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## HUAYEE HY16C

# HUAYEE 1.6 Ton Mini Excavator HY16C User Manual

Model: HY16C

## 1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, maintenance, and care of your HUAYEE 1.6 Ton Mini Excavator, model HY16C. Please read this manual thoroughly before operating the machine to ensure proper understanding of its features and functions. Adherence to these instructions will help maximize the lifespan and performance of your excavator.



Figure 1.1: The HUAYEE 1.6 Ton Mini Excavator, model HY16C, featuring its compact design and robust construction.

## 2. SAFETY INFORMATION

Operating heavy machinery requires strict adherence to safety protocols to prevent injury or damage. Always prioritize safety.

- **Operator Qualification:** Only trained and authorized personnel should operate the excavator.
- **Personal Protective Equipment (PPE):** Always wear appropriate PPE, including a hard hat, safety glasses, gloves, and steel-toed boots.
- **Pre-Operation Check:** Before each use, inspect the machine for any damage, leaks, or loose components. Ensure all controls are functioning correctly.
- **Work Area Safety:** Clear the work area of unnecessary personnel and obstacles. Be aware of overhead power lines, underground utilities, and unstable ground.
- **Machine Stability:** Operate on stable, level ground whenever possible. Avoid sudden movements that could compromise stability.
- **Attachment Safety:** Ensure all attachments (bucket, thumb clamp, quick coupler) are securely fastened before operation.
- **Emergency Procedures:** Familiarize yourself with emergency shutdown procedures and the location of the fire extinguisher.

## 3. PRODUCT OVERVIEW & COMPONENTS

The HY16C Mini Excavator is designed for versatility and efficiency in various tasks. Key components include:

- **Kubota Diesel Engine:** A 14HP Kubota D722 engine provides reliable power.
- **Pilot Control System:** Offers precise and smooth control of hydraulic functions.
- **Swing Function:** Allows the upper structure to rotate for efficient operation in confined spaces.
- **Hydraulic Thumb Clamp:** For grasping and moving irregular materials.
- **Semi-Automatic Quick Coupler:** Facilitates quick and easy attachment changes.
- **Hydraulic Cooler:** Maintains optimal hydraulic oil temperature for extended operation.
- **Operator Station:** Features a comfortable seat, cup holder, mobile phone holder, and USB charging port.

# HY16C

## MINI EXCAVATOR

### Basic

|                    |                    |
|--------------------|--------------------|
| Operating weight : | 1601kg/3530lbs     |
| Bucket capacity :  | 0.03m <sup>3</sup> |
| Type of working :  | Backhoe            |

### Engine

|                |               |
|----------------|---------------|
| Brand :        | KUBOTA        |
| Model :        | D722          |
| Displacement : | 722ml/cc      |
| Rated power :  | 14hp          |
| Category :     | Diesel Engine |

### Speed

|                       |         |
|-----------------------|---------|
| Max traveling speed : | 1.7km/h |
| Slewing speed :       | 10rpm   |
| Max grade ability :   | 30°     |

### Track

|                   |                        |
|-------------------|------------------------|
| Ground pressure : | 0.3kpa/cm <sup>2</sup> |
| Material :        | Rubber                 |
| Tension type :    | Mechanical tightening  |
| Length :          | 1390mm/55in            |
| Width :           | 180mm/7in              |

### Pump

|        |           |
|--------|-----------|
| Type : | Gear pump |
|--------|-----------|

### Fuel/Hydraulic

|                               |            |
|-------------------------------|------------|
| Working pressure :            | 16mpa      |
| Hydraulic oil flow :          | 18L+8L/min |
| Hydraulic oil tank capacity : | 19L/5gal   |
| Fuel tank capacity :          | 18L/4.8gal |

Figure 3.1: Diagram illustrating the main components and features of the HY16C Mini Excavator.

# Kubota Diesel Engine

## D722 / 14HP / 722cc



Kubota Diesel Engine deliver outstanding reliability and power, Kubota Diesel Engine is renowned for durability, fuel efficiency.

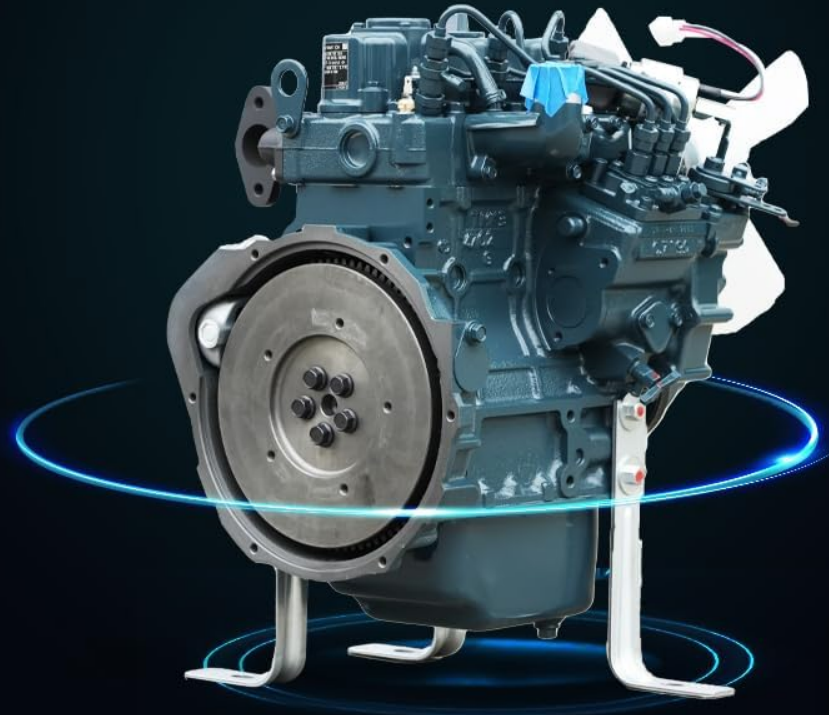


Figure 3.2: The Kubota D722 Diesel Engine, known for its durability and fuel efficiency, powers the HY16C.

## 4. SETUP & PRE-OPERATION

Upon delivery, inspect the machine for any transit damage. The HY16C comes with hydraulic thumb clamps, a semi-automatic quick-change mechanism, and a digging bucket pre-installed. Other accessories may need to be purchased separately.

### 4.1 Initial Checks

- Verify all fluid levels (engine oil, hydraulic fluid, fuel).
- Check for any visible leaks or loose connections.
- Ensure tracks are properly tensioned.
- Confirm all safety guards and covers are in place and secure.

### 4.2 Attaching Implements (Semi-Automatic Quick Coupler)

The semi-automatic quick-change system simplifies attachment swapping. While it uses a hydraulic cylinder for locking,

some manual alignment may be required.

1. Position the excavator arm to align the quick coupler with the attachment's pins.
2. Engage the hydraulic control to extend the locking mechanism.
3. Ensure both pins are fully engaged and locked. Visually confirm the secure connection.
4. Perform a gentle test lift to confirm the attachment is firmly secured before full operation.

## 5. OPERATION

The HY16C features intuitive controls for precise operation.

### 5.1 Starting the Engine

1. Ensure the safety lock lever for the hydraulic controls is engaged.
2. Insert the key into the ignition and turn to the 'ON' position.
3. Turn the key to 'START' and release once the engine fires.



Figure 5.1: Overview of the operator's controls, including the hydraulic pilot joysticks, ignition, and dashboard display.

## 5.2 Pilot Control System

The pilot control system uses low-pressure oil to control the main valve spool, providing sensitive and precise control over the excavator's movement speed and direction. This system reduces operator fatigue and enhances maneuverability in tight spaces.

### HYDRAULIC PILOT FUNCTION

- ✓ Equipped with a hydraulic pilot function, the hydraulic lifting rod control device is located at the end for convenient operation.



#### Hydraulic Pilot Lock Switch

Lock the control device when not in use for maximum safety.

### SWING ARM FUNCTION



- ✓ With the ability to swing the arm in any direction the excavator can move the boom, bucket, or attachment to a precise location without shifting the base of the machine.



Figure 5.2: Visual representation of the Hydraulic Pilot Function and Swing Arm Function controls.

## 5.3 Swing Function

The upper structure of the excavator can rotate laterally by approximately 70-90 degrees. This allows the boom, stick, and bucket to reach areas perpendicular to the machine's longitudinal axis, enabling efficient work in confined areas such as alongside buildings or between closely spaced obstacles.



## Swing arm functiong

With the ability to swing the arm in any direction the excavator can move the boom, bucket, or attachment to a precise location without shifting the base of the machine.

Figure 5.3: The excavator's swing arm function allows for precise positioning of the boom and bucket without repositioning the entire machine.

### 5.4 Hydraulic Thumb Clamp

The hydraulically powered thumb clamp can be adjusted in real-time to suit the size and weight of the object being grasped. With a wide opening angle (up to 180 degrees) and strong clamping force, it is ideal for handling irregular materials like rocks and logs.

### 5.5 Operational Video Demonstration

Your browser does not support the video tag.

Video 5.1: An official demonstration of the HUAYEE 1.6 Ton Mini Excavator in operation, showcasing its various functions and maneuverability.

## 6. MAINTENANCE

Regular maintenance is crucial for the longevity and optimal performance of your HY16C Mini Excavator.

## 6.1 Hydraulic Cooler

The hydraulic cooler is vital for maintaining the hydraulic oil temperature within the optimal range, especially during long-term and high-intensity work. This prevents overheating, reduces wear and tear on hydraulic components, and extends the overall service life of the hydraulic system. Regularly check the cooler for blockages and ensure proper airflow.

## 6.2 Hydraulic Pipe Protection

The hydraulic pipes are equipped with guidance protection rings and external spring retainers with spiral protection. These features protect the hoses from friction, collision, bending, and other damage, significantly prolonging the machine's lifespan. Periodically inspect these protective elements for wear or damage.



Figure 6.1: Close-up view of the hydraulic pipe protection system, designed to enhance durability.

## 6.3 General Maintenance Schedule

- **Daily:** Check fluid levels, inspect for leaks, clean debris from radiator and engine compartment.
- **Weekly:** Lubricate all grease points, check track tension, inspect hydraulic hoses and fittings.
- **Monthly/Every 50 Hours:** Change engine oil and filter, inspect air filter, check battery terminals.
- **Annually/Every 500 Hours:** Change hydraulic fluid and filter, inspect fuel filter, check all electrical connections.

## 7. SPECIFICATIONS

Detailed technical specifications for the HUAYEE HY16C Mini Excavator.



Figure 7.1: Performance specifications including digging radius, digging depth, and dump height.

# HY16C

## MINI EXCAVATOR



### PERFORMANCE

|                              |              |
|------------------------------|--------------|
| Max ground digging radius :  | 3380mm/133in |
| Max digging radius :         | 3420mm/134in |
| Max digging depth :          | 1780mm/70in  |
| Max digging height :         | 2970mm/116in |
| Max dump height :            | 2030mm/79in  |
| Max vertical digging depth : | 1550mm/61in  |
| Min slewing radius :         | 1350mm/53in  |
| Max dozer blade height :     | 150mm/5in    |
| Max dozer blade depth :      | 220mm/8in    |
| Chassis width :              | 1100mm/43in  |

Figure 7.2: Comprehensive table of basic, engine, speed, track, pump, and fuel/hydraulic specifications.

### Key Specifications - HY16C Mini Excavator

| Feature | Specification |
|---------|---------------|
|---------|---------------|

| Feature                        | Specification                    |
|--------------------------------|----------------------------------|
| Brand                          | HUAYEE                           |
| Model                          | HY16C                            |
| Engine                         | 14HP Kubota Diesel Engine (D722) |
| Engine Displacement            | 722 Milliliters                  |
| Operating Weight               | 1600 kg / 3520 lbs               |
| Max Digging Depth              | 1780 mm / 70 inches              |
| Max Digging Radius             | 3420 mm / 134 inches             |
| Max Dump Height                | 2030 mm / 79 inches              |
| Fuel Type                      | Diesel                           |
| Fuel Capacity                  | 18 Liters / 4.8 Gallons          |
| Hydraulic Oil Capacity         | 19 Liters / 5 Gallons            |
| Product Dimensions (L x W x H) | 80 x 37 x 90 inches              |
| Voltage                        | 12 Volts (DC)                    |

## 8. WARRANTY & SUPPORT

Your HUAYEE HY16C Mini Excavator is backed by comprehensive support and warranty provisions.

### 8.1 Returns Policy

The product is eligible for **30-day easy returns**. Please refer to your purchase agreement or contact customer support for detailed return procedures and conditions.

### 8.2 Customer Support

For any operational questions, technical assistance, or warranty claims, please contact HUAYEE MECHANICAL customer support. Contact information can typically be found on your purchase invoice or the official HUAYEE website. Our dedicated team is ready to assist you with any inquiries regarding your mini excavator.