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> Hairich 1/2-Inch Drive Click Torque Wrench (Model HRC-SI-12250) Instruction Manual

Hairich HRC-SI-12250

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Precision Torque for Reliable Fastening

1. INTRODUCTION

Thank you for choosing the Hairich 1/2-Inch Drive Click Torque Wrench, Model HRC-SI-12250. This tool is designed for precise torque application, ensuring fasteners are tightened to their specified values, which is critical for safety and performance in various applications. This manual provides essential information for the safe and effective operation, setup, and maintenance of your torque wrench.



Image 1.1: Hairich 1/2-Inch Drive Click Torque Wrench and its protective storage case.

2. SAFETY INFORMATION

Always observe the following safety precautions when using your torque wrench:

- Read and understand this entire manual before operating the tool.
- Wear appropriate personal protective equipment, such as safety glasses.
- Do not use the torque wrench as a standard ratchet or breaker bar. It is a precision measuring instrument.
- Do not exceed the maximum torque capacity of the wrench (300 ft.lb / 406.8 Nm).
- Ensure the socket is correctly seated on the fastener and the wrench drive.
- Apply force smoothly and steadily to the handle. Avoid sudden jerking motions.
- After use, always return the torque setting to its lowest value (but not below the lowest marked setting) to relieve spring tension and maintain calibration accuracy.
- Store the wrench in its protective case in a clean, dry environment.

3. PACKAGE CONTENTS

Your Hairich 1/2-Inch Drive Click Torque Wrench package includes:

- 1/2 Inch Dual-Direction Click Professional Torque Wrench
- Storage box
- Product manual (this document)
- Calibration certificate

4. PRODUCT OVERVIEW AND FEATURES

The Hairich 1/2-Inch Drive Click Torque Wrench is engineered for accuracy and durability. Key features include:

- **High Precision:** $\pm 3\%$ calibration error range for accurate torque application.
- **Dual Range Scales:** Clearly laser-printed scales in both foot-pounds (ft.lb) and Newton-meters (Nm) for direct unit conversion.
- **72-Tooth Ratchet Head:** Provides a 5° ratcheting arc, allowing for use in confined spaces and improving work efficiency.
- **Dual-Direction Operation:** Measures torque in both clockwise and counter-clockwise directions.
- **Durable Construction:** Main body made from chrome vanadium steel alloy for strength. The handle is aluminum titanium alloy for an ergonomic, non-slip grip.
- **Quick Release Button:** Facilitates easy loading and unloading of sockets.

Product Details



Image 4.1: Key components and features of the Hairich Torque Wrench.

Dual Scale

Easy To Read, Clearer and More Accurate



Image 4.2: Dual-range scales for ft.lb and Nm readings.

5. SETUP: SETTING THE TORQUE VALUE

Follow these steps to set the desired torque value:

1. **Unlock the Handle:** Pull down the lock knob located at the base of the handle. This disengages the locking mechanism, allowing the handle to rotate.
2. **Adjust the Torque:** Rotate the handle to align the desired torque value on the main scale with the zero mark on the micrometer scale. For fine adjustments, rotate the handle further until the exact value on the micrometer scale aligns with the main scale line.
3. **Lock the Handle:** Release the lock knob. It will automatically rebound and lock the handle, securing the set torque value. Ensure the knob is fully engaged before applying torque.

Easy To Use



Image 5.1: Steps for setting and locking the torque value.

6. OPERATING INSTRUCTIONS

Using your torque wrench correctly ensures accurate results and prevents damage to fasteners or components.

1. **Select Socket:** Choose the correct size and type of socket for your fastener. Attach it firmly to the 1/2-inch drive square.
2. **Set Torque:** Follow the instructions in Section 5 to set the required torque value.
3. **Position Wrench:** Place the socket onto the fastener. Ensure the wrench is positioned so you can apply force smoothly and perpendicular to the handle.
4. **Apply Torque:** Apply a slow, steady pull or push to the handle. Do not use extensions on the handle unless specifically designed for torque wrenches.
5. **Listen for Click:** Continue applying force until you hear and feel a distinct "click" from the wrench. This indicates that the preset torque value has been reached. Immediately stop applying force once the click is detected.
6. **Dual-Direction Use:** The wrench can be used for both tightening (clockwise) and loosening (counter-

clockwise) applications. Use the quick reversible switch on the ratchet head to change direction. Note that torque measurement is primarily for tightening.

7. MAINTENANCE AND STORAGE

Proper care extends the life and accuracy of your torque wrench:

- **Cleaning:** Wipe the wrench clean with a soft, dry cloth after each use. Do not use solvents or harsh chemicals, as these can damage the finish or internal components.
- **Storage:** Always return the torque setting to its lowest value (but not below the lowest marked setting) before storing. This relieves tension on the internal spring, preserving its accuracy. Store the wrench in its original protective case in a dry, clean, and temperature-controlled environment.
- **Recalibration:** Torque wrenches are precision instruments and may require periodic recalibration to maintain accuracy. It is recommended to verify the calibration of this torque wrench after approximately 12 months or 5000 uses, whichever comes first. Refer to the included calibration certificate for initial data.

Calibration Certificate

Inspection Certificate

Model	1/2 300FT.LB		Serial Number	H23070011		
Style	Mechanical prefabricated		Calibration Instrument	HG/NL-500		
Range	40-300FT.LB		Instrument Precision	±0.5%		
Fixed Text Value	Clockwise Direction Torque Value					Max Error%
60	60.27	60.38	60.48	60.21	60.30	0.55
180	181.85	181.37	181.69	181.61	181.50	0.89
300	298.38	298.24	297.79	297.73	297.49	-0.69
Test Result : The test torque value meets the standard of ISO6789 , GB / T15729 and ASME B107.14M.						
We recommend you to verify this torque wrench after working for 12 months or 5000 times						
Checker	Cuiyongwei		Date	2023/08/14		

QC PASS

Image 7.1: Example of the Inspection Certificate provided with the torque wrench.

8. TROUBLESHOOTING

If you encounter issues with your torque wrench, consider the following:

- **No Audible Click:** At very low torque settings (e.g., under 5 Nm), the "click" sound may be very subtle or difficult to hear. In such cases, pay close attention to the tactile feedback – a slight jolt or release in the handle – which indicates the torque has been reached. Ensure the lock knob is fully engaged after setting the torque.
- **Inaccurate Readings:** Ensure the wrench is properly calibrated. If you suspect inaccuracy, professional recalibration may be necessary. Always set the wrench to its lowest setting before storage to prevent spring fatigue.
- **Stuck Adjustment:** Ensure the lock knob is fully pulled down before attempting to rotate the handle for torque adjustment. Do not force the adjustment mechanism.

9. SPECIFICATIONS

Feature	Specification
Model Number	HRC-SI-12250
Drive Size	1/2-Inch
Torque Range	40-300 ft.lb (33.9-406.8 Nm)
Accuracy	±3%
Ratchet Teeth	72-tooth
Material	Chrome Vanadium Steel (body), Aluminum Titanium Alloy (handle)
Operation Mode	Mechanical
Product Dimensions	17.6 x 2.95 x 2.28 inches
Item Weight	4.09 pounds
Included Components	Torque Wrench, Storage Box, Product Manual, Calibration Certificate

10. APPLICATIONS

The Hairich 1/2-Inch Drive Click Torque Wrench is suitable for a wide range of applications where precise torque is required, including:

- Automotive maintenance (e.g., lug nuts, engine components)
- Bicycle assembly and maintenance
- Motorcycle repair
- Machine installation
- Electrical engineering tasks

Wide Application



Bicycle Maintenance



Motorcycle Repair



Spark Plug Replacement



Mechanical Work

Image 10.1: Examples of common applications for the torque wrench.

11. WARRANTY AND SUPPORT

Hairich provides a **24-month warranty** for this product, covering defects in materials and workmanship under normal use. If you encounter any product issues or require assistance, please contact Hairich customer support through your purchase platform or the official Hairich website. Please have your model number (HRC-SI-12250) and purchase details ready when contacting support.