Light Commercial Vehicle Power Steering Market- Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028
By Mechanism (Electronic Power Steering (EPS), Hydraulic Power Steering (HPS) and Electro-Hydraulic Power Steering), By Component (Hydraulic Pump, Sensors, Electric Motor and Others), By Region, Competition

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Report description:

Global Light Commercial Vehicle Power Steering Market has valued at USD 4 billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 6.8% through 2028. The light commercial vehicle (LCV) power steering market is a critical component of the automotive industry, ensuring safe and efficient operation of small to mid-sized commercial vehicles such as vans, pickup trucks, and delivery vehicles. Power steering systems in LCVs have evolved significantly over the years, with several key factors driving market dynamics: As environmental concerns and fuel efficiency regulations grow, LCV manufacturers increasingly turn to electric power steering (EPS) systems. EPS systems are more energy-efficient compared to traditional hydraulic systems, reducing fuel consumption and emissions, which is a crucial consideration for modern LCVs. LCVs are often equipped with advanced driver assistance systems (ADAS) for enhanced safety. Power steering plays a pivotal role in enabling ADAS functionalities such as lane-keeping assist and adaptive cruise control. The integration of these safety features drives the demand for precise and responsive power steering systems.

Key Market Drivers

Growth in E-Commerce and Last-Mile Delivery

One of the most compelling market drivers propelling the LCV power steering market forward is the explosive growth of e-commerce and the subsequent surge in last-mile delivery services. With consumers increasingly turning to online shopping, the demand for swift and efficient delivery of goods has never been higher. Consequently, there has been a considerable increase in the number of LCVs employed for last-mile deliveries. These vehicles, often tasked with navigating through congested urban areas

and tight spaces, require power steering systems to enhance driver control and maneuverability. Power steering reduces the physical effort needed to steer, making it indispensable for drivers involved in the last-mile delivery process. As the e-commerce sector continues its upward trajectory, the LCV power steering market is poised for continuous growth to meet the ever-expanding demands of this industry.

Urbanization and Congestion

Global urbanization trends have led to the expansion of cities and metropolitan areas, which, in turn, have given rise to increased traffic congestion. In these densely populated urban environments, LCVs play a pivotal role in facilitating the movement of goods and services. Power steering systems are integral to their performance, as they significantly diminish the physical exertion required for steering, enabling drivers to navigate through congested streets and confined parking spaces with ease. The seamless maneuverability provided by power steering is not only advantageous but often essential for urban deliveries and transport. As urbanization continues to advance, further exacerbating traffic congestion, the demand for LCVs equipped with advanced power steering systems will remain strong.

Safety Regulations and Driver Assistance Systems

Stringent safety regulations and the ever-increasing emphasis on vehicle safety are among the driving forces shaping the LCV power steering market. Vehicle manufacturers are compelled to equip LCVs with advanced safety features to meet these regulations and enhance overall safety. Power steering systems play a pivotal role in this regard by providing precise control and stability, especially when driving in challenging conditions or handling heavy loads. Moreover, power steering serves as a foundational technology for the integration of driver assistance systems (ADAS), such as lane-keeping assist and adaptive cruise control. These ADAS features rely on the precision and responsiveness of power steering to enhance safety and convenience for drivers. Consequently, the demand for LCVs equipped with advanced power steering systems is rising in tandem with the growing emphasis on safety regulations and the integration of ADAS technologies.

Diverse Applications Across Industries

The versatility of LCVs makes them indispensable in various industries, including construction, agriculture, logistics, and passenger transport. LCVs are used for diverse purposes, ranging from hauling heavy equipment to transporting perishable goods. Power steering systems are a common denominator in these applications, as they enhance vehicle control and operator comfort, irrespective of the task at hand. Whether it's a construction worker maneuvering a pickup truck on a rugged job site or a courier navigating through a bustling city, power steering plays a pivotal role in ensuring efficient and precise vehicle operation. As industries continue to rely on LCVs for their diverse applications, the LCV power steering market remains robust, driven by the adaptability and reliability of these systems across various sectors.

Technological Advancements in Power Steering

The ongoing technological advancements in power steering systems are a significant driver of the LCV power steering market's evolution. Power steering technology has come a long way from the traditional hydraulic systems to the more advanced electric power steering (EPS) systems. EPS systems have gained prominence due to their efficiency, adaptability, and compatibility with modern vehicles. Unlike hydraulic systems, EPS systems use electric motors to assist in steering, providing better fuel efficiency and responsiveness. As the automotive industry continues to focus on reducing emissions and improving fuel economy, the adoption of EPS systems in LCVs is on the rise. Additionally, the development of steer-by-wire technology, which eliminates the physical connection between the steering wheel and the wheels, is opening up new avenues for innovation in power steering. These advancements not only improve the performance of LCVs but also enhance their overall reliability and durability, driving further demand for such systems in the market.

Demand for Customization and Comfort

Modern consumers and businesses place a premium on comfort, convenience, and customization when selecting LCVs for their specific needs. Power steering systems are central to delivering a comfortable and effortless driving experience. Drivers and operators appreciate the reduced physical strain and effort required to maneuver an LCV equipped with power steering, especially during long hours of operation. Additionally, customization options, such as variable steering assist settings, allow users to tailor the driving experience to their preferences. This demand for personalized, comfortable, and user-friendly LCVs has driven manufacturers to invest in power steering solutions that not only meet regulatory requirements but also enhance the overall driving experience. As consumers and businesses continue to seek customized LCVs that meet their specific operational needs,

the market for power steering systems will expand to accommodate these demands.

Key Market Challenges

Cost Constraints and Pricing Pressures

One of the most persistent challenges in the LCV power steering market is the pressure to manage costs effectively while delivering high-quality systems. LCVs are often selected for their cost-effectiveness and efficiency, and as a result, price sensitivity is a critical factor for both vehicle manufacturers and buyers. Power steering systems, particularly advanced electric power steering (EPS) solutions, can be costly to develop, manufacture, and integrate into vehicles. This cost challenge stems from the need for precision engineering, advanced materials, and sophisticated control electronics. LCV manufacturers must strike a delicate balance between providing reliable, feature-rich power steering systems and maintaining competitive pricing. Pricing pressures are compounded by market competition, as manufacturers vie for market share and strive to deliver value to customers. Additionally, the complexity of power steering systems, including the integration of electronic components and sensors, contributes to manufacturing costs.

Reliability and Durability

Reliability and durability are paramount concerns in the LCV power steering market due to the critical role these systems play in vehicle safety and performance. LCVs are often subjected to demanding and diverse operating conditions, including rough terrains, heavy loads, and prolonged use, which can strain power steering components over time. Failure of power steering systems can result in safety hazards, operational disruptions, and costly repairs. Thus, ensuring the long-term reliability and durability of power steering systems is a continuous challenge. Manufacturers must invest in robust engineering, rigorous testing, and quality assurance processes to address this concern effectively. Furthermore, LCV operators often rely on their vehicles for business operations, making downtime due to power steering issues costly and inconvenient. As a result, the challenge of enhancing the reliability and durability of power steering systems persists, pushing manufacturers to develop components that can withstand rigorous use and provide uninterrupted service throughout the vehicle's lifespan.

Technological Complexity and Maintenance Requirements

The evolving technology landscape in the automotive industry has led to increased complexity in power steering systems. Modern power steering systems, including electric power steering (EPS) and steer-by-wire technology, involve intricate electronic components, sensors, and software controls. While these innovations offer enhanced performance and features, they also introduce complexity that can lead to maintenance challenges. Technological complexity can result in more intricate diagnostics and repair processes, which may require specialized training and tools. Maintenance and repair personnel need to stay updated with the latest advancements in power steering technology, posing a challenge for manufacturers and service providers. Moreover, the dependence on electronic components in power steering systems increases the risk of system failures due to software glitches or sensor malfunctions. This necessitates robust monitoring and diagnostic capabilities to detect and address issues promptly, minimizing vehicle downtime and ensuring safety.

Environmental Regulations and Efficiency Demands

Environmental regulations and the demand for improved fuel efficiency have a substantial impact on the LCV power steering market. Government mandates and industry initiatives push vehicle manufacturers to reduce emissions and enhance fuel economy. In response, manufacturers seek to optimize power steering systems to contribute to these goals. Electric power steering (EPS) systems are inherently more efficient than hydraulic systems, as they only consume power when needed, leading to fuel savings. However, the challenge lies in making these systems more efficient without compromising performance and responsiveness. Manufacturers must continually invest in research and development to develop power steering systems that strike the right balance between energy efficiency and precise control. This includes optimizing control algorithms, minimizing power losses, and developing lightweight components to reduce the overall weight of the vehicle. Navigating the evolving landscape of environmental regulations and efficiency demands while meeting customer expectations for performance and comfort presents a complex and ongoing challenge for the LCV power steering market.

Market Competition and Innovation

The LCV power steering market is highly competitive, with numerous manufacturers vying for market share. Competition drives innovation and forces companies to continually improve their products and services to stay relevant. While innovation is a positive force, it also presents challenges. Manufacturers must not only innovate to meet market demands but also protect their

intellectual property and maintain the integrity of their products. The challenge lies in striking the right balance between openness to innovation and safeguarding proprietary technology. Furthermore, the rapid pace of technological change and the introduction of new features and functionalities in power steering systems require manufacturers to adapt quickly. Staying ahead of competitors and meeting evolving customer expectations is an ongoing challenge, necessitating substantial investments in research and development.

Key Market Trends

Transition to Electric Power Steering (EPS)

One of the most significant trends in the LCV power steering market is the transition from traditional hydraulic power steering systems to more advanced electric power steering (EPS) systems. EPS has gained prominence due to its efficiency, adaptability, and compatibility with modern vehicle architectures. Unlike hydraulic systems that rely on a hydraulic pump driven by the engine, EPS uses electric motors to provide power assistance to the steering mechanism. This results in better fuel efficiency, as the electric motor only consumes power when steering assistance is required, unlike hydraulic pumps that continuously draw power from the engine. Moreover, EPS offers enhanced precision and control, making it ideal for various driving conditions, including urban navigation, highway cruising, and off-road maneuvering. This trend is further fueled by environmental considerations, as automakers and customers increasingly prioritize vehicles with reduced emissions and improved fuel economy. As a result, many LCV manufacturers are adopting EPS technology to meet these demands, making it a dominant trend in the market.

Integration of Advanced Driver Assistance Systems (ADAS)

The integration of advanced driver assistance systems (ADAS) is another noteworthy trend in the LCV power steering market. ADAS features such as lane-keeping assist, adaptive cruise control, and automatic emergency braking rely heavily on the precision and responsiveness of power steering systems. These systems enhance vehicle safety by assisting drivers in various ways, including maintaining lane discipline, managing vehicle speed, and avoiding collisions. As safety regulations become more stringent worldwide and consumers increasingly demand safer vehicles, LCV manufacturers are incorporating ADAS technologies into their vehicles. This integration necessitates power steering systems that can seamlessly interface with these advanced features. The trend is pushing manufacturers to develop power steering solutions with enhanced electronic control units (ECUs) and software algorithms that can support ADAS functionalities effectively. The synergy between power steering and ADAS technologies is poised to make LCVs safer and more appealing to buyers.

Electrification of LCVs

The ongoing shift towards vehicle electrification, including electric vans and hybrid LCVs, is a trend that significantly impacts the LCV power steering market. Electric and hybrid LCVs often require electric power steering systems, as they align with the overarching goal of reducing emissions and improving energy efficiency. Electric power steering is inherently more efficient in terms of power consumption compared to hydraulic systems, making it a suitable choice for electric and hybrid vehicles. Additionally, the integration of electric power steering aligns with the overall design philosophy of electric vehicles (EVs), which emphasizes energy efficiency and the reduction of mechanical components. As automakers invest in electrified LCVs to meet emissions standards and customer preferences, the demand for electric power steering solutions is expected to rise. This trend presents an opportunity for power steering manufacturers to cater to the specific needs of electrified LCVs and contribute to the broader electrification movement.

Steer-by-Wire Technology

Steer-by-wire technology is an emerging trend poised to revolutionize the LCV power steering market. This technology eliminates the mechanical connection between the steering wheel and the wheels, replacing it with electronic controls. Steer-by-wire systems rely on sensors and actuators to translate the driver's input into steering movements, offering greater design flexibility and potential for innovation. The adoption of steer-by-wire technology is driven by several factors. Firstly, it reduces the physical footprint of the steering system, creating more space in the cabin and enhancing vehicle design options. Secondly, it enables advanced features such as automated parking and customizable steering feel, allowing drivers to tailor their driving experience. Finally, steer-by-wire systems have the potential to enhance safety by offering redundancy in steering control, which is critical for autonomous vehicles and in the event of component failures. As this trend gains momentum, manufacturers are exploring the development of steer-by-wire systems tailored to the specific needs of LCVs. However, it also presents challenges in terms of safety, reliability, and regulatory approval, as such systems must meet stringent standards to ensure driver and passenger safety.

Enhanced Comfort and Customization

In response to evolving consumer expectations, there is a growing trend in the LCV power steering market towards providing enhanced comfort and customization options. Modern consumers and businesses demand vehicles that offer a comfortable and effortless driving experience, especially for drivers who spend extended periods on the road. Power steering systems play a pivotal role in delivering this experience by reducing the physical effort required to steer the vehicle, especially when handling heavy loads or maneuvering in tight spaces. Manufacturers are responding to this trend by offering power steering systems with customizable settings, allowing drivers to adjust the steering feel to their preferences. This level of personalization enhances driver comfort and can be particularly beneficial for LCV operators who require tailored steering responsiveness based on their specific tasks or driving conditions. Moreover, LCVs are often used for specialized purposes such as urban delivery, construction, and passenger transport. Customizing power steering systems to suit the unique demands of these applications is becoming increasingly common. For example, LCVs used in urban delivery may benefit from power steering systems optimized for low-speed maneuverability, while those used in off-road construction may require enhanced stability and control. This trend towards comfort and customization aligns with the broader automotive industry's focus on improving user experiences and aligning products with customer needs.

Segmental Insights

By Mechanism Analysis

Electric Light Commercial Vehicle power steering Segment to Dominate-Rising Usage by Automakers will favor growth.

The automobile steering system market is further subdivided into Electric power steering (EPS), hydraulic Light Commercial Vehicle power steering (HPS), and electro-hydraulic Light Commercial Vehicle power steering (EHPS). The electric power steering category is expected to dominate the market throughout the projected period, owing to manufacturers' increased deployment of electric power steering in all vehicle types. Advances in electric power steering to steer-by-wire technology are also expected to promote market expansion in this area. Because of its widespread use in commercial vehicles, the hydraulic power steering category is predicted to rise rapidly in the market throughout the projection period. Because of its restricted load-bearing capability, electronic Light Commercial Vehicle power steering does not function in commercial vehicles. Furthermore, hydraulic Light Commercial Vehicle power steering is capable of absorbing road shocks. Because of its leaking, less durability, and vibration features, the manual steering category is predicted to rise steadily in the market. Steering the vehicle involves significant human effort. The electro-hydraulic Light Commercial Vehicle power steering category is predicted to increase significantly in the automotive steering market over the forecast period. When compared to conventional hydraulic power steering, it delivers smoother and more responsive handling.

Regional Insights

During the projected period, Asia Pacific is estimated to lead the automobile steering system market. The growing sales and production of automakers from emerging nations are likely to drive the growth of the automotive steering system market in this area. Demand for high-end luxury vehicles and rising disposable income in developing nations are also expected to drive market expansion in this area.

Europe is estimated to be the second-largest market stakeholder and to exhibit significant growth in the market throughout the projection period. Government fuel economy standards in this region have resulted in an increase in the use of fuel-efficient automobiles with an effective steering system. The global market for electric vehicles is quickly expanding. In Europe, for example, 2021 was a record year for electric car sales. European manufacturers were reluctant to enter the EV industry but rapidly established themselves as significant participants. Furthermore, some governments throughout the world have developed regulations, incentives, and initiatives to encourage the use of electric vehicles.

By 2024, electric vehicles are predicted to account for approximately 4% of new car sales and 7% of the global car fleet. With the increasing sales of electric vehicles, the deployment rate of Light Commercial Vehicle power steering systems (such as Light Commercial Vehicle power steering (EPS)) is predicted to increase throughout the projection period.

Over the projected period, North America is also predicted to see strong growth in the automobile steering system market. It is the second-largest market for hydraulic Light Commercial Vehicle power steering systems, with a few big automakers operating in both Canada and the United States. This aspect is projected to drive the market expansion of this area.

Key Market Players

Showa Corporation
Nexteer Automotive Corporation
NSK Ltd
JTEKT Corporation
Robert Bosch GmbH
Mando Corporation
Sona Corporation
ZF Friedrichshafen AG
Hitachi Automotive Systems Limited.
Report Scope:
In this report, the Global Light Commercial Vehicle power steering Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:
?□Light Commercial Vehicle power steering Market, By Mechanism:
o□Electronic Light Commercial Vehicle Power Steering (EPS)
o□Hydraulic Light Commercial Vehicle Power Steering (HPS)
o□Electro-Hydraulic Light Commercial Vehicle Power Steering (EHPS)
?□ Light Commercial Vehicle Power Steering Market, By Component:
o□Hydraulic Pump
o□Sensors
o□Electric Motor
o□Others
?□Light Commercial Vehicle Power Steering Market, By Region:
o□North America
?□United States
?□Canada
?□Mexico
o□Europe
?□France
?□United Kingdom
?□Italy
?□Germany
?□Spain
o□Asia-Pacific
?□China
?□India
?□Japan
?□Australia
?□South Korea
o□South America
?□Brazil
?□Argentina
?□Colombia
o□Middle East & Africa
?□South Africa
?□Saudi Arabia
?□UAE
?□Turkey

Competitive Landscape
Company Profiles: Detailed analysis of the major companies present in the Global Light Commercial Vehicle power steering Market.
Available Customizations:
Global Light Commercial Vehicle power steering Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:
Company Information
?□Detailed analysis and profiling of additional market players (up to five).

Table of Contents:

Light Commercial Vehicle Power Steering Market- Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 By Mechanism (Electronic Power Steering (EPS), Hydraulic Power Steering (HPS) and Electro-Hydraulic Power Steering), By Component (Hydraulic Pump, Sensors, Electric Motor and Others), By Region, Competition

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