

# Operate

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## Bore



**⚠ WARNING**

Pressurized fluid or air. Injection can cause death or serious injury.

**To help avoid injury:**

- Ensure couplings are tight and secured with the applicable retaining devices.
- Check air supply hose and fittings for wear and tear.
- Shut down unit immediately at the first sign of malfunction or hazardous situation.



**⚠ WARNING**

Thrown objects. Impact can cause injury.

**To help avoid injury:**

- Wear hard hat and safety glasses.
- Stay away from high-pressure exhaust.
- Stay away from the bore hole during operation.

## Standard Bore

Two persons are required to operate the tool:

- One person to control the air supply to the tool
- One person to monitor the tool and the supply hose

**To start bore:**

1. Start compressor.
2. Quickly open air valve.
3. Change air supply to adjust tool speed as necessary. Average production is 1 ft/min (305 mm/min).

## Stitch Bore

In order to complete longer bores, dig multiple pits 30-50 ft (9-15 m) apart along the bore path. Use tool to pierce hole from pit to pit. Shut down, disconnect and reposition equipment at the end of each bore.

## Reverse Tool Direction

**NOTICE:** Incorrect use will damage tool valve assembly. Turn air valve to OFF position before changing tool travel direction.

1. Turn air valve to OFF position and wait for pressure to release.
2. Turn air supply hose fully counterclockwise to reverse tool direction:
  - Screw Reverse tools: Turn multiple turns.

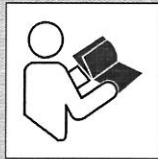
**IMPORTANT:** It may be necessary to disconnect air supply hose from oiler.

- Power Port<sup>®</sup> tools: Turn 1/4 turn.

**IMPORTANT:** It may be necessary to turn air supply hose one full turn for rear whip to turn 1/4 turn.

3. Quickly open air valve. Change air supply to adjust tool speed as necessary.
4. Pull hose to prevent backing over.

## Shut Down and Disassemble Equipment



**⚠ WARNING** Pressurized fluid or air. Injection can cause death or serious injury.

### To help avoid injury:

- Turn air valve to OFF position to release pressure after each use.
- Wait for pressure to be released before disconnecting hoses.

1. Turn air valve to OFF position.
2. Shut down air compressor.
3. Disconnect hoses.
4. Install cap at end of rear whip or apply tape to prevent dirt from entering tool.

## Troubleshooting

Problem	Cause	Solution
Rear whip does not thread into rear anvil	Adjuster screw thread is damaged.	Contact your HammerHead® dealer.
Tool does not start	Air pressure is incorrect.	<ul style="list-style-type: none"> <li>• Check compressor for correct air output and pressure: 90-110 psi (620-760 kPa).</li> <li>• Ensure size of air supply hoses and fittings is correct.</li> </ul>
	Tool is obstructed.	<ul style="list-style-type: none"> <li>• If tool is in the ground, do the steps that follow:               <ol style="list-style-type: none"> <li>1. Turn air valve to OFF position.</li> <li>2. Remove air supply hose from oiler to tool and inject 0.5 oz (15 ml) of oil into hose.</li> <li>3. Change tool direction.</li> <li>4. Connect air supply hose to oiler.</li> <li>5. Turn air valve to ON position.</li> <li>6. If tool still does not start, repeat steps 1-5.</li> </ol> </li> <li>• If tool out of the ground and does not start:               <ol style="list-style-type: none"> <li>1. Ensure rear whip is free of obstructions.</li> <li>2. Disassemble tool and check control stem for obstructions.</li> </ol> </li> </ul>
	Tool needs dealer inspection.	If tool does not start after all other causes have been ruled out, contact your HammerHead® dealer.
Tool does not change direction	Air pressure is incorrect.	Check for obstructions.
	Direction change done incorrectly.	Follow correct procedure. See "Reverse Tool Direction" on page 41.
	Tunnel has collapsed and air supply hose will not turn.	<ol style="list-style-type: none"> <li>1. Turn air supply hose while tool is running until air supply hose is freed up.</li> <li>2. Stop tool and change tool direction.</li> </ol>
	Soft or wet ground conditions cause the tool to lose traction and oscillate or swim.	Partially reduce air flow at air valve to regain traction.

## ***Piercing Tools Operator's Manual*** ***Troubleshooting***

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
<b>Tool runs but does not move in hole</b>	Whip hose is not in FORWARD position.	Ensure rear whip is in FORWARD position.
	Soft or wet ground conditions cause the tool to loose traction and oscillate or swim.	Partially reduce air flow at air valve to regain traction.
	Tool is obstructed.	<ol style="list-style-type: none"> <li>1. Change tool direction.</li> <li>2. Start new bore at least 10 times the diameter of the tool away from current bore.</li> </ol>
<b>Tool cycles fast and seems low on power</b>	Valve assembly is too short.	Check length of valve assembly.
	Soft or wet ground conditions cause the tool to loose traction and oscillate or swim.	Partially reduce air flow at air valve to regain traction.
<b>Tool slows down during long bores</b>	Striker is contaminated with dirt.	Test striker friction: <ul style="list-style-type: none"> <li>• Put tool in horizontal position.</li> <li>• Slowly tip tool rearward. The striker should slide from front to back when tool is at a 22° angle.</li> <li>• If a larger angle is necessary for striker to slide, disassemble and clean tool.</li> </ul>
	Tunnel has collapsed on air supply hose and air flow is restricted.	Turn air supply hose while tool is running until air supply hose is freed up.

## Piercing Tools Operator's Manual

### Troubleshooting

Problem	Cause	Solution
Tool runs but is low on power	Air pressure is incorrect.	<ul style="list-style-type: none"> <li>• Check compressor for correct air output and pressure: 90-110 psi (620-760 kPa).</li> <li>• Ensure size of air supply hoses and fittings is correct.</li> </ul>
	Oil level is too low.	<ul style="list-style-type: none"> <li>• Check oil level at oiler.</li> <li>• Ensure tool is being oiled correctly.</li> </ul>
	Striker is contaminated with dirt.	<p>Test striker friction:</p> <ul style="list-style-type: none"> <li>• Put tool in horizontal position.</li> <li>• Slowly tip tool rearward. The striker should slide from front to back when tool is at a 22° angle.</li> <li>• If a larger angle is necessary for striker to slide, disassemble and clean tool.</li> </ul>
	Tool needs servicing.	<ul style="list-style-type: none"> <li>• Check length of valve assembly.</li> <li>• Check valve rings. See "Check Valve Rings" on page 52.</li> <li>• Check striker. See "Check Striker" on page 53.</li> </ul>