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HITBOX HBC65

HITBOX HBC65 65A Plasma Cutter Instruction Manual

Model: HBC65

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1. INTRODUCTION

Thank you for choosing the HITBOX HBC65 65A Plasma Cutter. This dual-voltage (110V/220V) machine is designed for efficient and precise cutting of all conductive metals, including carbon steel, iron, galvanized steel, stainless steel, aluminum, copper, and brass. Featuring a non-HF non-touch pilot arc, CNC readiness, and a 60% duty cycle, the HBC65 offers reliable performance for various cutting applications. This manual provides essential information for safe operation, setup, maintenance, and troubleshooting to ensure optimal use of your plasma cutter.



Image: The HITBOX HBC65 65A Plasma Cutter, a compact and powerful cutting machine.

2. SAFETY INFORMATION

Operating a plasma cutter involves significant risks. Always prioritize safety to prevent injury or damage to equipment. Read and understand all safety warnings and instructions before operating the machine.

2.1 General Safety Precautions

- **Eye Protection:** Always wear appropriate welding helmets with suitable shade levels to protect your eyes from intense light and UV radiation.
- **Body Protection:** Wear flame-resistant clothing, gloves, and safety shoes to protect against sparks, molten metal, and electrical shock.
- **Ventilation:** Ensure adequate ventilation in the work area to remove fumes and gases produced during cutting. Avoid working in confined spaces.
- **Electrical Safety:**
 - Ensure the machine is properly grounded.

- Do not operate the machine in wet conditions or with wet hands.
- Inspect power cables and connections for damage before each use.
- **Fire Hazards:**
 - Keep flammable materials away from the cutting area.
 - Have a fire extinguisher readily available.
 - Be aware of hot metal and sparks that can travel.
- **Air Supply:** Ensure the air compressor is properly maintained and provides clean, dry air at the recommended pressure.
- **Children and Bystanders:** Keep children and unauthorized personnel away from the work area.

3. PRODUCT FEATURES

- **High Cutting Capacity:** The HITBOX HBC65 is a dual-voltage 110V/220V plasma cutter.
 - On 110V: Clean cut up to 5/16" (8 mm), maximum cut up to 19/32" (15 mm).
 - On 220V: Clean cut up to 3/8" (10 mm), maximum cut up to 1" (25 mm).

It is designed to cut all conductive metals, including carbon steel, iron, galvanized steel, stainless steel, aluminum, copper, and brass.

- **Non-Touch Pilot Arc, Non-HF Start:** This feature allows for easy cutting of rusty, painted, or dirty metal without direct torch contact. The adjustable pilot arc duration (3–15s; recommended 5–10s manual, 3–5s CNC) improves cut starts, extends consumable life, and reduces interference with nearby electronics or CNC systems.

NON-HIGH FREQUENCY



No High-frequency
Radiation



Low Electromagnetic
Interference(EMI)



Extended Equipment Life



Image: Illustration of the Non-High Frequency feature, highlighting no radiation, low EMI, and extended equipment life.

PILOT ARC CUTTING

Reduce Electrode Burning & Extend Service Life



Image: Pilot Arc Cutting in action, showing clean cuts on 1/2" (12mm) at 110V and 1" (25mm) at 220V.

- **60% Duty Cycle:** Provides reliable and stable cutting performance for extended manual or CNC cutting applications.
- **Smart Protection & Cooling:** Built-in digital air monitoring alerts when air pressure is too high and automatically stops cutting with a warning if air pressure drops below 30 PSI to protect consumables. The intelligent fan activates only during cutting or when the internal temperature reaches 40°C (104°F), reducing noise and extending component lifespan.

SECURE & LONG-LASTING

High Integration MCU, Smart Fan



Overvoltage
Protection



Overcurrent
Protection



Overheating
Protection



Overload
Protection



Fan on Demand

Image: Diagram illustrating the internal components and protection features like overvoltage, overcurrent, overheating, and overload protection, along with a smart fan.

- **CNC Ready, Easy Control & Portability:**

- **2T/4T Mode:** 2T mode offers flexible control, while 4T mode reduces fatigue during long cuts.
- **Adjustable Post-Flow:** (2–15s) cools the torch and extends consumable life.
- **CNC Ready:** Designed for integration with cutting tables.
- **Portability:** Weighs only 13.96 lbs, making it easy to transport.
- **Large HD Digital Display:** Provides clear and precise operation data.

POWERFUL FEATURES



Grid Cut



CNC
Function



2T/4T
Function



Post Gas
Time



Pilot Arc
Time



Image: Overview of powerful features including Grid Cut, CNC Function, 2T/4T Function, Post Gas Time, and Pilot Arc Time.

LARGE LED SCREEN

Read Data More Easily & Clearly



Image: Close-up of the large LED screen displaying current, air pressure, and various mode settings for the plasma cutter.

4. PACKAGE CONTENTS

Upon opening your HITBOX HBC65 Plasma Cutter package, please verify that all items listed below are present and undamaged:

PACKAGE INCLUDES



Image: All components included in the HITBOX HBC65 package, laid out for inspection.

- HITBOX HBC65 Plasma Cutter Unit
- Plasma Cutting Torch (13ft)
- Earth Clamp (4.9ft)
- Air Hose (6.5ft)
- Hose Clamps (x2)
- Tip Nozzles (x2)
- Electrodes (x2)

- Plug Adaptor
- GX16-02 Plug
- GX16-04 Plug
- Air Regulator & Filter
- User Manual

5. SETUP

Follow these steps to set up your HITBOX HBC65 Plasma Cutter:

1. Connect the Plasma Torch:

- Insert the main connector of the plasma torch into the corresponding socket on the front panel of the machine and tighten it securely.
- Connect the torch switch cable to the designated port (usually a smaller multi-pin connector).
- Connect the pilot arc cable to its respective terminal.

2. Connect the Earth Clamp:

- Attach the earth clamp cable to the negative (-) terminal on the front panel.
- Securely attach the earth clamp to the workpiece or a clean, bare metal part of the cutting table to ensure a good electrical connection.

3. Connect the Air Supply:

- Attach the air hose to the air inlet on the rear panel of the plasma cutter. Use the provided hose clamps to secure the connection.
- Connect the other end of the air hose to your external air compressor. The plasma cutter requires a stable air pressure of ≥ 80 PSI and ≥ 6.36 CFM, with a recommended working range of 50–60 PSI.
- Ensure the air regulator and filter are properly installed between the compressor and the plasma cutter to provide clean, dry air.

4. Power Connection:

- Connect the power cable to the appropriate 110V or 220V power outlet using the provided plug adaptor if necessary.
- Turn on the main power switch located on the rear panel of the machine.

5.1 Visual Setup Guide

Watch the following video for a detailed visual guide on setting up your plasma cutter:

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Video: Installation and Setup Guide for a Plasma Cutter. This video demonstrates connecting the torch, earth clamp, and air hose, and adjusting air pressure.

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Video: Easy setup of the RBC6000DL plasma cutter, showing connections and initial adjustments.

6. OPERATING INSTRUCTIONS

Once the machine is set up, follow these steps for operation:

1. Adjust Air Pressure:

- Turn the knob on the air regulator to set the desired air pressure, typically between 50-60 PSI for optimal cutting. The digital display will show the current air pressure.

2. Select Cutting Mode:

- Use the control panel to select between 2T (Two-Touch) and 4T (Four-Touch) modes based on your cutting needs.
- 2T mode: Press and hold the torch button to start cutting, release to stop.
- 4T mode: Press the torch button to start, release to continue cutting, press again to stop. This mode is ideal for longer cuts to reduce hand fatigue.

3. Set Current and Post-Flow:

- Adjust the cutting current (Amps) using the control knob according to the material thickness and type. Refer to the cutting chart (if provided) for recommended settings.
- Set the post-flow time (2-15 seconds). Post-flow air cools the torch and consumables after the arc is extinguished, extending their lifespan.

4. Perform the Cut:

- Position the torch over the workpiece, ensuring the non-touch pilot arc feature allows for a small gap between the nozzle and the metal.
- Press the torch button to initiate the pilot arc and begin cutting. Maintain a steady travel speed for a clean cut.
- For grid cutting, the non-touch pilot arc allows for continuous cutting over gaps.

GRID CUTTING



Image: A plasma cutter performing a grid cut, demonstrating the precision and capability of the tool.

6.1 Operation Videos

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Video: Demonstration of the CUT75P plasma cutter, showcasing its pilot arc function, clean cutting, efficient cutting, and mesh cutting capabilities.

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Video: A plasma cutter demonstrating its cutting capabilities on 16mm thick metal.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your plasma cutter.

- **Consumable Inspection:** Regularly check the torch consumables (nozzle, electrode, shield cup) for wear and replace them as needed. Worn consumables can lead to poor cut quality and damage to the torch.
- **Air Filter:** Periodically drain the water from the air filter/regulator and clean or replace the filter element to ensure a clean and dry air supply.
- **Cleaning:** Keep the machine clean and free from dust and metal particles. Use compressed air to blow out internal components if necessary, ensuring the machine is unplugged.
- **Cable Inspection:** Inspect all cables (power, torch, earth clamp) for cuts, abrasions, or loose connections. Repair or replace damaged cables immediately.

8. TROUBLESHOOTING

If you encounter issues with your plasma cutter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No Arc / Arc Fails to Start	No power to machine Poor earth clamp connection Worn consumables Insufficient air pressure Torch button not pressed correctly	Check power supply and connections. Ensure earth clamp is on clean, bare metal. Replace worn nozzle/electrode. Adjust air pressure to recommended levels. Ensure firm press of torch button.
Poor Cut Quality / Rough Edges	Worn consumables Incorrect cutting speed Incorrect current setting Insufficient air pressure Contaminated air supply	Replace consumables. Adjust travel speed. Adjust current according to material. Check and adjust air pressure. Check air filter and drain water.
Machine Overheats / Shuts Down	Exceeded duty cycle Poor ventilation Blocked cooling vents	Allow machine to cool down. Ensure adequate airflow around the machine. Clean cooling vents.
Air Pressure Warning	Air pressure too low or too high Air hose leak	Adjust air regulator. Check all air hose connections for leaks.

9. SPECIFICATIONS

Feature	Detail
Manufacturer	HITBOX
Model	HBC65
Style	65A Non-HF
Input Voltage	110V/220V Dual Voltage

Feature	Detail
Cutting Thickness (110V Clean)	1/32" 5/16" (1 8 mm)
Cutting Thickness (110V Max)	19/32" 5/16" (8 15 mm)
Cutting Thickness (220V Clean)	1/32" 3/8" (1 10 mm)
Cutting Thickness (220V Max)	3/8" 1" (10 25 mm)
Duty Cycle	60%
Required Air Pressure	≥80 PSI, ≥6.36 CFM (Recommended 50–60 PSI)
Pilot Arc Duration	Adjustable (3–15s)
Post-Flow Duration	Adjustable (2–15s)
Item Weight	9.65 kg (21.27 lbs)
Parcel Dimensions	49.5 x 35.5 x 22 cm

10. WARRANTY & SUPPORT

Your HITBOX HBC65 Plasma Cutter comes with a **2-year quality service warranty**. HITBOX is committed to providing responsive technical support to assist you with any questions or issues you may encounter. For warranty claims, technical assistance, or general inquiries, please contact HITBOX customer service through the retailer where you purchased the product or visit the official HITBOX website for support contact information.