

Kobelco Crane 5170 Textbook

kobelco crane 5170 is a powerful and versatile piece of lifting equipment that has gained significant recognition in the construction, infrastructure, and heavy-duty industrial sectors. Known for its exceptional performance, durability, and innovative features, the Kobelco Crane 5170 stands out as a reliable choice for demanding projects that require precision and strength. Whether you're involved in high-rise construction, bridge building, or large-scale infrastructure development, understanding the capabilities and specifications of the Kobelco Crane 5170 can help you make informed decisions about your lifting needs.

Overview of the Kobelco Crane 5170

Introduction to the Model

The Kobelco Crane 5170 is a hydraulic lattice boom crane designed to deliver high lifting capacities combined with exceptional maneuverability. It belongs to Kobelco's extensive lineup of cranes, renowned for their innovative engineering and robust construction. The 5170 model specifically caters to projects demanding maximum reach and load capacity, making it an ideal choice for complex construction sites and industrial applications.

Key Specifications

To appreciate the capabilities of the Kobelco Crane 5170, it's essential to understand its core specifications:

- Maximum Load Capacity: Up to 170 tonnes
- Maximum Boom Length: Approximately 60 meters (196 feet)
- Maximum Tip Height: Over 70 meters (229 feet) with extensions
- Engine Power: Typically around 300-350 horsepower, depending on the configuration
- Transport Dimensions: Designed for ease of transportation with modular components
- Operational Weight: Varies, but generally around 100-120 tonnes

These specifications highlight the crane's capacity for heavy lifting and its suitability for a wide range of large-scale projects.

Design and Construction Features

Robust Lattice Boom Design

The Kobelco Crane 5170 features a high-strength lattice boom constructed from premium steel alloys. This design ensures maximum stability and strength while maintaining a relatively lightweight profile for easier assembly and transportation. The lattice structure allows for extended reach without compromising safety or performance.

Hydraulic System Innovation

Equipped with a state-of-the-art hydraulic system, the 5170 provides smooth, precise movements. Advanced hydraulic controls enable operators to execute complex lifts with confidence, reducing the risk of accidents or load swings. The system also incorporates safety features such as overload protection and emergency stop functions.

Mobility and Transportability

Despite its impressive size and capacity, the Kobelco Crane 5170 is engineered for mobility. Modular design components facilitate easier transportation between sites, and its outriggers and stabilizers ensure stability during operation. The crane can be assembled rapidly, minimizing downtime and boosting project efficiency.

Performance Capabilities

Lift Capacity and Reach

The primary strength of the Kobelco Crane 5170 lies in its impressive load capacity combined with extensive reach. It can lift heavy loads up to 170 tonnes at lower radii and can extend its boom to achieve heights exceeding 70 meters. This versatility allows for a wide range of lifting scenarios, from high-rise beams to large prefabricated components.

Operational Efficiency

Thanks to its advanced control systems and hydraulic efficiency, the 5170 delivers high operational throughput. Features such as variable load charts, real-time diagnostics, and automated safety checks help operators optimize performance while maintaining safety standards.

Safety Features

Kobelco prioritizes safety in all its equipment. The Crane 5170 incorporates multiple safety features, including:

- Load moment indicators (LMI)

- Anti-two block systems
- Emergency stop buttons at accessible locations
- Automatic stability monitoring
- Safety interlocks during assembly and operation

These features work together to prevent accidents and ensure safe lifting operations even in challenging environments.

Applications of the Kobelco Crane 5170

Construction Projects

The 5170 is ideal for high-rise building construction, where large components need to be lifted to great heights. Its reach and load capacity enable efficient installation of structural elements, glass panels, and mechanical systems.

Infrastructure Development

In infrastructure projects like bridges, ports, and large-scale industrial facilities, the 5170 provides the necessary lifting power for heavy steel structures, precast concrete segments, and other massive components.

Industrial and Manufacturing

Manufacturing plants and industrial facilities often require cranes capable of handling bulky and heavy materials. The Kobelco 5170's precision and strength facilitate smooth material handling, assembly, and maintenance operations.

Advantages of Choosing the Kobelco Crane 5170

High Load Capacity

The ability to lift up to 170 tonnes makes it suitable for the most demanding projects, reducing the need for multiple lifts or additional equipment.

Extended Reach and Flexibility

Its long boom and adjustable configurations allow for maximum flexibility in different work environments.

Durability and Reliability

Built with high-quality materials and advanced engineering, the 5170 offers long service life with minimal downtime.

Ease of Operation

Modern control systems and ergonomic design features simplify operation, even for less experienced operators.

Cost-Effectiveness

Combining high performance with durability, the Kobelco Crane 5170 provides excellent value for investment by reducing operational costs and increasing productivity.

Maintenance and Support

Scheduled Maintenance

Regular maintenance is vital to ensure optimal performance and longevity. Kobelco provides comprehensive maintenance schedules, including inspections of hydraulic systems, structural components, and safety features.

Technical Support and Service

Authorized Kobelco service centers offer expert technical support, spare parts, and training. Ensuring timely maintenance and repairs minimizes downtime and preserves the crane's performance.

Training for Operators

Kobelco offers specialized training programs for crane operators, emphasizing safety, efficiency, and proper handling techniques for the 5170 model.

Choosing the Right Equipment for Your Project

Selecting the appropriate crane depends on several factors:

- Project Load Requirements: Match the crane's capacity with the heaviest loads expected.
- Operational Environment: Consider space constraints, ground conditions, and mobility needs.
- Transport and Setup Time: Opt for cranes that can be assembled quickly to meet project deadlines.

- Budget Constraints: Balance initial investment with long-term operational costs.

The Kobelco Crane 5170, with its high capacity and flexible features, often emerges as a top choice for large-scale and complex lifting operations.

Conclusion

The Kobelco Crane 5170 exemplifies the pinnacle of modern crane engineering, offering unmatched lifting capacity, advanced safety features, and operational efficiency. Its versatility makes it suitable across various industries, from high-rise construction to industrial manufacturing. Investing in a Kobelco 5170 can significantly enhance project capabilities, reduce operational risks, and ensure timely project completion. As construction projects continue to grow in scale and complexity, the Kobelco Crane 5170 remains a dependable partner for lifting heavy loads with precision and safety.

Whether you're considering an upgrade or expanding your fleet, understanding the features and advantages of the Kobelco Crane 5170 is essential. Its combination of power, safety, and reliability makes it a valuable asset for any heavy lifting operation.

Kobelco Crane 5170: An In-Depth Review of Power, Precision, and Performance

The Kobelco Crane 5170 stands as a testament to modern engineering excellence in the realm of mobile cranes. Known for its robust construction, impressive lifting capacity, and innovative features, this crane has carved a niche for itself in industries ranging from construction to heavy-duty industrial projects. In this comprehensive review, we will explore every facet of the Kobelco Crane 5170—its design, technical specifications, performance capabilities, safety features, and practical applications—giving professionals and enthusiasts alike a detailed understanding of why this crane remains a top choice in its class.

Introduction to the Kobelco Crane 5170

The Kobelco Crane 5170 is part of Kobelco's lineup of high-capacity mobile cranes, renowned globally for their durability, reliability, and advanced technology. Designed to handle heavy lifting operations with precision, the 5170 model is suitable for diverse construction projects, infrastructure development, and industrial tasks requiring significant lifting power.

Key Highlights:

- Max lifting capacity: Typically around 170 tons (depending on configuration)
- Boom length: Up to 70 meters, providing versatility for various operational heights
- Mobility: Equipped with robust outriggers and a compact chassis for maneuverability

- Engine: Meets modern emissions standards with efficient power output
- Control systems: Incorporate advanced automation and safety features

Design and Build Quality

Structural Integrity

The Kobelco Crane 5170 boasts a sturdy, well-engineered frame constructed from high-tensile steel, ensuring durability under demanding conditions. Its chassis is designed to withstand the stresses of heavy lifting while maintaining stability and balance. The use of high-quality materials combined with precision manufacturing processes results in a crane that is both resilient and reliable over prolonged periods of operation.

Mobility and Maneuverability

Despite its substantial size and capacity, the 5170 is designed for operational flexibility. Its four outriggers provide a broad stabilization base, enabling safe operation on uneven terrain. The crane features a compact boom head and a well-balanced counterweight system, which helps in maneuvering within confined spaces often encountered in urban construction sites.

Operator Cabin and Ergonomics

Comfort and safety are central to the design of the Kobelco Crane 5170. The operator cabin is ergonomically designed, offering excellent visibility, intuitive controls, and climate control features. Large glass panels and advanced instrumentation allow operators to monitor the crane's functions meticulously, reducing fatigue and increasing efficiency.

Technical Specifications and Capabilities

Understanding the technical parameters of the Kobelco Crane 5170 provides insight into its operational potential.

Lifting Capacity and Reach

- Maximum Lifting Capacity: Approximately 170 tons
- Maximum Boom Length: Up to 70 meters (229.6 feet)
- Maximum Lifting Radius: Approximately 60 meters, depending on configuration
- Lifting Load at Various Radii: The crane maintains high lifting capacity across a broad radius, with detailed load charts provided by the manufacturer for precise planning.

Engine and Power System

- Engine Type: Common rail diesel engine meeting Tier 4 emissions standards
- Power Output: About 200-250 kW (depending on the specific configuration)
- Fuel Efficiency: Designed for optimal fuel consumption during prolonged operations
- Hydraulic System: Advanced load-sensing hydraulics allow precise control and smooth operation of the boom and jib.

Control and Automation Systems

- Incorporates sophisticated electronic control systems for:
- Load moment indicator (LMI)
- Anti-two block systems
- Variable speed hoist and swing controls
- Remote diagnostics and monitoring capabilities

Performance Analysis

The Kobelco Crane 5170's performance is characterized by its ability to handle heavy loads with precision and safety, even in challenging environments.

Lifting Efficiency

- Thanks to its powerful hydraulic system and well-balanced counterweights, the 5170 can execute lifts smoothly and with minimal sway.
- The crane's high lifting capacity combined with a long boom allows for complex lifts at significant heights, reducing the need for multiple setups.

Operational Flexibility

- The crane can operate effectively on various terrains, thanks to its outriggers and optional track-mounted configurations.
- Its modular design allows for quick assembly and disassembly, minimizing downtime on job sites.

Speed and Responsiveness

- Equipped with modern control systems, the 5170 responds swiftly to operator commands.
- The crane's hoist and swing functions are optimized for rapid operation without compromising safety.

Safety Features and Compliance

Safety is paramount in crane operations, and the Kobelco Crane 5170 integrates numerous features to ensure safe working conditions.

Key Safety Features:

- Load Moment Indicator (LMI): Alerts operators when approaching load limits.
- Anti-Two Block System: Prevents the hook block from contacting the boom tip, avoiding potential damage or accidents.
- Emergency Stop Systems: Strategically placed for quick shutdown in emergencies.
- Overload Prevention: Automated systems monitor load weights and radii to prevent unsafe lifts.
- Stability Monitors: Continuous assessment of outriggers and load distribution.
- Compliance with International Standards: Meets or exceeds standards set by OSHA, ISO, and other relevant safety bodies.

Practical Applications and Industry Use Cases

The versatility of the Kobelco Crane 5170 makes it suitable across various sectors:

- Construction: Erecting steel frameworks, lifting heavy building materials, and installing large structural components.
- Infrastructure Projects: Bridge construction, wind turbine installation, and port development.
- Industrial Installations: Heavy machinery placement, plant upgrades, and maintenance tasks.
- Energy Sector: Wind farm assembly, offshore platform maintenance, and power plant construction.

Its ability to handle diverse loads at varying heights and radii makes it a dependable choice for complex lifting challenges.

Advantages of the Kobelco Crane 5170

- High Capacity and Reach: Able to lift significant weights at considerable heights and distances.
- Advanced Control Systems: Enhances precision and safety during operations.

- Robust Construction: Ensures long service life and durability in harsh environments.
- Operational Flexibility: Suitable for a wide range of applications with customizable configurations.
- Operator Comfort: Ergonomic cabin design reduces fatigue and improves productivity.
- Environmental Compliance: Meets latest emissions standards, promoting eco-friendly operations.

Potential Limitations and Considerations

While the Kobelco Crane 5170 offers many benefits, it's important to acknowledge potential limitations:

- Cost: High-capacity cranes like the 5170 require significant investment, which may be prohibitive for smaller firms.
- Transport and Setup: Its size demands careful planning for transportation and installation.
- Skill Requirement: Operating such a sophisticated machine necessitates trained, certified operators.
- Maintenance: Regular maintenance is essential to sustain peak performance, requiring dedicated technical support.

Conclusion: Is the Kobelco Crane 5170 the Right Choice?

The Kobelco Crane 5170 embodies a blend of power, precision, and safety, making it an exceptional asset for heavy lifting operations across various industries. Its advanced features, sturdy build, and versatile capabilities position it as a top-tier choice for organizations that require reliable, high-capacity cranes capable of tackling complex projects.

For construction companies, infrastructure developers, and industrial operators seeking a crane that offers both performance and safety, the Kobelco Crane 5170 stands out as a formidable solution. While the investment is substantial, the operational efficiency, safety features, and long-term durability it provides can deliver significant value, ensuring that projects are completed efficiently and safely.

In summary, the Kobelco Crane 5170 is not just a piece of heavy machinery; it is a strategic investment in operational excellence, safety, and project success.

Question What are the key specifications of the Kobelco Crane 5170? The Kobelco Crane 5170 features a maximum lifting capacity of approximately 70 tons, a maximum boom length of around 56 meters, and is equipped with advanced hydraulic systems for precise and efficient operation. **Answer** How does the Kobelco Crane 5170 compare to other cranes in its class? The Kobelco

Crane 5170 is known for its high load capacity, fuel efficiency, and operator comfort, making it competitive with other cranes in the 70-ton class, especially due to its innovative design and reliable performance. What are the safety features incorporated in the Kobelco Crane 5170? The Kobelco Crane 5170 includes safety features such as overload warning systems, anti-two block devices, stabilizer monitoring, and an ergonomic cab design to ensure safe and efficient operation. Is the Kobelco Crane 5170 suitable for urban construction projects? Yes, the Kobelco Crane 5170 is suitable for urban construction due to its compact design, precise maneuverability, and enhanced safety features, making it ideal for confined spaces. What maintenance considerations are important for the Kobelco Crane 5170? Regular inspections of hydraulic systems, lubrication of moving parts, checking for wear and tear, and adherence to the manufacturer's maintenance schedule are essential to ensure optimal performance of the Kobelco Crane 5170. Are there any recent upgrades or updates to the Kobelco Crane 5170 model? Recent updates to the Kobelco Crane 5170 include enhancements in hydraulic efficiency, operator comfort features, and safety systems, reflecting Kobelco's commitment to innovation and safety. What are the common applications of the Kobelco Crane 5170? The Kobelco Crane 5170 is commonly used in heavy construction, infrastructure projects, bridge building, and industrial assembly due to its high lifting capacity and versatile reach. Where can I find genuine parts and service support for the Kobelco Crane 5170? Genuine parts and authorized service support for the Kobelco Crane 5170 can be obtained through Kobelco's official dealerships and certified service centers worldwide.

Related keywords: Kobelco crane, 5170, hydraulic crane, construction equipment, heavy lifting, crane parts, crane maintenance, industrial crane, crane rental, mobile crane, crane specifications