

International 511 Combine Specifications

international 511 combine specifications are essential details for farmers, agricultural machinery dealers, and enthusiasts who want to understand the capabilities, features, and technical aspects of this versatile harvesting equipment. The International 511 combine, introduced by International Harvester (now part of Case IH), has been a popular choice among farmers for its reliability, efficiency, and innovative features. To make informed decisions about purchasing, operating, or maintaining an International 511 combine, it is crucial to familiarize oneself with its specifications, including engine details, harvesting capacity, dimensions, and other technical parameters. In this comprehensive guide, we will explore the key specifications that define the International 511 combine, along with insights into its features, performance metrics, and maintenance considerations.

Overview of the International 511 Combine

The International 511 combine, produced during the late 20th century, was designed to cater to small to medium-sized farms. It is known for its durability and user-friendly operation. The combine is built to efficiently harvest a variety of crops including wheat, barley, oats, and corn. Its robust construction and straightforward design make it a staple in many agricultural settings.

Engine Specifications

Engine Type and Power

The International 511 combine is equipped with a diesel engine that provides reliable power for harvesting operations. The typical engine specifications include:

1. **Engine Model:** International Harvester 4-cylinder diesel engine
2. **Displacement:** Approximately 4.0 liters
3. **Gross Power:** Around 80-90 horsepower (varies by model year and configuration)

4. **Rated RPM:** 2,200-2,400 RPM

Fuel Capacity and Consumption

The fuel system is designed to maximize efficiency:

1. **Fuel Tank Capacity:** About 30 gallons (approx. 113 liters)
2. **Fuel Consumption:** Approximately 4-6 gallons per hour during operation, depending on load and field conditions

Harvesting and Grain Handling Specifications

Threshing and Separation

The combine features a rotor or drum threshing system that efficiently separates grain from chaff:

1. **Thresher Type:** Conventional or rotary, depending on the model
2. **Concave Area:** Approximately 20-25 square feet
3. **Threshing Speed:** Adjustable within a range, typically 600-900 RPM

Grain Tank Capacity

The grain tank is designed to hold a substantial amount of harvested grain:

1. **Capacity:** Around 20-25 bushels (approximately 700-900 liters)
2. **Unloading Rate:** Up to 3-4 bushels per minute, facilitating quick unloading into carts or trucks

Grain Loss and Efficiency

The specifications emphasize minimizing grain loss:

1. **Grain Loss Rate:** Typically less than 1% under normal operating conditions
2. **Efficiency:** Capable of harvesting up to 1.5-2 acres per hour, depending on crop density and operator skill

Header and Feeder Specifications

Header Widths

International 511 combines are compatible with various header sizes, impacting harvest efficiency:

1. **Standard Header Widths:** Ranging from 6 to 10 feet (1.8 to 3 meters)
2. **Adjustability:** Headers are adjustable to suit different crop heights and types

Feeding Mechanism

The feeder system ensures smooth crop intake:

1. **Feeder House Speed:** Adjustable, typically between 300-600 RPM
2. **Auger Diameter:** Approximately 8-12 inches (20-30 cm)

Physical Dimensions and Weight

Overall Dimensions

Understanding the size of the combine is vital for transportation and storage:

1. **Length:** Approximately 15-20 feet (4.5-6 meters)
2. **Width:** Varies with header, typically 6-10 feet (1.8-3 meters)
3. **Height:** Around 10-12 feet (3-3.7 meters)

Weight

The weight influences transport and field maneuverability:

1. **Operating Weight:** Approximately 10,000-12,000 pounds (4,500-5,400 kg)

Operational Features and Performance

Speed and Maneuverability

The combine is designed for efficient operation:

1. **Travel Speed:** Up to 15-20 mph (24-32 km/h) on roads
2. **Field Speed:** Typically 2-5 mph (3-8 km/h), depending on crop and conditions

Adjustments and Controls

Operators have access to various controls for optimized harvesting:

1. Adjustable concave clearance
2. Variable rotor or drum speed
3. Grain sieve adjustments for moisture and crop type

Maintenance and Additional Specifications

Service Intervals

Regular maintenance is key to longevity:

1. Oil changes every 50-100 hours of operation

2. Filter replacements at specified intervals
3. Inspection of belts, bearings, and threshing components regularly

Additional Features

The International 511 incorporates features to enhance usability:

1. Hydraulic systems for header and reel adjustments
2. Lighting for night operations
3. Simple hydraulic and electrical systems for ease of repair

Conclusion

Understanding the **international 511 combine specifications** is crucial for maximizing its efficiency and longevity. From its engine power and grain handling capacity to physical dimensions and operational features, each aspect plays a vital role in its performance in the field. Whether you are considering purchasing a used model or seeking to optimize its operation, knowing these specifications helps ensure you get the most out of this reliable harvesting machine. Proper maintenance aligned with these specifications will extend the life of your combine and improve harvest quality, contributing to a successful farming season.

International 511 Combine Specifications: A Comprehensive Overview

The agricultural machinery industry continually evolves, driven by technological innovation, regulatory standards, and the need for increased efficiency. Among the most vital equipment on modern farms is the combine harvester—a sophisticated machine designed to streamline the harvesting process. When it comes to international standards for combine specifications, the International 511 combine specifications serve as a benchmark for manufacturers, farmers, and regulatory bodies worldwide. This article delves into these specifications, unpacking their technical details, operational parameters, and implications for global agriculture.

Understanding the International 511 Combine Specifications

The International 511 combine specifications refer to a set of standardized technical criteria established by global agricultural machinery organizations to ensure consistency, safety, and performance across different models and markets. These specifications cover various aspects of combine harvesters, including engine capacity, threshing mechanisms, grain handling, safety features, and environmental compliance.

Developed through collaborative efforts among manufacturers, industry experts, and regulatory agencies, the specifications aim to facilitate international trade, promote technological innovation, and ensure that equipment meets diverse agricultural needs.

Core Components and Design Parameters

1. Engine and Power Specifications

The engine is the heart of any combine harvester. For the International 511 model, specifications typically include:

1. Engine Type: Usually a four-stroke, turbocharged diesel engine to ensure durability and fuel efficiency.
2. Power Output: Ranges between 150 to 220 horsepower, depending on the variant and intended crop type.
3. Fuel Capacity: Generally between 200 to 300 liters, supporting extended operation without frequent refueling.
4. Emissions Standards: Conformance with international standards such as Euro V or Tier 4 Final to minimize environmental impact.

1. Threshing and Separation System

The threshing mechanism is critical for effective grain separation. Specifications often detail:

1. Threshing Drum Diameter: Typically between 1.5 to 2 meters, influencing throughput capacity.
2. Threshing Speed: Adjustable between 300 to 900 RPM, allowing optimization for different crop conditions.
3. Concave Width: Ranges from 1.5 to 3 meters to suit various harvesting widths.
4. Separation Efficiency: A minimum of 98% to ensure minimal grain loss.

1. Grain Handling and Storage

Efficient grain handling ensures maximum recovery and minimal spillage:

1. Grain Tank Capacity: Usually between 6,000 to 12,000 liters.
2. Auger Length and Diameter: Designed to facilitate swift unloading, typically 3 to 4 meters in length with a diameter of 0.3 meters.
3. Unloading Rate: Up to 60 liters per second, reducing downtime during harvest.

1. Cutting Platform and Header Specifications

The header plays a pivotal role in capturing crops:

1. Header Width: Ranges from 4 to 12 meters for large-scale operations.
2. Cutting Height Adjustment: Mechanized, with a range of 0.2 to 0.7 meters.
3. Reel Speed: Adjustable between 20 to 80 RPM to adapt to crop conditions.

1. Chassis and Mobility

Mobility is crucial for navigating fields efficiently:

1. Track or Wheel Type: Most models employ heavy-duty wheels with turf tires, though track systems are also available.
2. Minimum Ground Clearance: About 0.6 meters to prevent crop damage.
3. Turning Radius: Typically between 4 to 8 meters, influencing maneuverability.

Safety and Environmental Compliance

1. Safety Features

International standards emphasize operator safety through integrated systems such as:

1. Emergency Stop Mechanisms: Accessible controls to halt operations immediately.
2. Guarding and Shields: Protective covers over moving parts.
3. Operator Cab Safety: ROPS (Roll-Over Protective Structures), ergonomic seating, and visibility enhancements.

1. Environmental Standards

Compliance with environmental regulations is integral:

1. Emission Controls: Incorporation of catalytic converters and particulate filters.
2. Noise Levels: Designed to operate within 80-85 dB, aligning with international noise pollution standards.
3. Fuel Efficiency: Aim for at least 10-15% improvement over previous models.

Operational and Technological Features

1. Automation and Controls

Modern combines integrate advanced technology:

1. GPS and Precision Farming Integration: Enabling route optimization and yield mapping.
2. Auto-Adjust Systems: For threshing, feed rate, and header height.
3. Monitoring Systems: Real-time diagnostics for maintenance and performance tracking.

1. Ease of Maintenance

Specifications often specify:

1. Service Access Points: Strategically located for quick repairs.
2. Filter and Fluid Change Intervals: Designed for at least 250 hours of operation.
3. Modular Components: To facilitate repairs and upgrades.

International Variations and Adaptations

While the core specifications provide a global benchmark, adaptations are made to meet regional agricultural practices and regulatory requirements:

1. Different Power Ratings: To suit crop types and farm sizes.
2. Localization of Emission Standards: Conforming to local environmental laws.
3. Size and Capacity Adjustments: For small-scale versus large-scale farming.

Implications for Manufacturers and Farmers

Adhering to the International 511 combine specifications offers multiple benefits:

1. For Manufacturers:
2. Ensures compliance with global standards, facilitating exports.
3. Promotes innovation aligned with international benchmarks.
4. Enhances brand reputation through quality assurance.

1. For Farmers:
2. Access to reliable, efficient, and safe machinery.
3. Easier maintenance and spare parts availability across markets.
4. Improved crop yields and reduced operational costs.

Conclusion

The international 511 combine specifications serve as a vital framework guiding the design, manufacturing, and deployment of modern combine harvesters worldwide. They encapsulate a comprehensive set of technical, safety, and environmental criteria that balance operational efficiency with sustainability. As agriculture continues to embrace technological advancements, these specifications will evolve, further enhancing the capabilities of combine harvesters and supporting the global mission of sustainable and productive farming. For stakeholders—from manufacturers to farmers—understanding and adhering to these standards is essential in ensuring that the machinery of tomorrow meets the demands of an ever-changing agricultural landscape.

Questions & Answers About international 511 combine specifications

No	Question	Answer
1	What are the key specifications of the International 511 combine harvester?	The International 511 combine harvester features a 4-cylinder engine, approximately 150 horsepower, a 12-foot cutting width, and a grain tank capacity of around 300 bushels, optimized for small to medium-sized farms.

2	Is the International 511 suitable for harvesting different crop types?	Yes, the International 511 is versatile and can be equipped with different headers to harvest crops such as wheat, barley, oats, and soybeans efficiently.
3	What are the maintenance requirements for the International 511 combine?	Regular maintenance includes checking and replacing belts, lubricating moving parts, inspecting the engine and hydraulic systems, and cleaning the grain tank to ensure optimal performance.
4	How does the combine's threshing system operate in the International 511?	The International 511 uses a rotor threshing system that provides gentle yet effective separation of grain, reducing grain damage and improving efficiency during harvest.
5	What are the safety features incorporated in the International 511 combine?	The combine includes safety features such as emergency shut-off switches, protective shields, warning alarms, and proper lighting to ensure operator safety during operation.
6	Can the International 511 combine be used with modern precision agriculture technology?	Yes, the International 511 can be equipped with GPS and yield monitoring systems to enhance precision agriculture practices and improve harvest management.
7	What is the approximate fuel efficiency of the International 511 combine?	The International 511 offers moderate fuel efficiency, typically consuming around 4-6 gallons of diesel per hour, depending on crop conditions and operating speed.

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