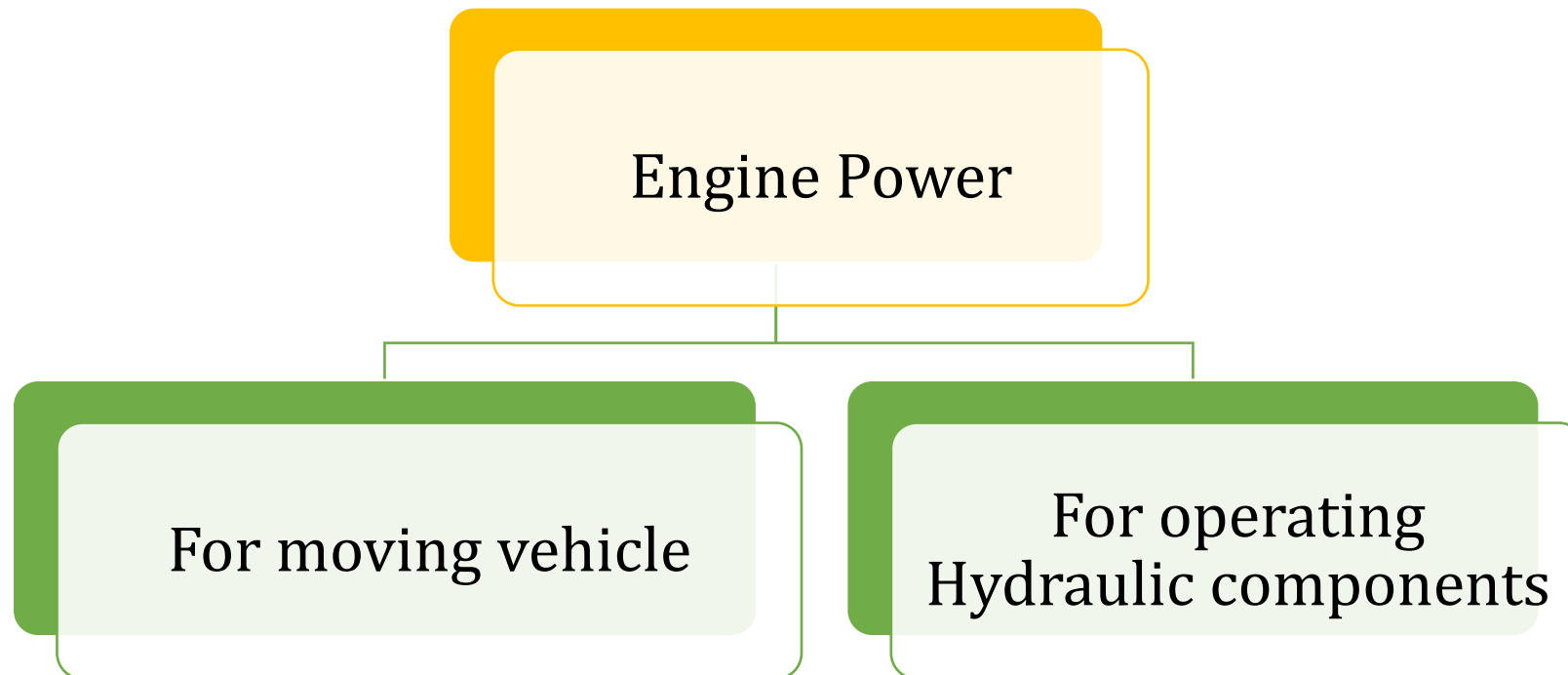
CONSTRUCTION



- The drive shaft is placed between the PTO and pump
- The Power Take Off [PTO] is fitted to the gearbox
- The driveshaft is connected between the pump and the PTO
- Then from the pump the tube is connected to the Hydraulic cylinder
- These Hydraulic Cylinder is fitted to the Dump box

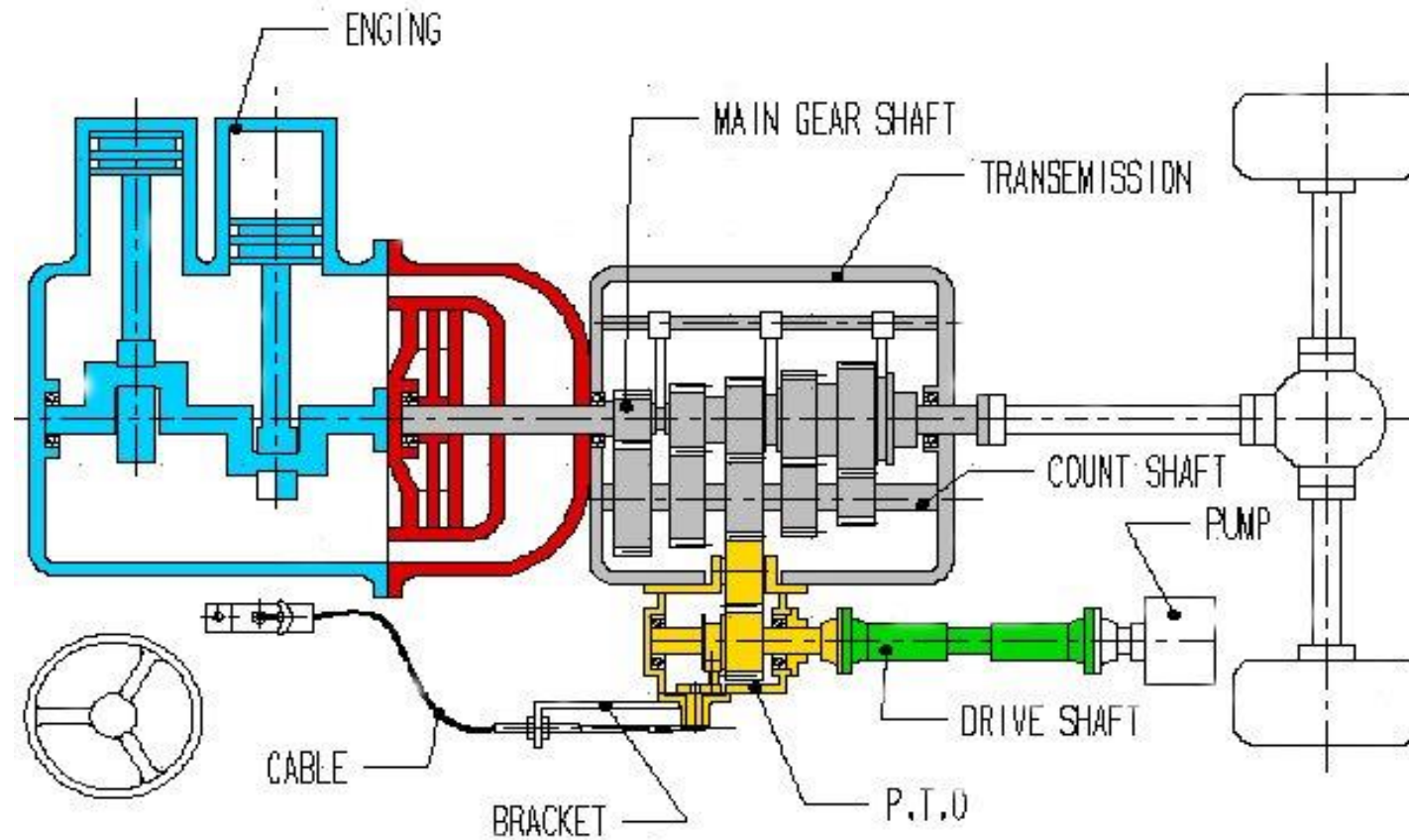


WORKING





WORKING





WORKING



- Start the engine and keep the transmission in the neutral condition.
- Then depress the clutch and engage the PTO
- Then move the lever to open the inlet valve to pass the pressurized fluid
- Now the body can be moved along with the frame
- Then release the pressure by releasing the lever after finishing the work



ADVANTAGES



- Reduces man power
- Less operating time
- More efficient work than manual process





DISADVANTAGES



- Stability Need to be maintained
- Requires Skill driver





APPLICATION



- Used for carrying and dumping the loosen materials in the ground





MANUFACTURING COMPANIES



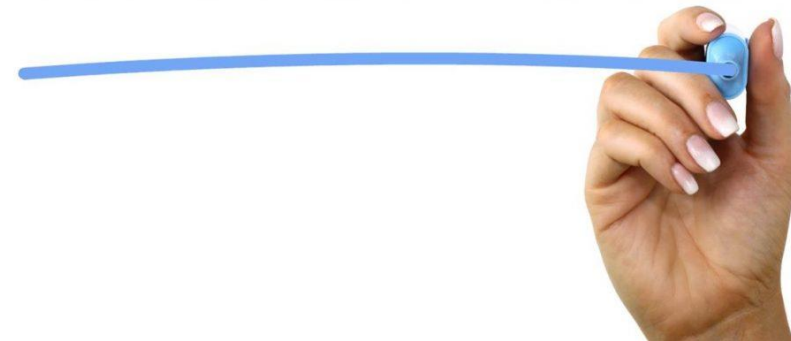
- ❖ Volvo
- ❖ Eicher
- ❖ TATA
- ❖ Mahindra
- ❖ Ashok Leyland





1. Mention the components of Dump Truck
2. What is the use of PTO?
3. What is the cost of Dump Truck?

ASSESSMENT





REFERENCE



- ❖ https://en.wikipedia.org/wiki/Dump_truck
- ❖ https://www.youtube.com/results?search_query=dump+truck+working+v
ideo



THANK YOU !!!