



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 8 : Skid Steer Loader



CONTENT



- Introduction
- Need for Skid Steer Loader
- Components
- Construction & Working
- Advantages & Disadvantages
- Applications
- Manufacturing Companies



INTRODUCTION



- A skid loader, skid-steer loader or skidsteer is a small, rigid-frame, engine-powered machine with lift arms that can attach to a wide variety of buckets and other labor-saving tools or attachments





NEED FOR FRONT END LOADER



- Normally the Front End Loaders and Backhoe Loaders used for carrying the loosen materials from one place to another.
- But the same cannot be used in all circumstances.
- By the use of Skid Steer loader we can grab the loosen materials even in the smaller areas where the normal loader vehicles cant be used.





COMPONENTS



- Engine and Hydrostatic Transmission unit
- Hydraulic Assembly
- Main control valve
- Front Bucket
- Loader Lift Arm
- ROPS
- Differential Steering system





CONSTRUCTION

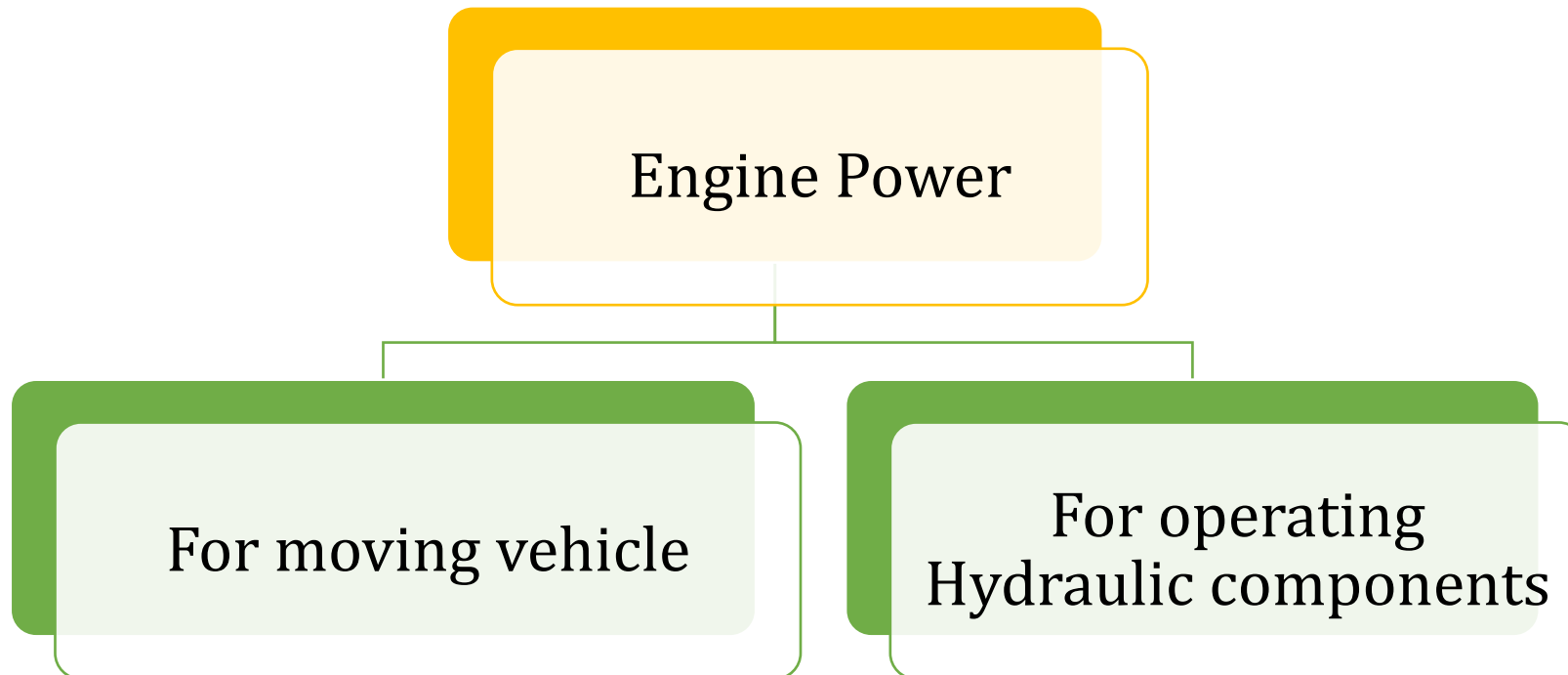


- Skid-steer loaders are typically four-wheeled or tracked vehicles with the front and back wheels on each side mechanically linked together to turn at the same speed.
- The left-side drive wheels can be driven independently of the right-side drive wheels.





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



- Reduces man power
- Less operating time
- More efficient work than manual process
- Easy to work in small areas





DISADVANTAGES



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





APPLICATION

- In construction areas loaders are also used to transport building materials.
- Transporting the loosen materials to the dump truck.
- Front loaders are commonly used to remove snow.
- Levelling the ground surface.





MANUFACTURING COMPANIES



- ❖ Bobcat
- ❖ Caterpillar
- ❖ Kubota
- ❖ JCB
- ❖ Komatsu

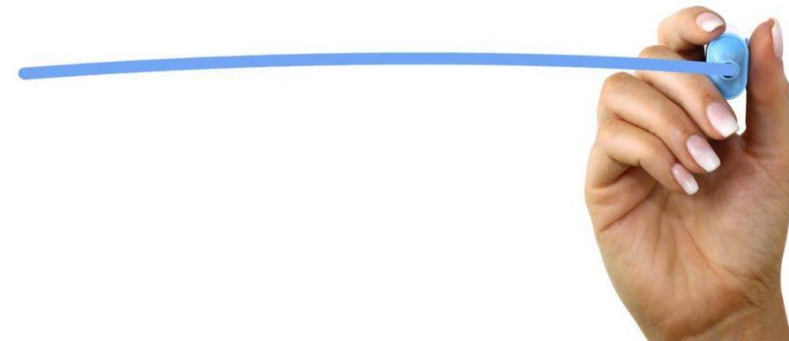


KOMATSU



1. Mention the type of steering system used in Skid Steer loader.
2. Where the engine is located in Skid Steer Loader?
3. What is the cost of Skid Steer loader?

ASSESSMENT





REFERENCE



- ❖ https://en.wikipedia.org/wiki/Skid-steer_loader
- ❖ <https://www.youtube.com/watch?v=a4X7-vGsYsA>



THANK YOU !!!