



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



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DEPARTMENT OF AUTOMOBILE ENGINEERING

COURSE NAME : 19AUB202 – AUTOMOTIVE SYSTEMS

II YEAR / III SEMESTER

Unit 3 – Transmission System

Topic : Multiaxles and Hotchkiss Drive



MULTIAXLE VEHICLE



- ❖ Multi-axle vehicles are vehicles that have more than one set of axles, typically on a common chassis, to distribute the weight of the vehicle and its load more evenly.
- ❖ This design is commonly used in various types of heavy-duty vehicles to increase load-carrying capacity, improve stability, and reduce wear and tear on the road surface.
- ❖ Multi-axle configurations can vary in terms of the number of axles and how they are arranged, depending on the vehicle's intended use



TANDEM AXLE



- ❖ A tandem axle configuration consists of two axles placed close together at the rear of the vehicle.
- ❖ This design is often used in trucks, trailers, and buses to increase the load-carrying capacity and distribute weight more evenly.
- ❖ Tandem axles can be found on both the truck and trailer or only on the trailer, depending on the specific vehicle setup.





TRI AXLE



- ❖ Tri-axle configurations consist of three axles in close succession, typically found on heavy-duty trucks and trailers.
- ❖ These additional axles help distribute the load and reduce the weight borne by each individual axle, reducing wear on the road and ensuring stability when carrying heavy loads.





QUAD AXLE



- ❖ In some applications, especially in construction and off-road vehicles, you may find quad-axle configurations, which include four axles in a closely spaced arrangement.
- ❖ These configurations are used to handle extremely heavy loads and navigate challenging terrain.





TAG AXLE



- ❖ A tag axle is an auxiliary axle, often found at the rear of a motorhome or large bus, that can be raised or lowered as needed.
- ❖ When lowered, it helps distribute the weight and improve stability, especially when carrying heavy loads or passengers.
- ❖ When not needed, it can be raised to reduce tire wear and improve fuel efficiency.





MULTI AXLE TRAILERS



- ❖ Trailers, such as semi-trailers used in the transportation of goods, can also have multiple axles.
- ❖ The most common designs include tandems, triples, and quad axles, depending on the local regulations and the weight the trailer is designed to carry.





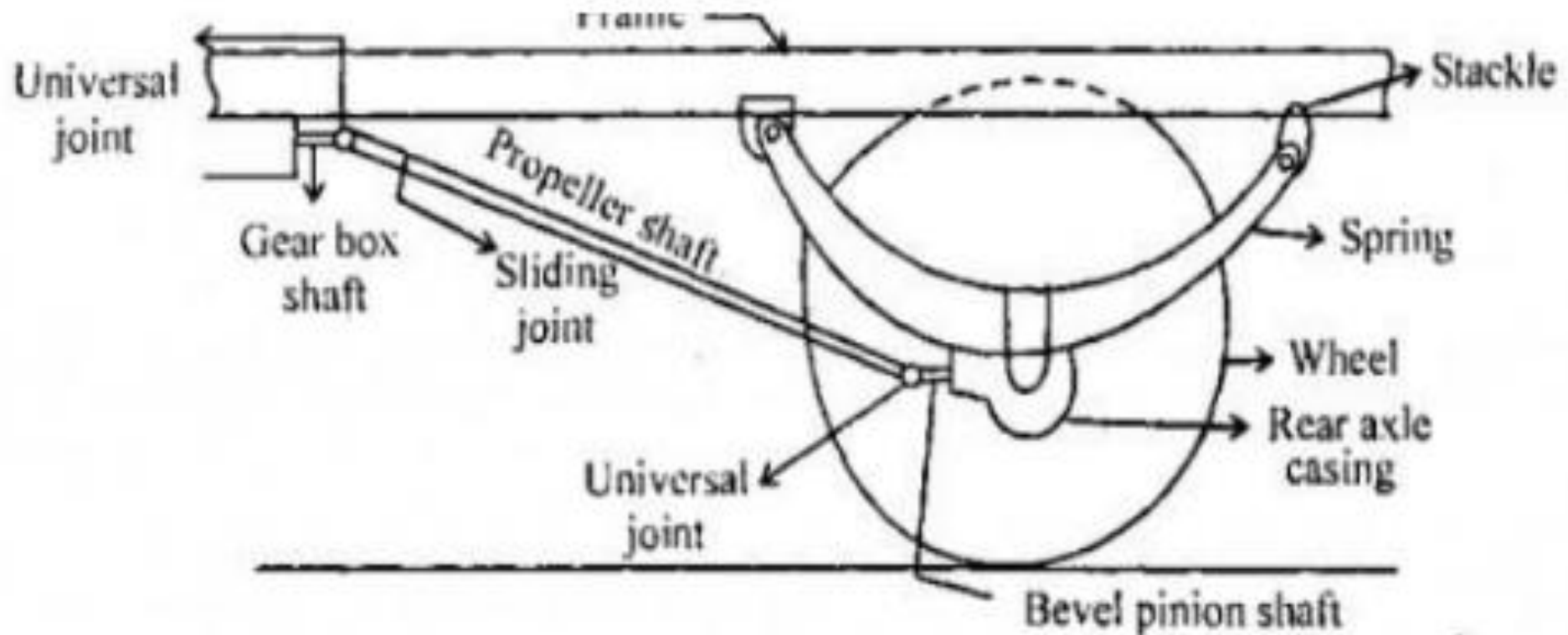
HOTCHKISS DRIVE



- The Hotchkiss drive, also known as a Hotchkiss suspension, is a type of rear suspension system used in many older vehicles, particularly those manufactured before the widespread adoption of independent rear suspension (IRS) systems.
- The Hotchkiss drive consists of a simple and robust system for connecting the rear axle to the vehicle's frame or chassis.



HOTCHKISS DRIVE





THANK YOU !!!