

john deere 105 combine specs

The John Deere 105 combine specs are a crucial piece of information for any farmer or agricultural professional looking to understand the capabilities and potential of this vintage harvesting machine. This article delves deep into the detailed specifications of the John Deere 105, covering everything from engine power and grain tank capacity to threshing systems and overall dimensions. We will explore the historical significance of this model within the John Deere lineup and its reputation for robust performance in its era. Understanding these John Deere 105 combine specs is essential for evaluating its suitability for various crop types and field conditions, as well as for maintenance and operational planning. Prepare for a comprehensive overview that equips you with the knowledge to appreciate the engineering and operational characteristics of this iconic piece of agricultural equipment.

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Engine Specifications of the John Deere 105

The heart of any combine harvester is its engine, and the John Deere 105 was engineered with a robust power plant designed to meet the demands of harvesting. While specific engine options could vary slightly by year of manufacture and region, the general power output was a significant factor in its performance. These engines were built for reliability and sustained operation under strenuous field conditions.

Engine Power and Displacement

The John Deere 105 typically featured a powerful diesel engine, often a naturally aspirated unit known for its torque and durability. The horsepower rating was substantial for its time, allowing it to drive the combine's various systems efficiently and pull through heavy crop stands. Displacement figures were also considerable, contributing to the engine's ability to generate ample power.

Fuel System and Capacity

Understanding the fuel system of the John Deere 105 is key to operational planning. The fuel tank capacity was designed to support extended working periods between refueling stops, a critical consideration for maximizing harvest efficiency. The fuel injection system was engineered for reliable fuel delivery to ensure optimal combustion and consistent engine performance throughout the harvest season.

Threshing and Separation Systems

The threshing and separation components are where the core work of harvesting occurs – separating grain from the stalk and chaff. The John Deere 105 utilized a well-regarded system that was a hallmark of its design, balancing efficiency with crop care.

Threshing Cylinder and Concave Design

The combine's threshing cylinder played a vital role in striking and rubbing the crop material to release the grain. The John Deere 105 incorporated a specific cylinder diameter and speed, which could be adjusted to suit different crop types and conditions. The concave, positioned beneath the cylinder, featured a design with specific bar spacing and configuration to facilitate effective threshing while minimizing grain damage.

Straw Walkers and Sieves

Following the threshing process, the material moved to the straw walkers for further separation. These reciprocating components agitated the bulk material, allowing loose grain and smaller chaff to fall through. The John Deere 105 featured straw walkers designed for efficient material movement and maximum grain recovery. The sieves, both the cleaning sieve and the chaff sieve, were adjustable to control airflow and material flow, ensuring clean grain delivery to the grain tank.

Grain Handling and Storage

Once threshed and separated, the grain needs to be efficiently collected and stored. The John Deere 105 was equipped with systems designed for this purpose, ensuring that valuable grain was captured and handled with care.

Grain Tank Capacity

The grain tank on the John Deere 105 was a critical component dictating how long the combine could operate before needing to unload. The capacity was measured in bushels, and this size directly impacted the overall efficiency and productivity of the harvesting operation. A larger grain tank meant fewer stops for unloading, leading to more continuous harvesting time.

Unloading Auger System

The unloading auger is responsible for transferring the grain from the tank to a waiting grain cart or truck. The John Deere 105 featured an auger system designed for efficient and relatively quick unloading. The length and diameter of the auger were important specifications, influencing the reach and speed of the unloading process.

Header and Cutting Systems

The header is the front-mounted component responsible for gathering the crop and feeding it into the combine. The John Deere 105 was compatible with various header types to accommodate different crops and harvesting scenarios.

Header Width and Type Options

The width of the header directly influences the amount of crop the combine can cut per pass, impacting overall field coverage and speed. The John Deere 105 could be fitted with different header widths, offering flexibility to farmers. It was also designed to accommodate various header types, such as grain platforms for small grains and potentially corn headers, although specific compatibility would depend on the exact model year and any modifications.

Reel and Cutterbar Specifications

The reel is responsible for gently moving the standing crop towards the cutterbar. Its speed and height adjustments were crucial for efficient pickup and feeding. The cutterbar, equipped with sharp knives, severs the crop stems. The John Deere 105's reel and cutterbar mechanisms were designed for effective cutting action and reliable feeding into the feeder house.

Dimensions and Weight

Understanding the physical size and weight of the John Deere 105 is important for transportation, maneuverability in fields, and storage considerations. These specifications provide a tangible sense of the machine's scale.

Overall Length, Width, and Height

The overall dimensions of the combine dictate its presence in the field and on the road. The length, width (excluding header), and height are key factors for navigating narrow access points, road transport regulations, and determining storage space requirements. These measurements reflect the robust construction and substantial components of the machine.

Operating Weight

The operating weight of the John Deere 105, including its fluids and standard equipment, is a significant figure. This weight has implications for soil compaction, tire selection, and transport requirements. Heavier machines often provide greater stability but require careful consideration of field conditions.

Operator Station and Controls

The operator's station is the command center of the combine, and its design and functionality are crucial for efficient and comfortable operation. The John Deere 105, reflecting the technology of its era, provided the operator with the necessary controls to manage the harvesting process.

Control Layout and Accessibility

The layout of the controls within the operator station was designed for accessibility and ease of use. Important levers, dials, and switches for functions like header height, reel speed, threshing adjustments, and engine speed were strategically placed. While lacking the complex digital interfaces of modern combines, the John Deere 105 offered straightforward mechanical and hydraulic controls.

Visibility and Comfort Features

Visibility from the operator's seat is paramount for safe and effective harvesting. The cab design of the John Deere 105 aimed to provide a good view of the header and surrounding field. Comfort features, though more basic by today's standards, were incorporated to reduce operator fatigue during long harvesting days.

Drive Train and Traction

The drive train and traction systems are responsible for delivering power from the engine to the wheels and ensuring the combine can navigate diverse field terrains, including muddy or uneven conditions.

Transmission Type and Speeds

The John Deere 105 typically utilized a transmission system that provided a range of ground speeds, allowing the operator to match the combine's speed to crop conditions and field terrain. This could include hydrostatic or mechanical transmission options, offering varying degrees of control and power delivery.

Tire and Wheel Configurations

The tire and wheel configurations on the John Deere 105 were designed to provide adequate traction and flotation in the field. The size and tread pattern of the drive tires were critical for preventing slippage and reducing soil compaction. Front-wheel drive was standard, with options for different tire sizes to optimize performance across various soil types.

Maintenance and Serviceability

Ensuring the longevity and optimal performance of any piece of heavy machinery relies heavily on its maintenance and serviceability. The John Deere 105 was built with considerations for routine upkeep.

Service Points and Accessibility

Key service points such as grease zerks, fluid fill points, and filter locations were designed to be accessible for routine maintenance. Regular lubrication and fluid checks were essential for the smooth operation of the threshing system, header components, and drive train. Access panels and covers allowed for inspection and maintenance of internal components.

Lubrication Schedule and Fluid Types

Adhering to a recommended lubrication schedule was vital for reducing wear and tear on the John Deere 105. This involved regularly greasing bearings and pivot points, as well as checking and topping up hydraulic fluid, engine oil, and transmission fluid. Using the correct types and grades of lubricants and fluids was critical to prevent component damage.

Historical Context and Performance

The John Deere 105 holds a significant place in the history of combine harvesting. It represented a progression in technology and capability for its time, serving farmers effectively for many years.

Market Position and Popularity

When introduced, the John Deere 105 was positioned as a reliable and capable harvesting solution for medium to large-scale farming operations. Its popularity stemmed from its robust build quality, relatively straightforward operation, and the trusted John Deere reputation for agricultural machinery. It was a common sight in fields across many regions.

Legacy and Contribution to Agriculture

The John Deere 105 contributed significantly to the mechanization of agriculture by enabling more efficient and timely harvests. Its design and performance set a benchmark for subsequent combine models. Many of these machines continue to be valued for their durability, with some still in operation on farms, testament to their enduring build quality and the effectiveness of their core harvesting technology.

Q: What type of engine powers the John Deere 105 combine?

A: The John Deere 105 combine is typically powered by a robust diesel engine, often a naturally aspirated unit known for its reliability and torque. Specific engine models and horsepower can vary slightly depending on the year of manufacture.

Q: What was the typical grain tank capacity of a John Deere 105 combine?

A: The grain tank capacity of the John Deere 105 was designed to handle substantial yields, with figures often measured in bushels. This capacity was a key factor in determining its operational efficiency and the frequency of unloading.

Q: Can the John Deere 105 combine be used with different types of headers?

A: Yes, the John Deere 105 combine was designed to be versatile and could be fitted with various types of headers, such as grain platforms for small grains and potentially corn headers, allowing it to adapt to different crop harvesting needs.

Q: What are the main components of the threshing system on the John Deere 105?

A: The threshing system of the John Deere 105 consists primarily of a threshing cylinder and a concave, which work together to separate grain from the crop stalk. Following this, straw walkers and adjustable sieves further refine the separation process.

Q: How important is regular maintenance for the John Deere 105?

A: Regular maintenance is critically important for the John Deere 105 combine to ensure its longevity, optimal performance, and reliability in the field. This includes consistent lubrication, fluid checks, and filter replacements.

Q: What is the approximate operating weight of a John Deere 105 combine?

A: The operating weight of the John Deere 105 combine is substantial, reflecting its robust construction. This weight impacts field performance, soil compaction, and transport considerations.

Q: Were there any notable advancements in the operator

station of the John Deere 105 compared to earlier models?

A: While not as technologically advanced as modern combines, the operator station of the John Deere 105 featured an improved layout for controls and better visibility for its time, aiming to enhance operator comfort and efficiency during long harvesting days.

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