ACE DTH HAMMERS

SAFETY & MAINTENANCE INSTRUCTIONS



V7

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Introduction

- This manual provides essential information for the safe and efficient operation, maintenance, and handling of the DTH hammer.
- It covers general safety precautions, operating instructions, maintenance procedures, and troubleshooting tips.
- Operators, maintenance personnel, and anyone involved with DTH drilling operations.

General safety information

• **Prohibited Use**	• Do not operate under the influence of drugs, alcohol, or if fatigued or unwell. • Never use in explosive atmospheres. • Do not bypass or disable safety features.
• **PPE**	• Mandatory: Hard hat, safety glasses, hearing protection, gloves, steel-toed boots. • Additional: Face shield, respiratory protection as needed for dusty conditions. • Ensure high visibility clothing for better safety.
• **Site Safety**	• Conduct pre-operational site assessment for hazards like uneven terrain, overhead obstacles, and unstable ground. • Establish clear communication and mark off the drilling zone with signage. • Maintain clear visibility for operators and implement measures to mitigate blind spots. • Never go near the edge of a cliff or excavation.
• **Emergency Procedures**	• Be familiar with emergency procedures for malfunctions, accidents, fire, and medical situations.

DTH hammer operation	
• **Pre-operation Inspection**	• Inspect hammer, drill rig, components, and connections for damage or wear. • Verify lubricant levels are correct.
• **Hammer Handling**	• Be aware of the hammer's weight and shifting balance due to internal components. • Use proper lifting equipment and procedures, never work beneath a suspended load. • Avoid working under suspended loads.
• **Operational Control**	• Operate controls only when the engine is running and maintain control of the drill rig. • Adhere to design limits and be aware of the maximum operating dimensions to prevent damage or injury. • Do not allow the drill to run unattended. • Avoid placing hands or fingers between the drill bit and the drive sub during operation. • Keep hands and feet clear of the borehole and rotating components.
• **Drilling Best Practices**	• Ensure proper drilling depth and re-drill short holes as needed. • Never start holes in bootlegs or drill into explosive materials. • Handle drill steels carefully and watch out for pinch points. • Shut off the drill when changing steels and place controls in neutral during power failure. • Water-Powered DTH (If applicable): Drill wet, and always have water on the collar of the hole.

DTH hammer maintenance	
• **Regular Inspections**	• Inspect the hammer and components regularly for wear, damage, or loose parts.
• **Cleanliness**	• Clean the hammer after each use by blowing lubricated air through the system and using a mild detergent for deeper cleaning. • Avoid prolonged water exposure to prevent rust.
• **Lubrication**	• Use the manufacturer-recommended rock drill oil and lubricate before and after each use. • Add additional rock drill oil through the top sub before starting the hammer. • Avoid over-lubrication. • Apply thread grease to drill pipe and top sub threads for proper fit and to prevent galling or corrosion. • Reapply thread grease at every bit change. • Avoid dirt or dust while fitting the hammer onto the drill pipe.
• **Storage**	• Clean, dry, and lubricate the hammer before storing. • Grease threads and install thread protectors. • Seal the hammer to prevent dirt and dust. • Store in a suitable protective container in a dry location.

Troubleshooting

• **Listen to the Sound**	• Pay close attention to the sound of the DTH hammer and machine operation. If abnormal sounds occur, shut down the machine and inspect.
• **Prevent Drill Pipe Tripping**	• Avoid reverse rotation during drilling.
• **Stopping and Resuming Operation**	• Apply a small amount of air pressure when the hammer stops to prevent mud and sand from entering. • If the hammer stops for a prolonged time, lift it 1-2 meters from the bottom of the hole before resetting.
• **Cleaning the Drill Pipe**	• Pay close attention to cleaning the inside of the drill pipe when introducing new drill pipes to prevent sand from mixing with the DTH hammer.

Technical specifications

- **Refer to the specific hammer's technical documentation for detailed specifications like dimensions and operating parameters.**

Warranty and disclaimer

- **Damage or malfunction caused by unauthorized parts will not be covered by warranty or product liability.**