



TECHNICAL PUBLICATIONS



# Overview

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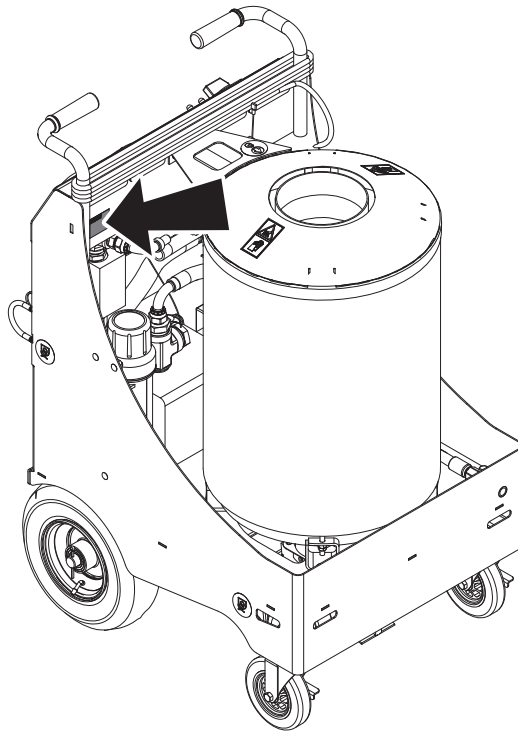
- Bulleted Lists. . . . .6
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## California Proposition 65

 **WARNING** Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm. [www.P65warnings.ca.gov](http://www.P65warnings.ca.gov).

## Serial Number Location

Record serial numbers and date of purchase in spaces provided.



J750m001h.eps

Model Number	
Serial Number	
Date of purchase	

## **Intended Use**

The Heat Wave is intended to heat water for use in cured in place pipe (CIPP) operations.

The unit is designed for operation in temperatures from 32° to 124° F (0° to 124° C). Contact your HammerHead® dealer for provisions required for operating in extreme temperatures. Use in any other way is considered contrary to the intended use.

The Heat Wave should be operated, serviced, and repaired only by persons familiar with its particular characteristics and acquainted with the relevant safety procedures.

## **Equipment Modification**

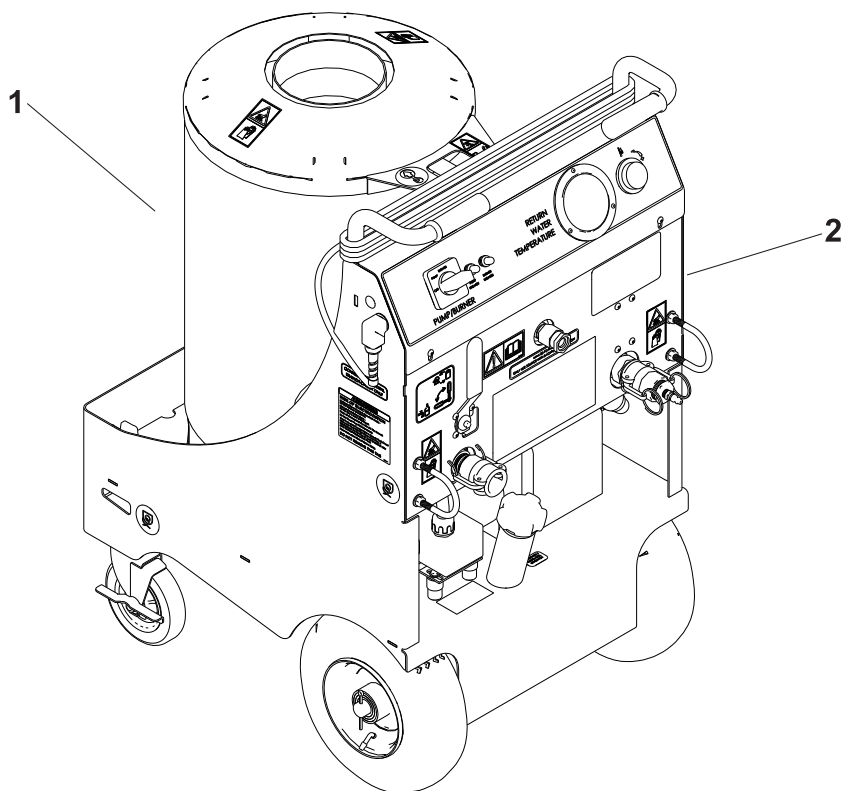
This equipment was designed and built in accordance with applicable standards and regulations. Modification of equipment could mean that it will no longer meet regulations and may not function properly or in accordance with the operating instructions. Modification of equipment should only be made by competent personnel possessing knowledge of applicable standards, regulations, equipment design functionality/requirements and any required specialized testing.

## **CSA Statement - Oil-Fired Unit Caution**

DO NOT USE GASOLINE, CRANKCASE DRAININGS, OR OIL CONTAINING GASOLINE OR SOLVENTS.

NE PAS UTILISER D'ESSENCE, DE PRODUITS DE VIDANGE NI D'HUILE CONTENANT DE L'ESSENCE OU DES SOLVANTS.

## Unit Components



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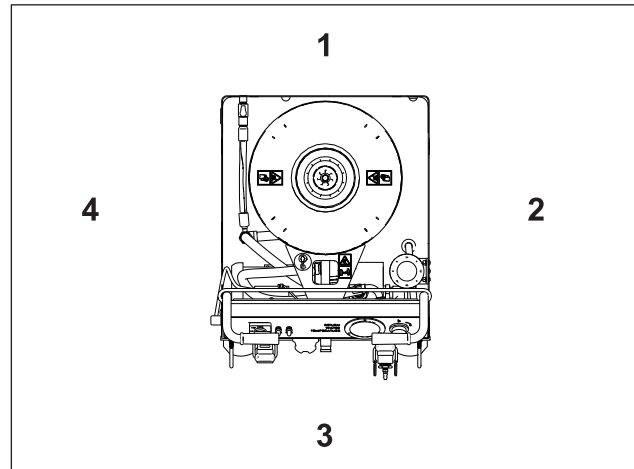
1. Tank

2. Control panel

### Operator Orientation

**IMPORTANT:** Top view of unit is shown.

1. Front of unit
2. Right side of unit
3. Rear of unit
4. Left side of unit

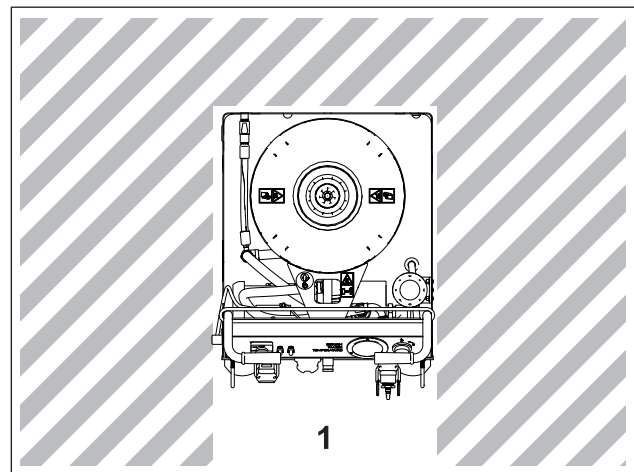


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### Operating Area

**IMPORTANT:** Top view of unit is shown.

Operator should stand only in area the location marked by number 1.



j75om009h.eps

## **About This Manual**

This manual contains information for the proper use of this machine. See **Operation Overview** for basic operating procedures. Cross references such as "See page 50" will direct you to detailed procedures.

### **Bulleted Lists**

Bulleted lists provide helpful or important information or contain procedures that do not have to be performed in a specific order.

### **Numbered Lists**

Numbered lists contain illustration callouts or list steps that must be performed in order.

# **Foreword**

This manual is an important part of your equipment. It provides safety information and operation instructions to help you use and maintain your HammerHead® equipment.

Read this manual before using your equipment. Keep it with the equipment at all times for future reference. If you sell your equipment, be sure to give this manual to the new owner.

If you need a replacement copy, contact your HammerHead dealer. If you need assistance in locating a dealer, visit our website at **[www.hammerheadtrenchless.com](http://www.hammerheadtrenchless.com)** or write to the following address:

HammerHead Trenchless Equipment  
500 South C.P. Avenue  
Lake Mills, WI 53551  
USA

The descriptions and specifications in this manual are subject to change without notice. Earth Tool Company LLC reserves the right to improve equipment. Some product improvements may have taken place after this manual was published. For the latest information on HammerHead equipment, see your HammerHead dealer.

Thank you for buying and using HammerHead equipment.



A CHARLES MACHINE WORKS COMPANY



**Heat Wave  
Operator's Manual**

**Issue number 2.1/OM-01/20**

**Part number 960-1135**

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by Earth Tool Company LLC**



HammerHead is a registered trademark of Earth Tool Company LLC.

This product and its use may be covered by one or more patents at <http://patents.charlesmachine.works>.

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### **Service Record**

a record of major service performed on the machine

**53**

# Safety

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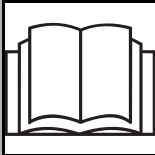
## Important Safety Instructions

**⚠ WARNING** When you see this safety alert sign, carefully read and follow all instructions. **YOUR SAFETY IS AT STAKE.** Read this entire section before using your equipment. **SAVE THESE INSTRUCTIONS.**

WARNING—When using this product, basic precautions should always be followed, including the following:

- Complete proper training and read operator's manual before using equipment.
- Mark proposed path with white paint and have underground utilities located before working. In the US or Canada, call 811 (US) or 888-258-0808 (US and Canada). Also contact any local utilities that do not participate in the One-Call service. In countries that do not have a One-Call service, contact all local utility companies to have underground utilities located.
- Classify jobsite based on its hazards and use correct tools and machinery, safety equipment, and work methods for jobsite.
- Mark jobsite clearly and keep spectators away.
- Wear personal protective equipment.
- Review jobsite hazards, safety and emergency procedures, and individual responsibilities with all personnel before work begins. Safety Data Sheets (SDS) are available at [www.hammerheadshop.com/resources/technical-sheets/](http://www.hammerheadshop.com/resources/technical-sheets/).
- Fully inspect equipment before operating. Repair or replace any worn or damaged parts. Replace missing or damaged safety shields and safety signs. Contact your HammerHead® dealer for assistance.
- Use equipment carefully. Stop operation and investigate anything that does not look or feel right.
- Do not operate unit where flammable gas may be present.
- Only operate equipment in well-ventilated areas.
- Contact your HammerHead dealer if you have any question about operation, maintenance, or equipment use
- To reduce risk of injury, close supervision is necessary when a product is used near children.
- Know how to stop the product and bleed pressures quickly.
- Stay alert — watch what you are doing.
- Do not operate product when fatigued or under the influence of alcohol or drugs.
- Do not overreach or stand on unstable support. Keep good footing and balance at all times.
- To disconnect, turn all controls to the off ("O") position, then remove plug from outlet.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Unplug from outlet when not in use and before servicing or cleaning.
- For a grounded appliance, Connect to a properly grounded outlet only. See grounding instructions.

### Grounding Instructions



#### **⚠ DANGER**

Electric shock. Improper connection of equipment-grounding conductor will cause death or serious injury. Contact qualified electrician to ensure outlet is properly grounded.

#### **To help avoid injury:**

- Never modify plug provided with product. If plug will not fit outlet, have a proper outlet installed by a qualified electrician.
- Never use an adapter.
- Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the appliance is properly grounded.

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce risk of electric shock. This product is equipped with a cord with equipment-grounding and a grounding plug (shown). The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

### If Machine Catches on Fire

Perform emergency shutdown procedure and then take the following actions. The order and degree of action will depend on the situation.

- Immediately disconnect power from outlet, if possible.
- If fire is small and fire extinguisher is available, attempt to extinguish fire.


If fire cannot be extinguished, leave area as quickly as possible and contact emergency personnel.





## Safety Alert Classifications

These classifications and the icons defined on the following pages work together to alert you to situations which could be harmful to you, jobsite bystanders or your equipment. When you see these words and icons in the book or on the machine, carefully read and follow all instructions. **YOUR SAFETY IS AT STAKE.**

Watch for the three safety alert levels: **DANGER**, **WARNING** and **CAUTION**. Learn what each level means.

 **DANGER** indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

 **WARNING** indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 **CAUTION** indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

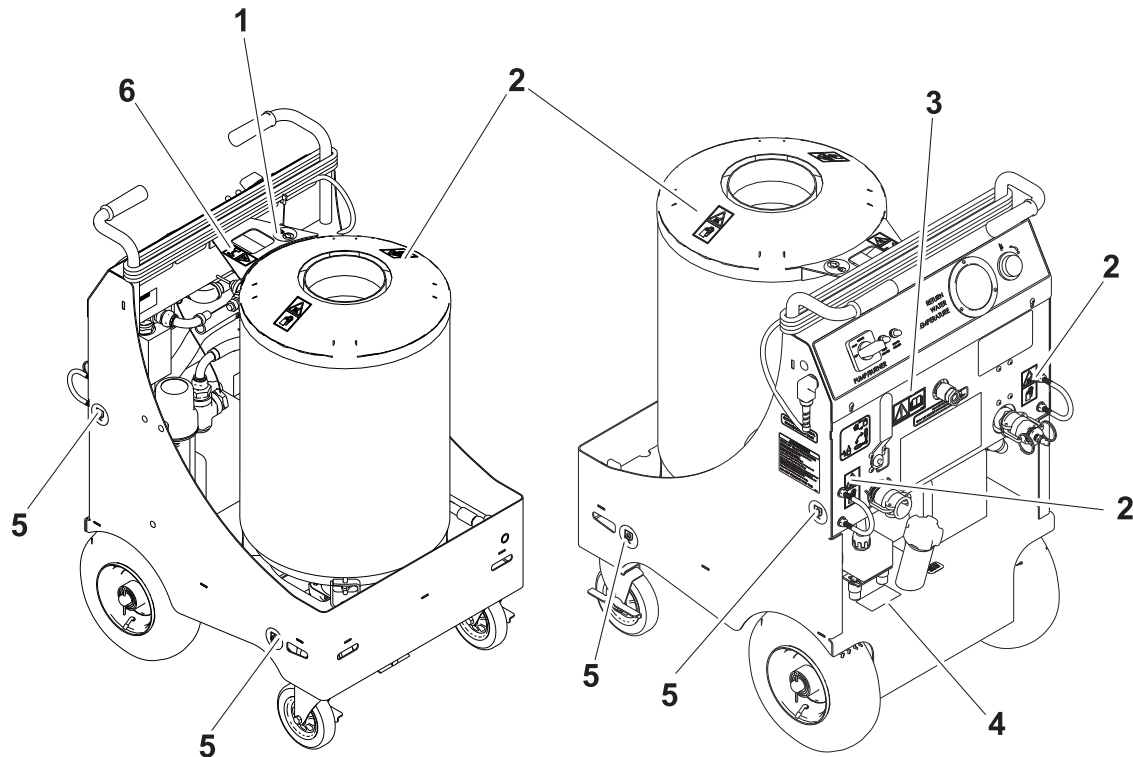
Watch for two other words: **NOTICE** and **IMPORTANT**.

**NOTICE** indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

**IMPORTANT** can help you do a better job or make your job easier in some way.



## Machine Safety Alerts



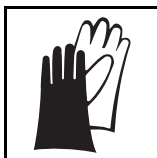
Decal\_HH\_Heatwave.eps

1



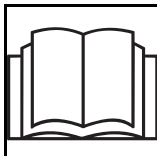
Lift point. See Transport chapter for more information.

2



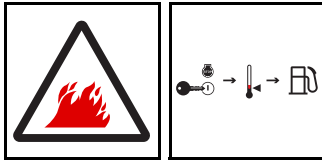
**CAUTION** Hot parts may cause burns. Do not touch until cool or wear gloves.

3



**WARNING** Read operator's manual. Follow safety rules and know how to use all controls. Your safety is at stake.

4



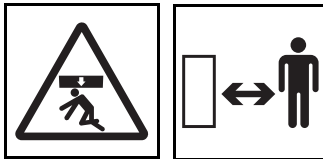
**CAUTION** Risk of fire. Do not add fuel when the product is operated or still hot.

5



Tiedown location. See Transport chapter for more information.

6



**WARNING** Crushing weight could cause death or serious injury. Stay away. 275-326, 701-326



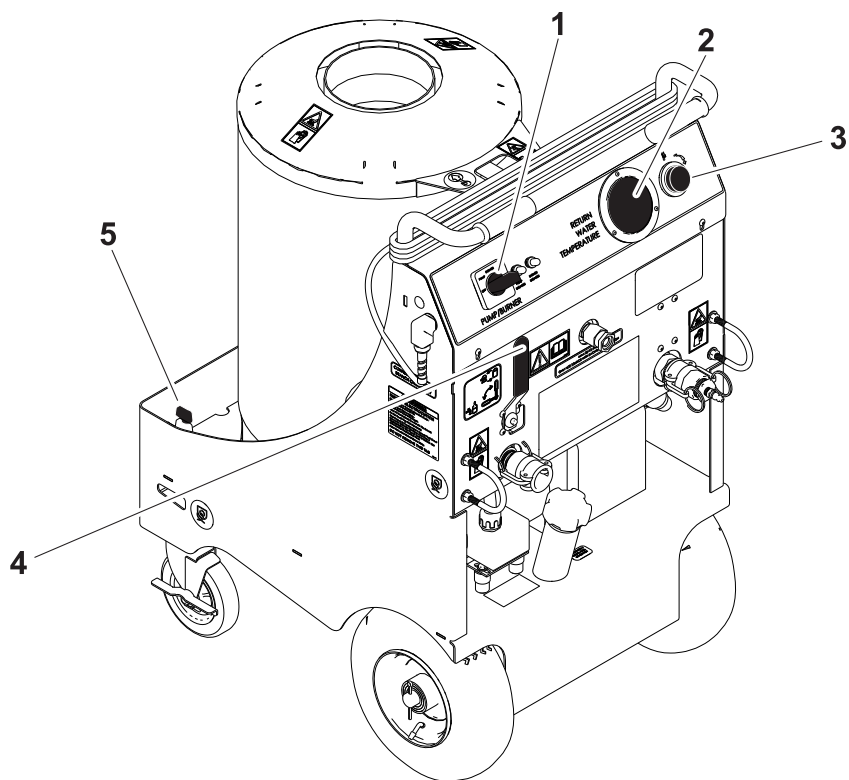
# Controls

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Controls



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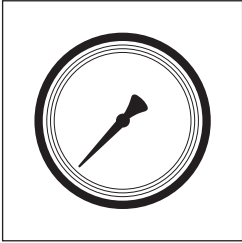
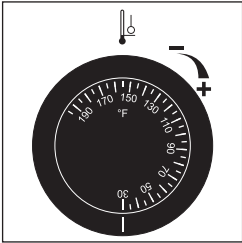
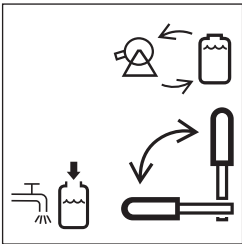
1. Power switch

2. Temperature gauge

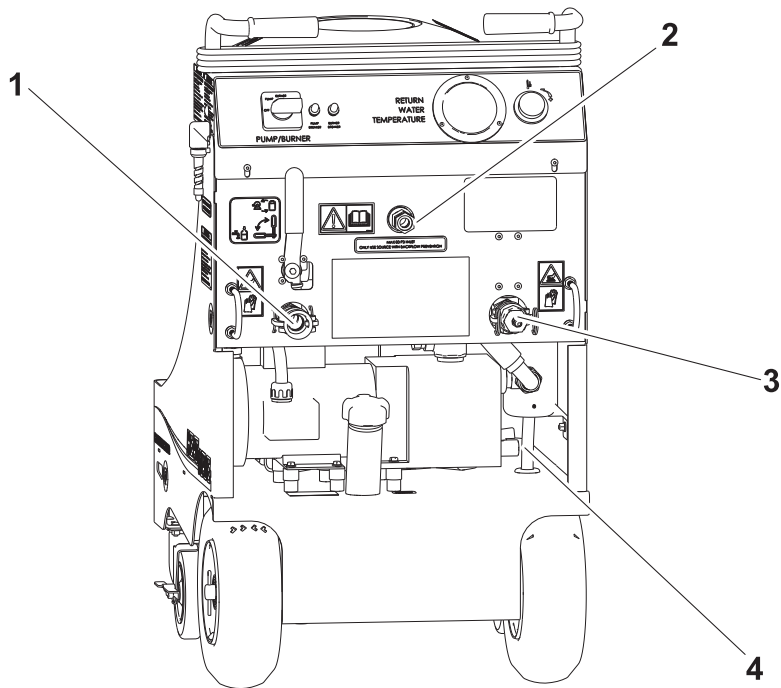
3. Temperature control
4. Fill/Recirculation valve

5. Coil drain valve

Item	Description	Notes
<div><div>1. Power switch</div><div><p>PUMP/BURNER</p></div></div>	<p>To turn on pump, turn to pump position.</p> <p>To turn on burner and pump, turn to burner position.</p> <p>To turn off unit functions, turn to off position.</p>	

Item	Description	Notes
<b>2. Temperature gauge</b>  <small>Gauge.eps</small>	Displays return water temperature.	Gauge readings for reference only.
<b>3. Temperature control</b>  <small>c00ic779h.eps</small>	To set temperature, turn to desired position.	
<b>4. Fill/Recirculation valve</b>  <small>c00ic782h.eps</small>	<p>To enable recirculation mode, turn clockwise.</p> <p>To enable fill mode, turn counterclockwise.</p>	
<b>5. Coil drain valve</b>	<p>To open drain, turn counterclockwise.</p> <p>To close drain, turn clockwise.</p>	

Connections



J75om005h.eps

1. Return hose inlet

2. Supply hose inlet
3. Water outlet

4. Pump drain valve

Item	Description	Notes
1. Return hose inlet	Connects to return hose.	
2. Supply hose inlet	Connects to supply hose.	Water supply must be less than 80 psi and have backflow prevention.
3. Water outlet	Connects to output hose.	
4. Pump drain valve	To open drain, turn counterclockwise.  To close drain, turn clockwise.	

# Prepare

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- Arrange for Traffic Control . . . . . 24
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- Check Supplies . . . . . 26
- Prepare Equipment . . . . . 26
- Assemble Accessories . . . . . 26



## **Gather Information**

A successful job begins before you dig. The first step in planning is reviewing information already available about the job and jobsite.

### **Review Job Plan**

Review blueprints or other plans. Check for information about existing or planned structures, elevations, or proposed work that may be taking place at the same time.

### **Notify One-Call Services**

Mark proposed path with white paint and have underground utilities located before working.

- In the US or Canada, call 811 (US) or 888-258-0808 (US and Canada). Also contact any local utilities that do not participate in the One-Call service.
- In countries that do not have a One-Call service, contact all local utility companies to have underground utilities located.

### **Arrange for Traffic Control**

If working near a road or other traffic area, contact local authorities about safety procedures and regulations.

### **Plan for Emergency Services**

Have the telephone numbers for local emergency and medical facilities on hand. Check that you will have access to a telephone.

## Inspect Site

- Follow U.S. Department of Labor regulations on excavating and trenching (Part 1926, Subpart P) and other similar regulations.
- Mark proposed path with white paint and have underground utilities located before working. In the US or Canada, call 811 (US) or 888-258-0808 (US and Canada). Also contact any local utilities that do not participate in the One-Call service. In countries that do not have a One-Call service, contact all local utility companies to have underground utilities located.
- Inspect jobsite and perimeter for evidence of underground hazards, such as:
  - “Buried utility” notices
  - Utility facilities without overhead lines
  - Gas or water meters
  - Junction boxes
  - Drop boxes
  - Light poles
  - Manhole covers
  - Sunken ground
- Mark location of all buried utilities and obstructions.

## Prepare Jobsite



**⚠ WARNING** Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment.

### To help avoid injury:

- Expose line by careful hand digging or soft excavation.
  - All vegetation near operator's station must be removed. Contact with trees, shrubs, or weeds during electrical strike could result in electrocution.
- 
- Ensure area where control unit will be operated is on level and firm ground.
  - Clear selected area 3' (0.9 m) around and 20' (6.1 m) above unit.  
Dégager la zone 3 ft (0,9 m) autour et 20 ft (6,1 m) au-dessus de l'unité.
  - Use only over non-combustible surfaces.

## Check Supplies and Prepare Equipment

### Check Supplies

- personal protective equipment, such as hard hat and safety glasses
- fuel
- portable generator/on site electrical supply
- hoses

### Prepare Equipment


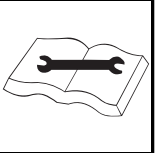
#### Fluid Levels

- fuel

		<b>CAUTION</b> Risk of fire. Do not add fuel when the product is operated or still hot.
---	---	---

#### Condition and Function

- all controls

		<b>WARNING</b> Improper control function could cause death or serious injury. If control does not work as described in instructions, stop machine and have it serviced.
---	---	---

- couplers and fittings
- hoses and valves
- filters

### Assemble Accessories

#### Fire Extinguisher

If required, keep a fire extinguisher near the power unit but away from possible points of ignition. The fire extinguisher should always be classified for both oil and electrical fires. It should meet legal and regulatory requirements.

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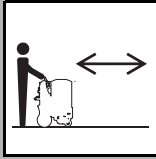
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## Move Machine



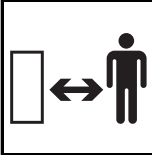

Tipover possible. Machine can tip over and crush you.

**To help avoid injury:**

- Move at slow speed.
- Use both hands.
- Do not tip unit back past 40°.
- For machine weight, see “Specifications” on page 49.

To move machine, pull back on handles at top of unit.

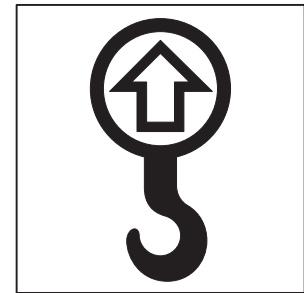
### Lift



**WARNING** Crushing weight could cause death or serious injury. Stay away.

### Points

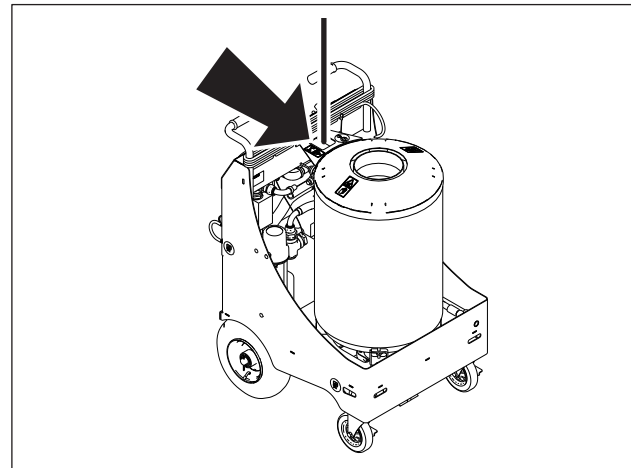
Lifting points are identified by lifting decals. Lifting at other points is unsafe and can damage machinery.



ic1319a.eps

### Procedure

Use equipment capable of supporting the unit's size and weight. See "Specifications" on page 49 or measure and weigh equipment before lifting.

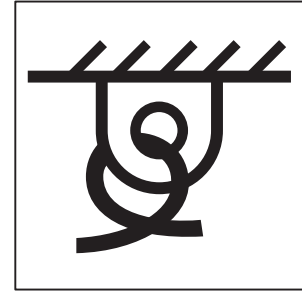


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## Tie Down

### Points

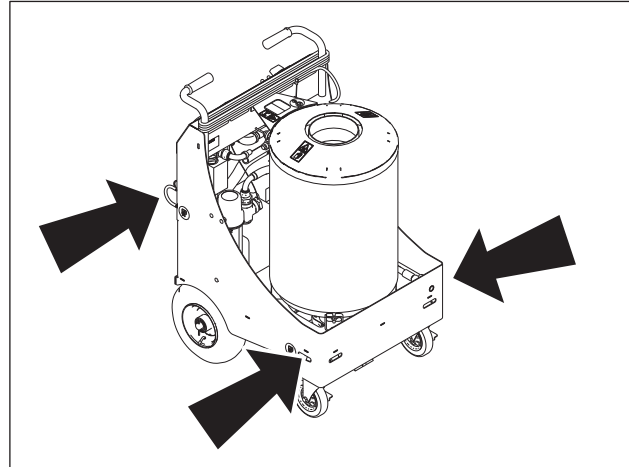
Tiedown points are identified by tiedown decals. Securing to trailer at other points can damage machinery.



ic1320a.eps

### Procedure

When tying down unit, use extra caution to prevent any movement during sudden take-offs and stops. Secure the system in a way that prevents movement of the system.



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# Operate

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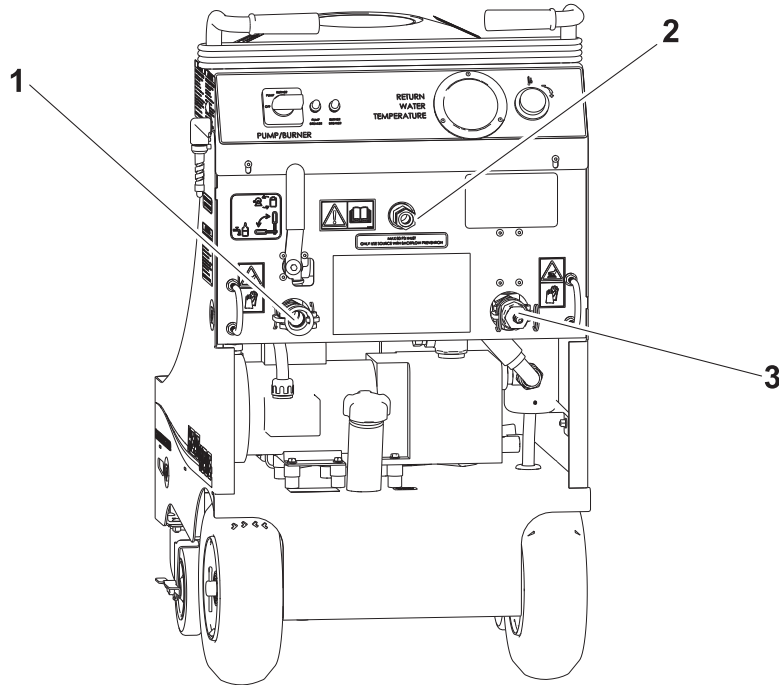
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## Set Up and Configure



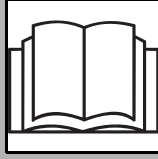
J75om014h.eps

1. Close valves.
2. Connect fluid supply hose to supply hose inlet (2).
3. Connect return hose to pickup valve. If no pickup valve is equipped, connect to inversion drum pickup.
4. Connect return hose to return hose inlet (1).
5. Connect output hose to water outlet (3).
6. Connect output hose to inversion drum.
7. Plug in unit.

**NOTICE:** Connect to individual branch circuit only.

8. Reset plug.

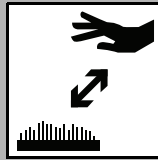
### Start Unit



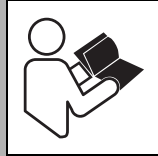
**⚠ WARNING** Misuse of machine can cause death or serious injury. Read and understand operator's manual and all other safety instructions before use.

**To help avoid injury:**

- Wear hard hat, safety glasses, and other protective equipment required by job. Do not wear jewelry or loose clothing that can catch on controls.
- Clear the area around the machine of all bystanders.
- Stay 3' (0.9 m) away from unit during operation, unless standing in operating area.
- Keep area above unit clear of obstructions for at least 20' (6.1 m).



**⚠ CAUTION** Hot parts. Contact can cause burns. Do not touch until cool. Wear gloves. 275-355 (2-P), 273-423 (2-P)



**⚠ WARNING** Pressurized fluid or air. Injection can cause death or serious injury. Refer to operator's manual for correct use. 270-6035

**To help avoid injury:** Never point or aim nozzle at yourself or anyone else.

1. Ensure all drain valves are closed.
2. Turn thermostat to lowest setting.
3. Turn on supply hose and turn fill/recirculation valve to fill position. See "Fill/Recirculation valve" on page 21.
4. Turn on pump and burner. See "Power switch" on page 20.

**IMPORTANT:** Burner will cycle occasionally to maintain temperature.

5. Set thermostat curing temperature. See "Temperature control" on page 21.

## **Cure Pipe**


1. Allow water to fill reservoir halfway up tank or inversion hose.
2. Turn fill/recirculation valve to recirculation position. See "Fill/Recirculation valve" on page 21.
3. Monitor water level and temperature. If water level drops below appropriate level, turn fill/recirculation valve to fill mode and fill tank.

**IMPORTANT:** When pickup valve is equipped, water level should be at least 2 ft (0.61 m) above pickup.

4. Turn fill/recirculation valve to recirculation mode.

### Shut Down

1. Once pipe is cured, set temperature on lowest setting and turn off burner and pump. See "Power switch" on page 20.
2. Depressurize inversion drum.
3. Disconnect return hose. Keep hose end above level of tank.



**CAUTION** Hot parts. Contact can cause burns. Do not touch until cool. Wear gloves. 275-355 (2-P), 273-423 (2-P)

**To help avoid injury:** Keep hose pointed away from self and others.

4. Place hose in appropriate drain area.
5. Turn on fluid supply and pump.
6. Turn fill/recirculation valve to fill position.
7. Turn on air pressure at inversion drum.
8. Monitor water level. If water level is above halfway point in inversion drum, turn off pump.
9. Run until water comes out cool.

**IMPORTANT:** Machine temperature gauge measures temperature of water from supply hose, not water coming out of return hose.

10. Turn off pump.
11. Turn off fluid supply.
12. Reconnect return hose.
13. Disconnect outlet hose from inversion drum and drain.
14. Turn fill/recirculation valve to recirculation position.
15. Turn on pump and run until water is cleared from system.

**IMPORTANT:** Stand to side of machine when turning on pump.

16. In cold weather, open valves and run air through system to clear all water.
17. Turn off unit.
18. Unplug unit.



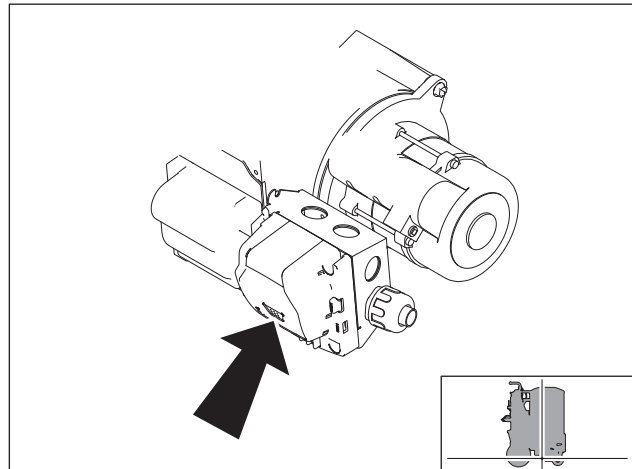
# Troubleshooting

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## **Troubleshooting Procedure**

1. Follow unit startup procedures. See "Start Unit" on page 33.
2. If burner does not fire or shuts down, press center button on burner control panel (shown) for one second. Turn power switch to burner position.
3. If unit does not start or shuts down, press and hold center button on burner control panel for 15 seconds. Indicator will light yellow. Turn power switch to burner position.
4. If unit does not start or shuts down, follow fuel priming procedure.



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**CAUTION**

Flammable substance. Fire or explosion can cause death or serious injury. Keep heat, flames, sparks, and other sources of ignition away.

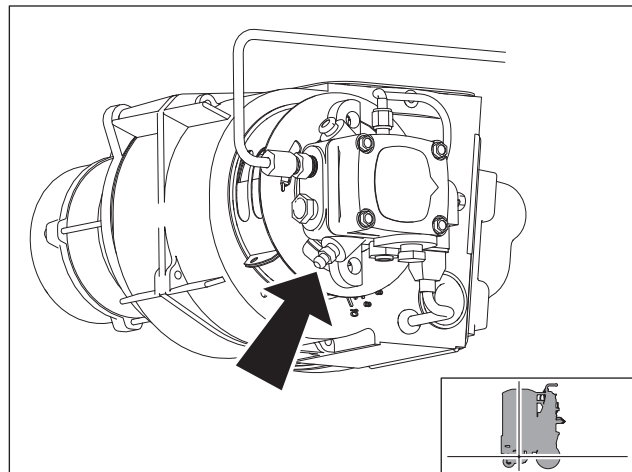
**To help avoid injury:** Clear selected area 3' (0.9 m) around and 20' (6.1 m) above unit.

Prime fuel when running unit for the first time.

1. Connect fluid supply hose to supply hose inlet.
2. Connect output hose to water outlet.
3. Place output hose in appropriate drainage area.

**IMPORTANT:** Machine temperature gauge measures temperature of water from supply hose, not water coming out of return hose.

4. Set temperature to highest setting.
5. Place drip pan under fuel pump.
6. Open bleeder valve on fuel pump (shown).
7. Turn on burner. Unit will run.
8. If unit does not run:
  - Press and release red button on fuel control.
  - If unit still does not run, press and hold red button for 15 seconds. Unit will run.
9. Allow fuel to run until no more bubbles are present. If fuel does not run, repeat step 8.
10. Close bleeder valve.
11. Test all function.



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# Complete the Job

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## **Stow Components**

Load unit as specified to transport. See "Transport" on page 33 for more information.

Wrap power cord around handles.

Return fill/recirculation valve to upright position.

## **Restore Jobsite**

Fill in installation and service connection pits.

## **Stow Tools**

Make sure all accessories and tools are loaded and properly secured.

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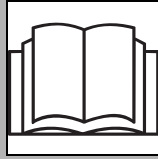
- Washing Precaution . . . . . 44

Recommended Lubricants/Service Key . . . . . 44

- Ground Fault Circuit Interrupter . . . . . 45
- Approved Fuel . . . . . 45

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## Service Precautions



**WARNING**

Read operator's manual. Know how to use all controls. Your safety is at stake.

**To help avoid injury:**

- Wear personal protective equipment.
- Use only approved service parts.

## Washing Precaution

**NOTICE:**

- Water can damage electronics. When cleaning equipment, do not spray electrical components with water.
- Keep water out of tank.

## Recommended Lubricants/Service Key

Item	Description		
EPG	Extreme-Pressure Grease		
	Check level of fluid or lubricant		Check condition
	Filter		Change, replace, adjust, service or test

Proper lubrication and maintenance protects HammerHead<sup>®</sup> equipment from damage and failure. Service intervals listed are minimum requirements. In extreme conditions, service machine more frequently. Use only recommended lubricants.

**NOTICE:**

- Use only genuine HammerHead parts and approved lubricants to maintain warranty.
- Use the "Service Record" on page 53 to record all required service to your machine.

### Ground Fault Circuit Interrupter Protection

This product is provided with a ground-fault circuit-interrupter (GFCI) built into plug of power-supply cord. This provides additional protection from the risk of electric shock. Should replacement of the plug or cord become necessary, use only identical replacement parts that include GFCI protection.

### Approved Fuel

#### HRC (Highly Regulated Countries)



#### **⚠ WARNING**

Avoid static electricity when fueling. Ultra Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations. Avoid death or serious injury from fire or explosion. Consult with your fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

This unit is designed to run on diesel fuel. Use only high quality fuel meeting ASTM D975 No. 2D, EN590, or equivalent. At temperatures below 32° F (0° C) winter fuel blends are acceptable.

**NOTICE:** Use only Ultra Low Sulfur Diesel (less than 15 ppm sulfur content in the US and Canada or 10 mg/kg in EU and Japan) in this unit. Operating with higher sulfur content will damage the burner and aftertreatment device.

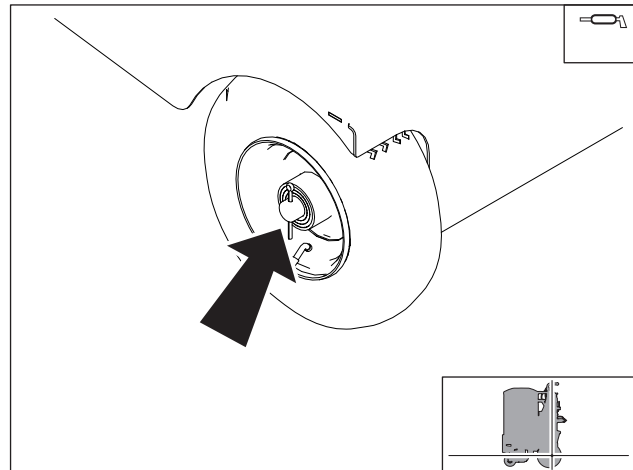
Biodiesel blends up to 5% (B5) are approved for use in this unit. The fuel used must meet the specifications for diesel fuel shown above. In certain markets, higher blends may be used if certain steps are taken. Extra attention is needed when using biodiesel, especially when operating in cold weather or storing fuel. Contact your HammerHead® dealer or the engine manufacturer for more information.

## As Needed

Tasks	Notes
Grease wheels	EPG
Change fuel filter	
Clean nozzle and electrodes	

### Grease Wheels

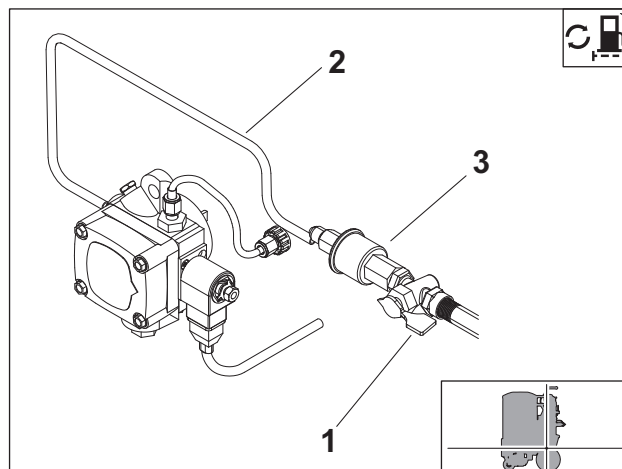
Grease wheels with EPG at zerks, as shown.



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## Change Fuel Filter

1. Close fuel valve (1).
2. Remove fuel line (2).
3. Remove filter (3).
4. Install new filter.
5. Install fuel line.
6. Open fuel valve.
7. Prime fuel. See "Fuel Priming Procedure" on page 39.



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## Check Valves and Hoses

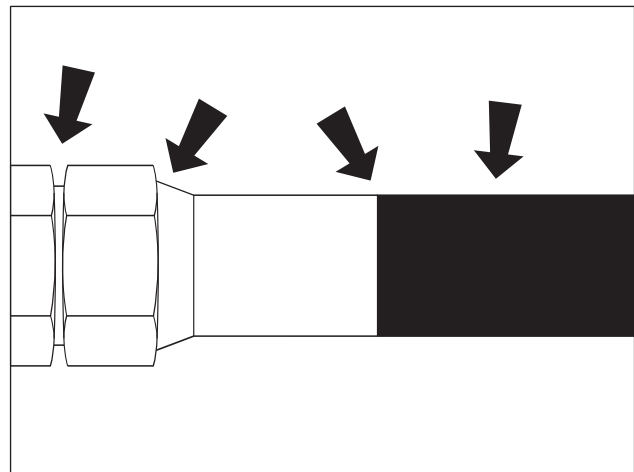


**WARNING** Pressurized fluid or air could pierce skin and cause severe injury. Refer to operator's manual for proper use. 270-6035

### To help avoid injury:

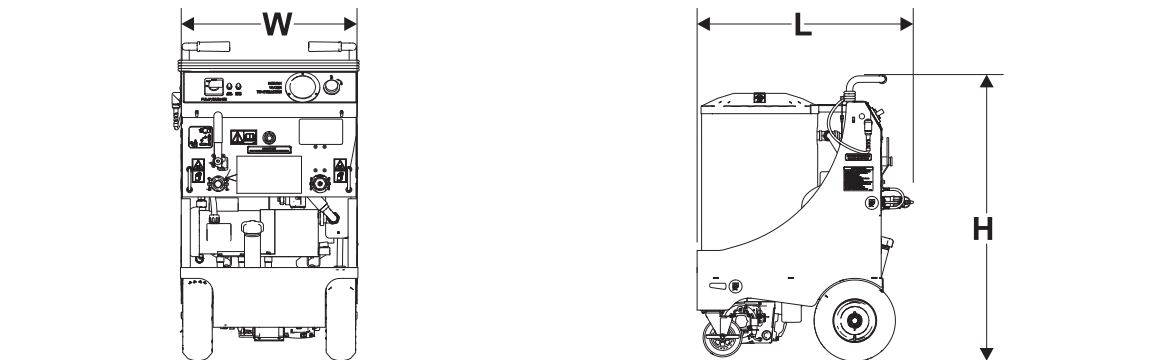
- Before using system, check that all connections are tight and all lines and hoses are undamaged.
- Use a piece of cardboard or wood, rather than hands, to search for leaks. Fluid leaks can be hard to detect.
- Wear protective clothing, including gloves and eye protection.

Check valves and hoses as needed for leaks, loose fittings, unusual noise or vibration. Repair or replace if needed.



CheckHoses.eps

# Specifications



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Dimensions	U.S.	Metric
L, length	31.9 in	0.81 m
W, width	33.5 in	0.85 m
H, height	44.7 in	1.14 m
Dry weight	405 lb	183.7 kg
Weight at capacity	441 lb	200 kg

Operational	U.S.	Metric
Flow	10 gpm	37.85 L/min

Power	U.S.	Metric
-------	------	--------

120V, 60Hz, 14.8 amps\*

\*Connect to individual branch circuit only.



# **Support**

## **Procedure**

Notify your dealer immediately of any malfunction or failure of HammerHead® equipment.

Always give model, serial number, and approximate date of your equipment purchase. This information should be recorded and placed on file by the owner at the time of purchase.

Return damaged parts to dealer for inspection and warranty consideration if in warranty time frame.

Order genuine HammerHead replacement or repair parts from your authorized HammerHead dealer. Use of another manufacturer's parts may void warranty consideration.

## **Resources**

### **Publications**

Contact your HammerHead dealer for publications and videos covering safety, operation, service, and repair of your equipment.

### **HammerHead Training**

For information about on-site, individualized training, contact your HammerHead dealer.

# Warranty

## Limited Warranty Policy

Earth Tool Company LLC, hereinafter sometimes referred to as ETC warrants each new industrial product of its own manufacture to be free from defects in material and workmanship, under normal use and service for one full year after delivery to the owner or 1000 operating hours, whichever occurs first. During the warranty period, the authorized selling HammerHead® Dealer shall furnish parts without charge for any HammerHead product that fails because of defects in material and workmanship. Warranty is void unless warranty registration card is returned within ten days from the date of purchase. This warranty and any possible liability of Earth Tool Company LLC here under is in lieu of all other warranties, express, implied, or statutory, including, but not limited to any warranties of merchantability or fitness for a particular purpose.

The parties agree that the Buyer's SOLE AND EXCLUSIVE REMEDY against ETC, whether in contract or arising out of warranties, representations, or defects shall be for the replacement or repair of defective parts as provided herein. In no event shall ETC's liability exceed the purchase price of the product. The Buyer agrees that no other remedy (including, but not limited to, incidental or consequential loss) shall be available to him. If, during the warranty period, any product becomes defective by reason of material or workmanship and Buyer immediately notifies ETC of such defect, ETC shall, at its option, supply a replacement part or request the return of the product to its plant in Lake Mills, Wisconsin. No part shall be returned without prior written authorization from ETC, and this warranty does not obligate ETC to bear any transportation charges in connection with the repair or replacement of defective parts. Earth Tool Company LLC will not accept any charges for labor and/or parts incidental to the removal or remounting of parts repaired or replaced under this Warranty.

This Warranty shall not apply to any part or product which shall have been installed or operated in a manner not recommended by ETC nor to any part or product which shall have been neglected, or used in any way which, in ETC's opinion, adversely affects its performance; nor negligence of proper maintenance or other negligence, fire or other accident; nor with respect to wear items; nor if the unit has been repaired or altered outside of an ETC authorized dealership in a manner of which, in the sole judgment of ETC affects its performance, stability or reliability; nor with respect to batteries which are covered under a separate adjustment warranty; nor to any product in which parts not manufactured or approved by ETC have been used, nor to normal maintenance services or replacement of normal service items. Equipment and accessories not of our manufacture are warranted only to the extent of the original Manufacturer's Warranty and subject to their allowance to us, if found defective by them. ETC reserves the right to modify, alter, and improve any product or parts without incurring any obligation to replace any product or parts previously sold with such modified, altered, or improved product or part. No person is authorized to give any other Warranty, or to assume any additional obligation on ETC's behalf unless made in writing, and signed by an officer of ETC.

**EARTH TOOL COMPANY LLC**

**Lake Mills, Wisconsin**

## Service Record

[illegible]

# Heat Wave Operator's Manual

[illegible]



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