



TECHNICAL PUBLICATIONS

Overview

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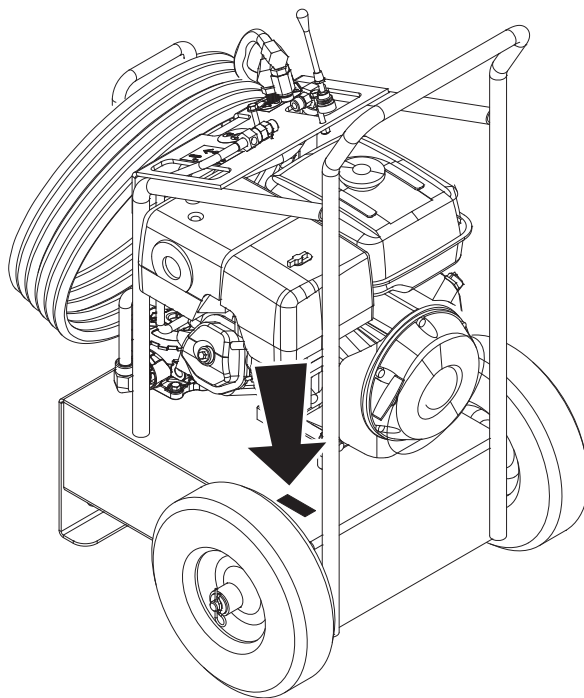
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Serial Number Location

Record serial numbers and date of purchase in spaces provided.



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Date of manufacture	
Date of purchase	

Intended Use

HammerHead® control units are intended to provide power to run HammerHead underground construction equipment. The PB13 is a 13 hp (9.7 kW), compact, portable control unit that provides hydraulic power to external equipment.

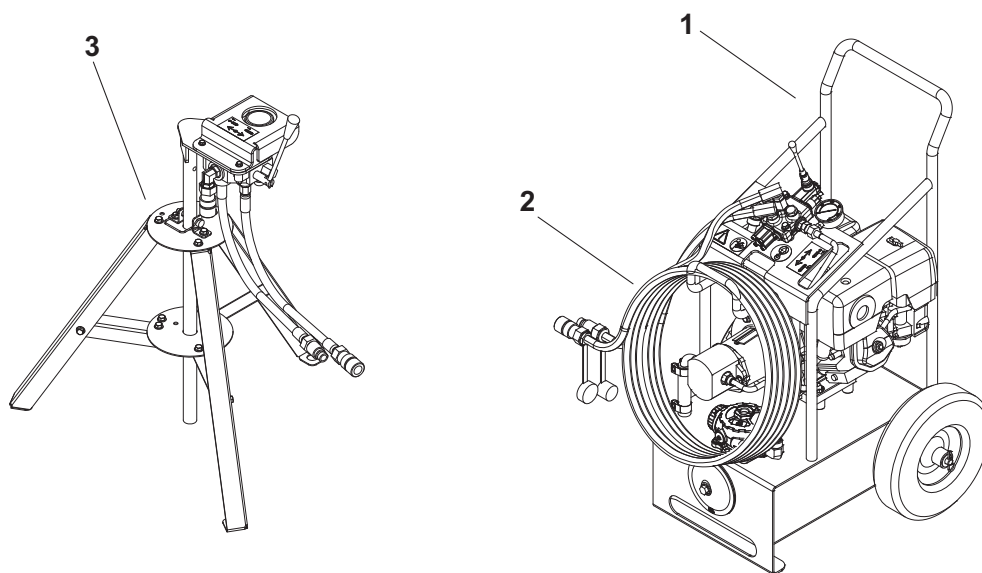
The unit is designed for operation in temperatures typically experienced in earth moving and construction work environments. Provisions may be required to operate in extreme temperatures. Contact your HammerHead dealer. Use in any other way is considered contrary to the intended use.

HammerHead pipe bursters and control units should be operated, serviced, and repaired only by persons familiar with their 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.

Unit Components



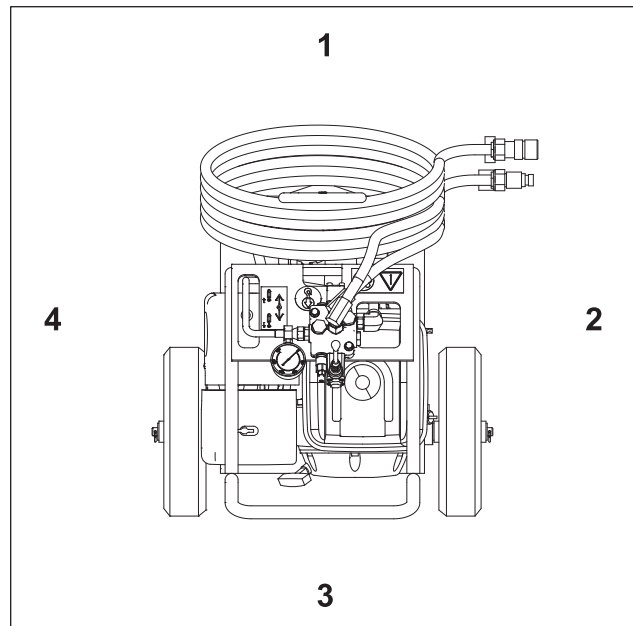
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- 1. Control unit
- 2. Hydraulic connection hoses
- 3. Control stand (optional)

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

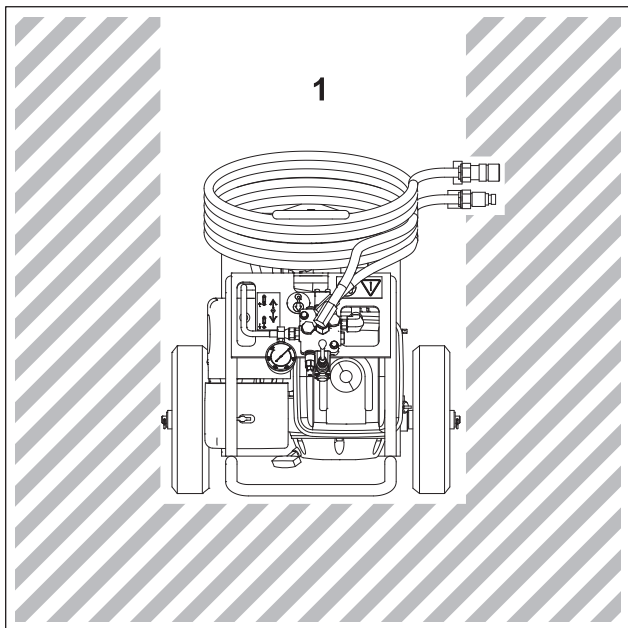


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Operating Area

IMPORTANT: Top view of unit is shown.

Operator should stand only in the location(s) marked by number 1.



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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** 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

**PB13
Operator's Manual**

Issue number 4.0/OM-06/20

Part number 960-1112

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by Earth Tool Company LLC



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

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Guidelines



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.

Follow these guidelines before operating any jobsite equipment:

- 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/.
- 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.

Emergency Procedures



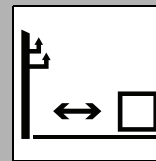
⚠ WARNING

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

Before operating any equipment, review emergency procedures and check that all safety precautions have been taken.

EMERGENCY SHUTDOWN - Turn ignition switch to stop position or push remote engine stop button (if equipped).

Electric Strike Description



⚠ DANGER

Electric shock. Contacting electric lines will cause death or serious injury. Know location of lines and stay away.

When working near electric cables, remember the following:

- Electricity follows all paths to ground, not just path of least resistance.
- Pipes, hoses, and cables will conduct electricity back to all equipment.
- Low voltage current can injure or kill. Many work-related electrocutions result from contact with less than 440 volts.

Most electric strikes are not noticeable, but indications of a strike include:

- power outage
- smoke
- explosion
- popping noises
- arcing electricity

If any of these occur, assume an electric strike has occurred.

If an Electric Line Is Damaged

If you suspect an electric line has been damaged and you are **in pit**, DO NOT MOVE and DO NOT TOUCH ANYTHING. Remain in pit and take the following actions. The order and degree of action will depend upon the situation.

- Warn people nearby that an electric strike has occurred. Instruct them to leave the area and contact utility.
- Contact utility company to shut off power.
- Do not leave pit until given permission by utility company.

If you suspect an electric line has been damaged and you are **out of pit**, DO NOT TOUCH ANYTHING. Take the following actions. The order and degree of action will depend upon the situation.

- LEAVE AREA. The ground surface may be electrified, so take small steps with feet close together to reduce the hazard of being shocked from one foot to the other.
- Contact utility company to shut off power.
- Do not return to jobsite or allow anyone into area until given permission by utility company.

If you suspect an electric line has been damaged and you are **on other piece of equipment**, DO NOT MOVE. Remain on truck or trailer and take the following actions. The order and degree of action will depend upon the situation.

- Warn people nearby that an electric strike has occurred. Instruct them to leave the area and contact utility.
- Contact utility company to shut off power.
- Do not return to area or allow anyone into area until given permission by utility company.

If a Gas Line is Damaged

If you suspect a gas line has been damaged, take the following actions. The order and degree of action will depend on the situation.

- Immediately shut off engine(s), if this can be done safely and quickly.
- Remove any ignition source(s), if this can be done safely and quickly.
- Warn others that a gas line has been cut and that they should leave the area.
- Leave jobsite as quickly as possible.
- Immediately call your local emergency phone number and utility company.
- If jobsite is along street, stop traffic from driving near jobsite.
- Do not return to jobsite until given permission by emergency personnel and utility company.

If a Fiber Optic Cable is Damaged

Do not look into cut ends of fiber optic or unidentified cable. Vision damage can occur. Contact utility company.

Emergency Procedures

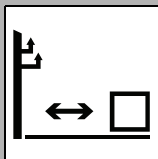


WARNING Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment.

Before operating any equipment, review emergency procedures and check that all safety precautions have been taken.

EMERGENCY SHUTDOWN - Turn ignition switch to stop position or push remote engine stop button (if equipped).

Electric Strike Description



DANGER Electric shock. Contacting electric lines will cause death or serious injury. Know location of lines and stay away.

When working near electric cables, remember the following:

PB13 Operator's Manual

Emergency Procedures

- Electricity follows all paths to ground, not just path of least resistance.
- Pipes, hoses, and cables will conduct electricity back to all equipment.
- Low voltage current can injure or kill. Many work-related electrocutions result from contact with less than 440 volts.

Most electric strikes are not noticeable, but indications of a strike include:

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- smoke
- explosion
- popping noises
- arcing electricity

If any of these occur, assume an electric strike has occurred.

If an Electric Line Is Damaged

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- Warn people nearby that an electric strike has occurred. Instruct them to leave the area and contact utility.
- Contact utility company to shut off power.
- Do not leave pit until given permission by utility company.

If you suspect an electric line has been damaged and you are **out of pit**, DO NOT TOUCH ANYTHING. Take the following actions. The order and degree of action will depend upon the situation.

- LEAVE AREA. The ground surface may be electrified, so take small steps with feet close together to reduce the hazard of being shocked from one foot to the other.
- Contact utility company to shut off power.
- Do not return to jobsite or allow anyone into area until given permission by utility company.

If you suspect an electric line has been damaged and you are **on other piece of equipment**, DO NOT MOVE. Remain on truck or trailer and take the following actions. The order and degree of action will depend upon the situation.

- Warn people nearby that an electric strike has occurred. Instruct them to leave the area and contact utility.
- Contact utility company to shut off power.
- Do not return to area or allow anyone into area until given permission by utility company.

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If you suspect a gas line has been damaged, take the following actions. The order and degree of action will depend on the situation.

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- Remove any ignition source(s), if this can be done safely and quickly.
- Warn others that a gas line has been cut and that they should leave the area.
- Leave jobsite as quickly as possible.
- Immediately call your local emergency phone number and utility company.
- If jobsite is along street, stop traffic from driving near jobsite.
- Do not return to jobsite until given permission by emergency personnel and utility company.

If a Fiber Optic Cable is Damaged

Do not look into cut ends of fiber optic or unidentified cable. Vision damage can occur. Contact utility company.

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 move battery disconnect switch (if equipped and accessible) to disconnect position.
- 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.

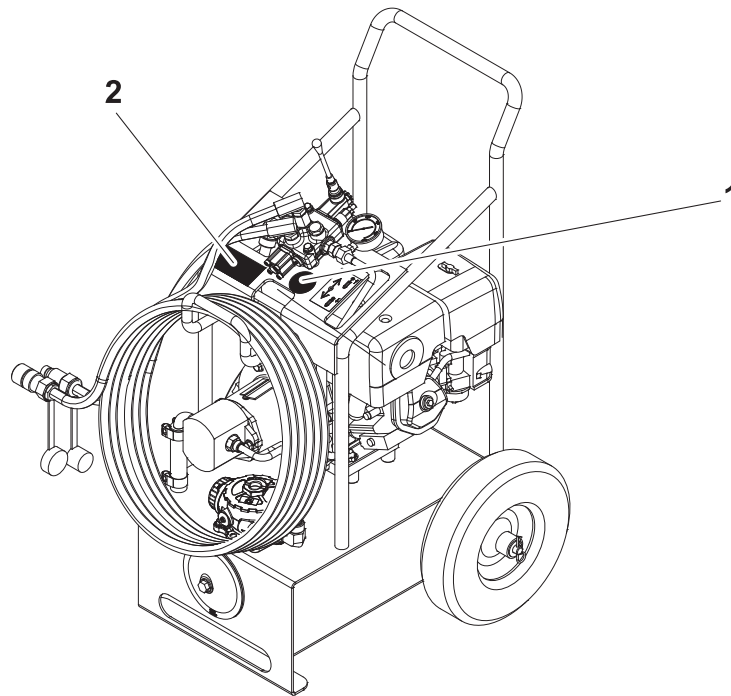
 **CAUTION** indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

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



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Lift point. See Transport chapter for more information.



⚠ WARNING To avoid injury, you **MUST** read and understand operator's manual before using this machine.

Controls

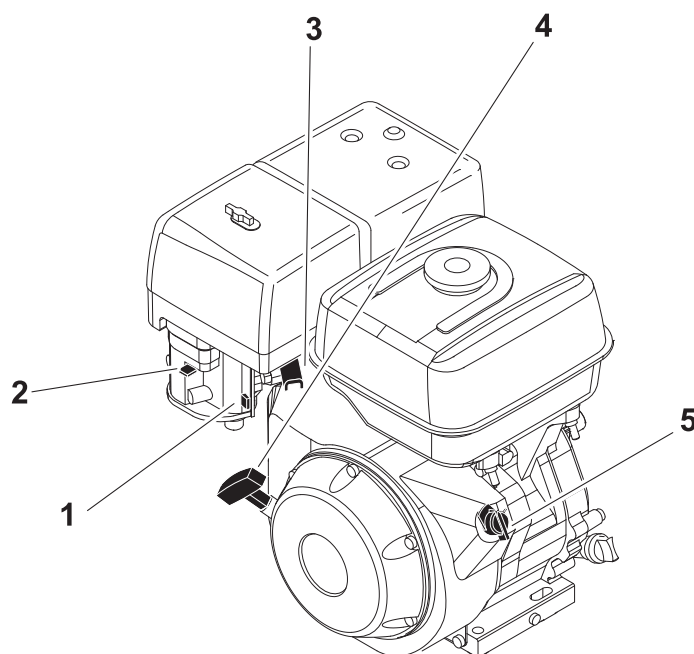
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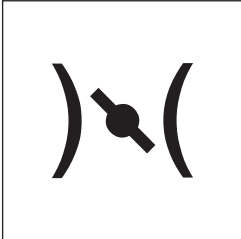
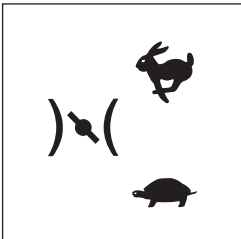
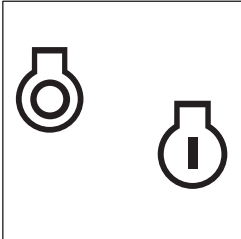
Engine Controls



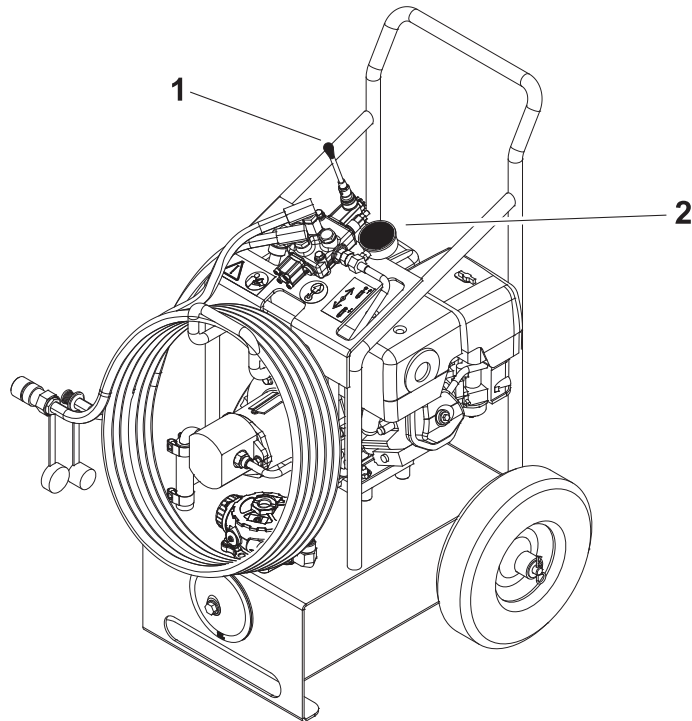
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- | | |
|------------------------|-------------------------|
| 1. Fuel shut-off valve | 4. Rope start |
| 2. Choke control | 5. Engine ON/OFF switch |
| 3. Throttle control | |

Item	Description	Notes
<div>1. Fuel shut-off valve</div> <div></div> <div>c00ic637h.eps</div>	<p>To stop fuel flow from fuel tank to engine, slide lever away from engine.</p> <p>To allow fuel flow, slide lever toward engine.</p>	<p>Close valve when transporting unit to or from jobsite, or whenever machine is parked.</p>

Item	Description	Notes
2. Choke control  <small>c00ic557h.eps</small>	<p>To close choke valve, slide choke control lever away from engine.</p>	<p>This valve can be closed to enrich air/fuel mixture and help start cold engine.</p> <p>Open choke valve after engine runs for a few seconds.</p>
3. Throttle control  <small>c00ic243h.eps</small>	<p>To increase engine speed, slide lever away from engine.</p> <p>To decrease engine speed, slide lever toward engine.</p>	
4. Rope start	<p>To start engine, pull rope.</p>	<p>Ignition must be in ON position and fuel shut-off valve open for engine to start.</p> <p>If engine does not start after three pulls, turn ignition switch to OFF position and check for fuel blockage or electrical system problems.</p>
5. Engine ON/OFF switch  <small>c00ic008c.eps</small>	<p>To start engine, turn switch clockwise to ON position.</p> <p>To stop engine, turn switch counterclockwise.</p>	

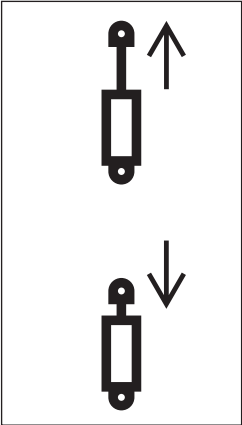
Control Unit Controls



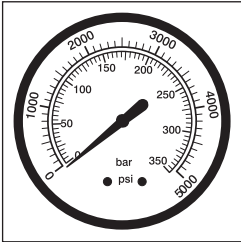
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1. Hydraulic control lever

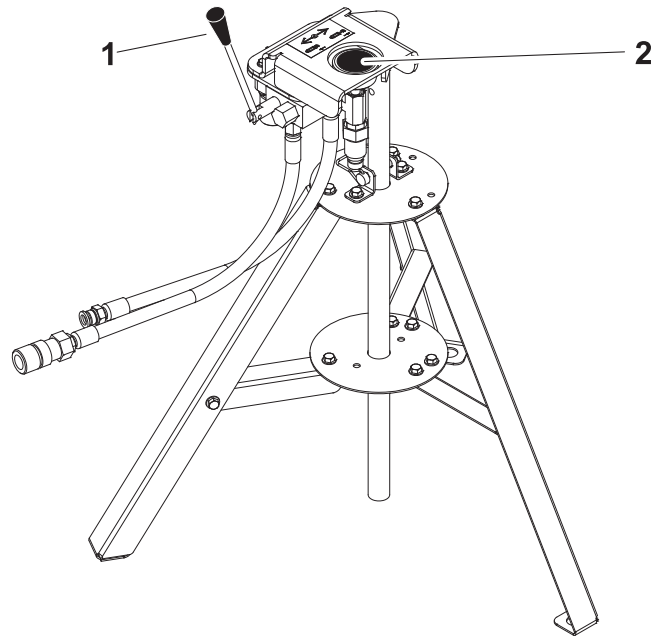
2. Hydraulic pressure gauge

Item	Description	Notes
1. Hydraulic control lever 	<p>Push lever forward to extend main cylinder on external equipment.</p> <p>Machine is neutral when lever is in the middle position.</p> <p>Pull lever back to retract main cylinder on external equipment.</p>	

c00ic730h.eps

Item	Description	Notes
<p>2. Hydraulic pressure gauge</p>  <p>c00ic731h.eps</p>	<p>Indicates hydraulic fluid pressure when hydraulic hoses are attached and system is in use.</p>	<p>Gauge should read 3000 psi (206.8 bar) when lever is pushed all the way forward or pulled all the way back.</p>

Control Stand Controls (Optional)

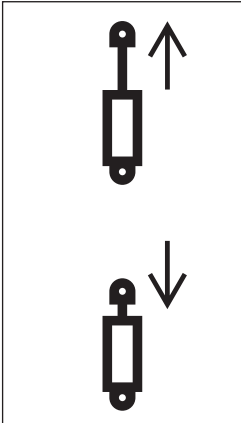


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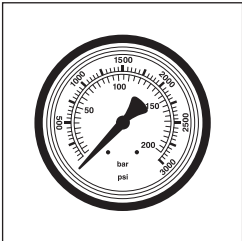
IMPORTANT: Optional control stand is only used with PB13A. For more information, see “Control Stand (Optional)” on page 30.

1. Hydraulic control lever

2. Hydraulic pressure gauge

Item	Description	Notes
1. Hydraulic control lever 	<p>Push lever forward to extend main cylinder on external equipment.</p> <p>Machine is neutral when lever is in the middle position.</p> <p>Pull lever back to retract main cylinder on external equipment.</p>	

c00ic730h.eps

Item	Description	Notes
2. Hydraulic pressure gauge  c00ic732h.eps	Indicates hydraulic fluid pressure when hydraulic hoses are attached and system is in use.	Gauge should read 3000 psi (206.8 bar) when lever is pushed all the way forward or pulled all the way back.

Prepare

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- Arrange for Traffic Control22
- Prepare for Working Near Existing Utilities22
- Plan for Emergency Services22

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Gather Information

A successful job begins before the pull. 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.

Arrange for Traffic Control

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

Prepare for Working Near Existing Utilities

If jobsite may contain electrical lines, wear protective boots and gloves meeting the following standards:

- Boots must have high tops and meet the electric hazard protection requirements of ASTM F2413 or ASTM F1117, when tested at 14,000 volts. Tuck legs of pants completely inside boots.
- Gloves must have 17,000 AC maximum use voltage, according to ASTM specification D120.

If working around higher voltage, use gloves and boots with appropriately higher ratings.

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

Inspect jobsite before transporting equipment. Check for the following:

- changes in elevation such as hills or open trenches
- obstacles such as buildings, railroad crossings, or streams
- signs of utilities
 - “buried utility” notices
 - utility facilities without overhead lines
 - gas or water meters
 - junction boxes
 - drop boxes
 - light poles
 - manhole covers
 - sunken ground
- traffic
- access
- soil type and condition
- depths of existing pipes

Identify Hazards

- Identify safety hazards. Follow U.S. Department of Labor regulations on excavating and trenching (Part 1926, Subpart P) and other similar regulations.
- Have an experienced locating equipment operator sweep area within 20' (6 m) to each side of burst path. Verify previously marked line and cable locations.
- Mark location of all buried utilities and obstructions.



⚠ 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:

- Wear personal protective equipment including hard hat, safety eye wear, and hearing protection.
- Do not wear jewelry or loose clothing.
- Notify One-Call and companies which do not subscribe to One-Call.
- Comply with all utility notification regulations before digging or bursting.
- Verify location of previously marked underground hazards.
- Mark jobsite clearly and keep spectators away.

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:

- Cutting high voltage cable can cause electrocution. Expose lines by hand before digging.
 - 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 the area where control unit will be operated.
 - Select a solid area to stand on while operating control unit.

Check Supplies and Prepare Equipment

Check Supplies

- personal protective equipment, such as hard hat, hearing protection and safety glasses
- notepad and pencil

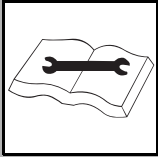
Prepare Equipment

Check Levels

- hydraulic fluid
- engine oil

Check Equipment for Condition and Function

- all controls



⚠ WARNING 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
- hoses and valves

Assemble Accessories

Fire Extinguisher

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

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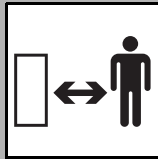
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- Procedure 28

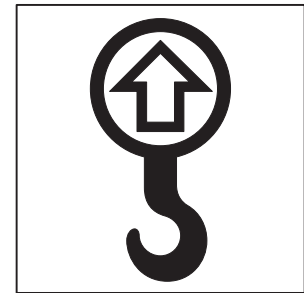
Lift



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

Points

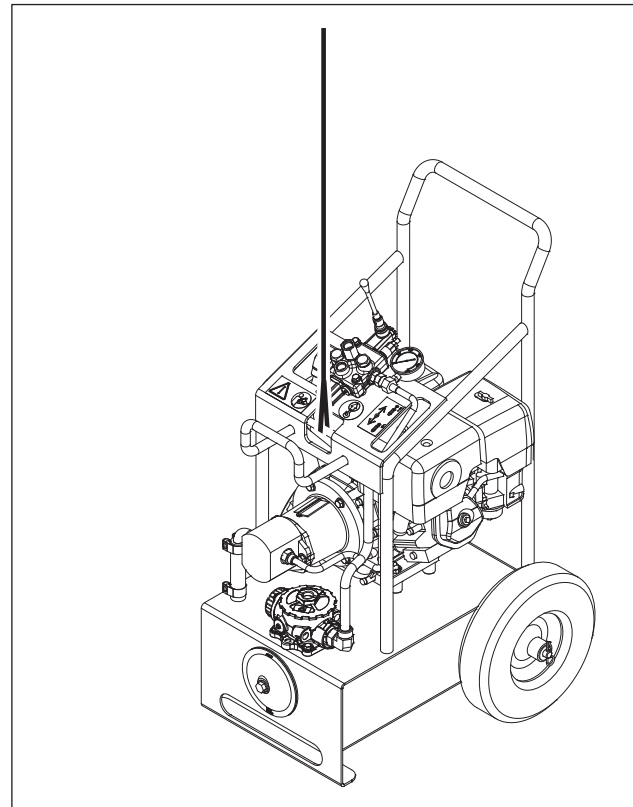
Lifting points are identified by lifting decals. Lifting at other points is unsafe and can damage machinery.



ic1319a.eps

Procedure

Use equipment capable of supporting the unit's size and weight. See "Specifications" on page 59 or measure and weigh equipment before lifting.



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Tie Down

Procedure

When tying down control unit and/or accessories, 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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Connect Hydraulic Hoses 30

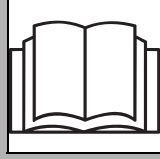
- Control Unit 30
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Start Unit 30

Operate Unit 31

Shut Down Unit 31

Connect Hydraulic Hoses



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

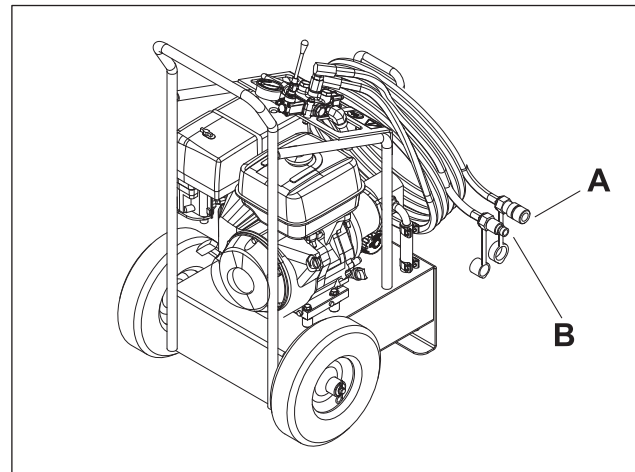
To help avoid injury:

- Cycle controls to relieve all pressure in hydraulic hoses before disconnecting.
- Before using system, check that all connections are tight and all lines are undamaged.

If you are injured, seek immediate medical attention from a doctor familiar with this type of injury.

Control Unit

Connect hydraulic hoses (A,B) from control unit to external equipment to operate.

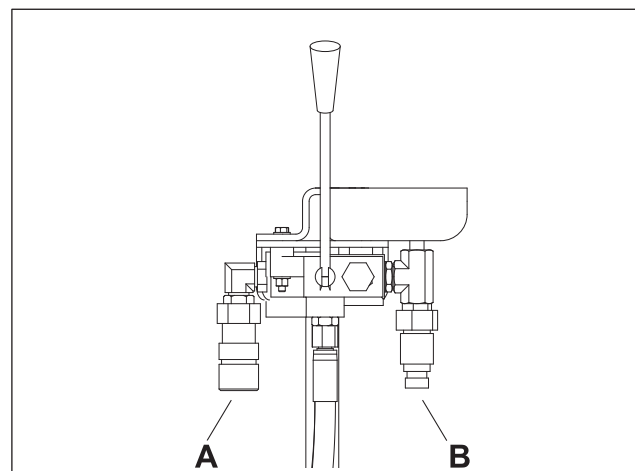


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Control Stand (Optional)

IMPORTANT: Optional control stand is only used with PB13A as an extension for the controls.

1. Connect hydraulic hoses from control unit to hydraulic connections (A,B) on control stand.
2. Connect hydraulic hoses from control stand to external equipment to operate.



j55om010h.eps

Start Unit

IMPORTANT: For more information, see “Engine Controls” on page 16.

1. Turn engine ON/OFF switch to ON position.
2. Close choke valve.
3. Open fuel shut-off valve.
4. Pull rope start.
5. Open choke valve after engine has been running for a few minutes.

Operate Unit

IMPORTANT: Follow external equipment operator's manual instructions.

Operate external equipment using hydraulic control lever. See page 18 and page 30 for more information.

Shut Down Unit

Turn engine ON/OFF switch to OFF position.

Complete the Job

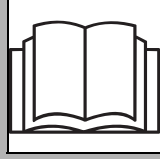
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Stow Tools 36

Disconnect Hoses



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

To help avoid injury:

- Cycle controls to relieve all pressure in hydraulic hoses before disconnecting.
- Before using system, check that all connections are tight and all lines are undamaged.

If you are injured, seek immediate medical attention from a doctor familiar with this type of injury.

1. Disconnect both hoses from external equipment.
2. Wrap hoses around the hooks on the control unit.

Stow Components

Load unit as specified. See "Transport" on page 27 for more information.

Stow Tools

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

Service

Chapter Contents

Service Precautions 34

Recommended Lubricants/Service Key 34

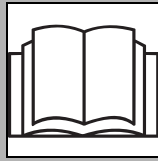
Each Use 36

10 Hours.

100 Hours.

500 Hours.

Service Precautions









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

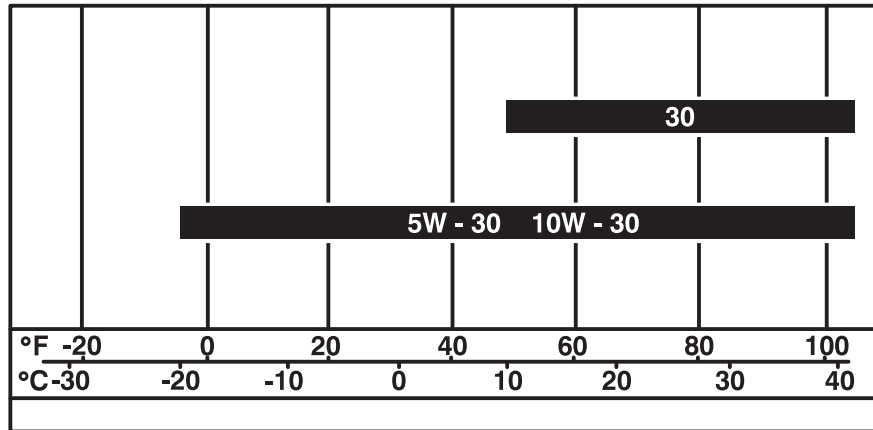
To help avoid injury:

- Unless otherwise instructed, all service should be performed with engine off.
- Refer to engine manufacturer's manual for engine maintenance instructions.

Recommended Lubricants/Service Key

Item	Description		
 GEO	Gasoline engine oil meeting or exceeding API SJ. See oil temperature chart for recommended viscosity grade for each model.		
 HF	Hydraulic fluid, similar to Phillips 66 [®] HG or equivalent meeting or exceeding ISO 46.		
	Check level of fluid or lubricant		Check condition
	Filter		Change, replace, adjust, service or test

Engine Oil Temperature Chart



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Temperature range anticipated before next oil change

Proper lubrication and maintenance protects HammerHead® 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 45 to record all required service to your machine.

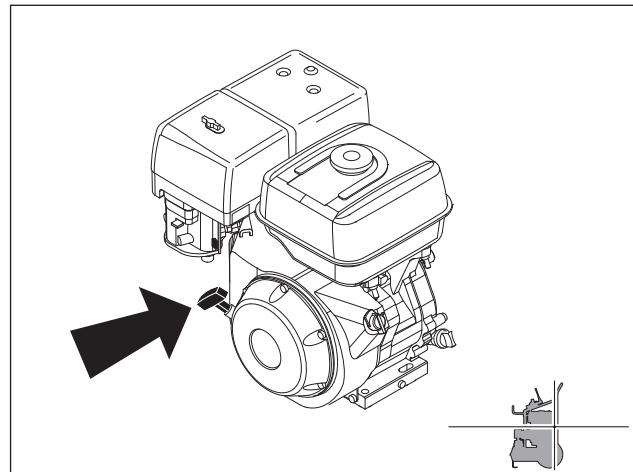
Each Use

Tasks	Notes
Check starter rope and starter grip	
Check engine oil level	GEO
Check air filter elements	
Check hydraulic fluid level	

Check Starter Rope and Starter Grip

Check starter rope and starter grip for wear or damage before each use.

IMPORTANT: Do not start unit if worn or damaged. Contact your Ditch Witch® dealer for replacement parts.

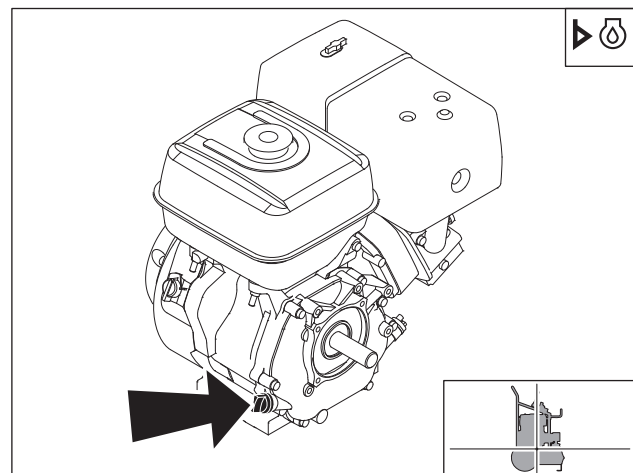


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Check Engine Oil Level

Check engine oil at dipstick before each use. If low, add GEO until oil level is at highest line on dipstick.

IMPORTANT: For more information on engine oil, see "Recommended Lubricants/Service Key" on page 34 or see engine manual.



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Check Air Filter Elements

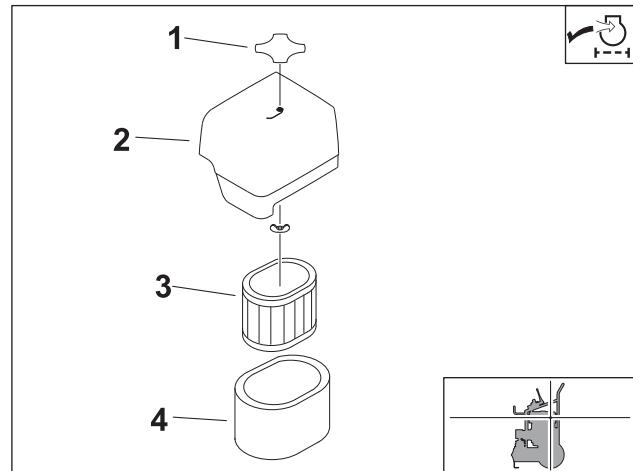
Check air filter elements before each use. Replace elements if dirty or damaged.

To check:

1. Remove wing nut (1) and air cleaner cover (2).
2. Remove elements (3,4) and separate them.
3. Replace elements if dirty or damaged. See "Change Air Filter Elements" on page 40.
4. Wipe inside of housing and wash cover.

NOTICE: Change air filter elements. Do not attempt to clean them.

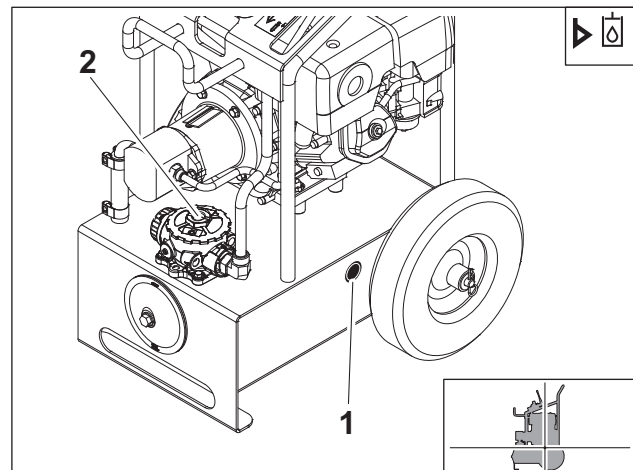
- Compressed air or water may damage the elements.
- Tapping filter elements to loosen dirt may damage the elements.



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Check Hydraulic Fluid Level

With frame level, check fluid at sight glass (1) before each use. Maintain fluid level on midway point on sight glass. Add HF at fill (2) as needed.



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10 Hours

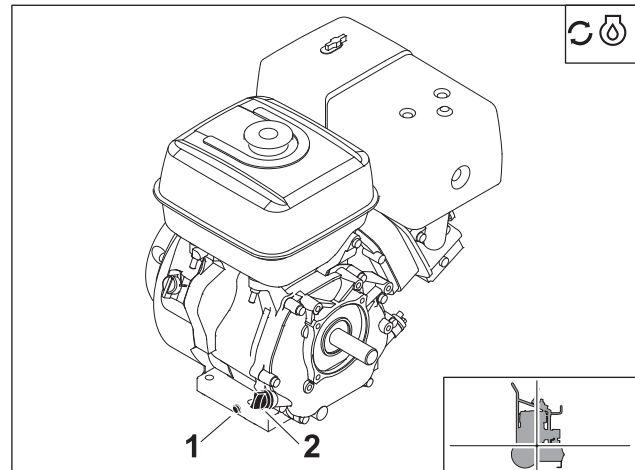
Tasks	Notes
Change engine oil	GEO
Check hydraulic hoses	

Change Engine Oil

Change engine oil after the first 10 hours of operation and every 100 hours thereafter.

1. Drain at plug (1) while oil is still warm.
2. Replace plug.
3. Slowly add GEO at fill (2).

NOTICE: Engine oil capacity is 35-37 ounces (1.1 L). Do not overfill.



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Check Hydraulic Hoses



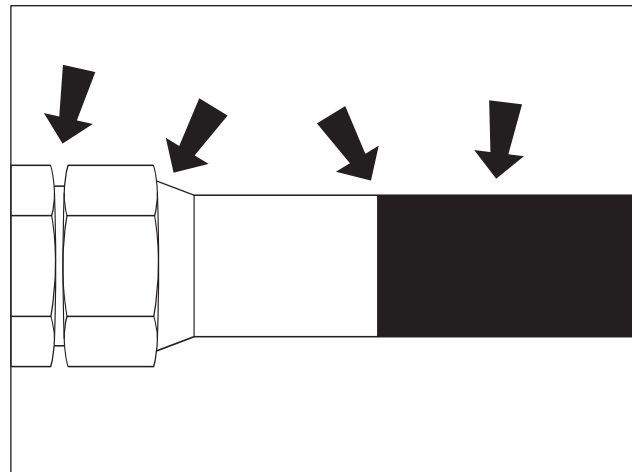
⚠ WARNING Fluid or air pressure could pierce skin and cause injury or death. Stay away.

To help avoid injury:

- Before disconnecting a hydraulic line, turn engine off and operate all controls to relieve pressure. Lower, block, or support any raised component with a hoist. Cover connection with heavy cloth and loosen connector nut slightly to relieve residual pressure. Catch all fluid in a container.
- Before using system, check that all connections are tight and all lines are undamaged.
- Use a piece of cardboard or wood, rather than hands, to search for leaks.
- Wear protective clothing, including gloves and eye protection.

If you are injured, seek immediate medical attention from a doctor familiar with this type of injury.

Check all hydraulic hoses every 10 hours.



CheckHoses.eps

100 Hours

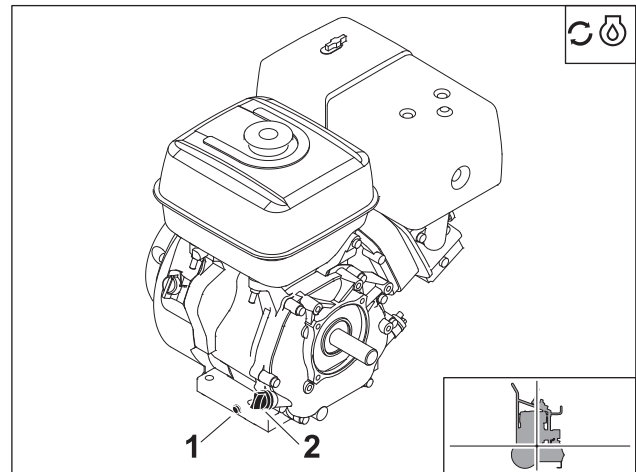
Tasks	Notes
Change engine oil	GEO
Change air filter elements	
Check spark plug	

Change Engine Oil

Change engine oil every 100 hours.

1. Drain at plug (1) while oil is still warm.
2. Replace plug.
3. Slowly add GEO at fill (2).

NOTICE: Engine oil capacity is 35-37 ounces (1.1 L). Do not overfill.



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Change Air Filter Elements

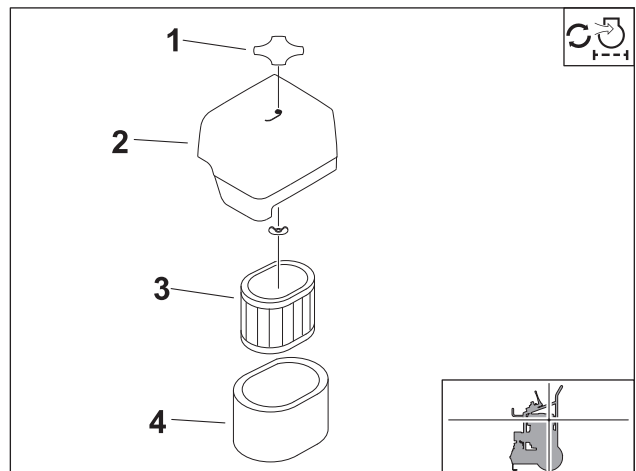
Change air filter elements every 100 hours.

To change:

1. Remove wing nut (1) and air cleaner cover (2).
2. Remove elements (3,4) and replace with new ones.
3. Reverse procedure to install.

NOTICE: Change air filter elements. Do not attempt to clean them.

- Compressed air or water may damage the elements.
- Tapping filter elements to loosen dirt may damage the elements.

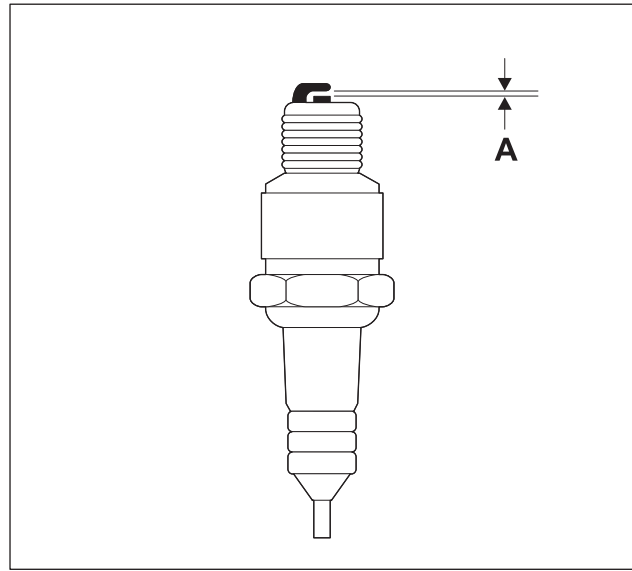


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Check Spark Plug

Check spark plug gap every 100 hours. Correct spark plug gap (A) is 0.030" (0.76 mm).

See engine service manual for specific procedure and recommended replacement spark plugs.



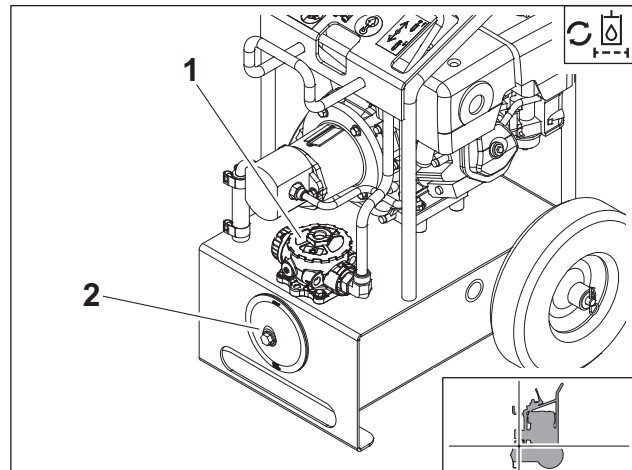
SparkPlug.eps

500 Hours

Change Hydraulic Fluid and Filter

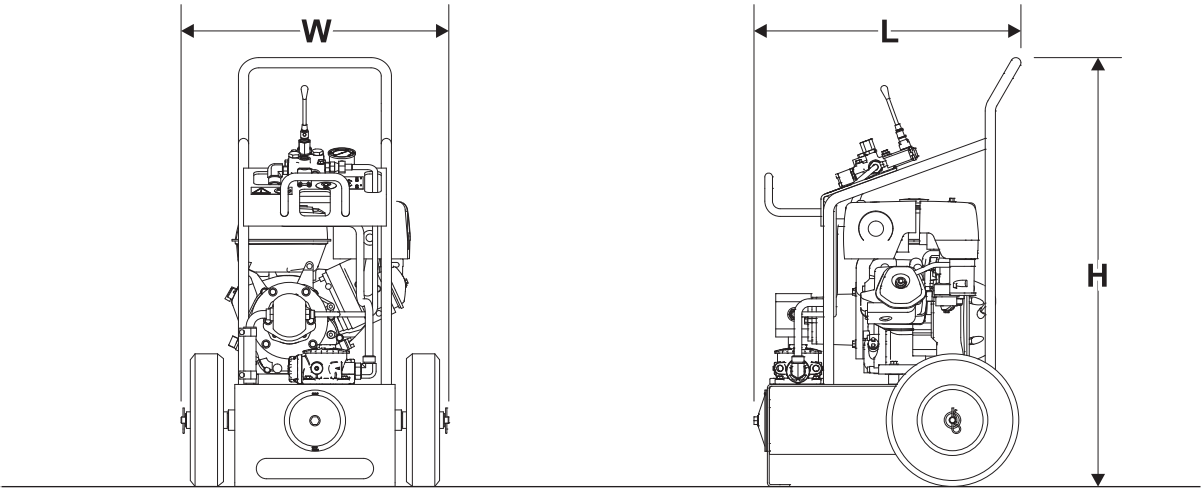
Change hydraulic oil and filter every 500 hours.

1. Unscrew hydraulic fluid filter (1).
1. Remove drain plug (2).
2. Drain fluid and replace plug.
3. Add HF at fill (1). Hydraulic reservoir capacity is 6 gal (22.7 L).
4. Install new hydraulic filter and tighten.



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Specifications



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Dimensions	U.S.	Metric
L, length	26.2 in	66.5 cm
W, width	26.3 in	66.8 cm
H, height	42.0 in	106.7 cm
Total system weight, mass	250 lb	114 kg

Operational	U.S.	Metric
Maximum hydraulic flow	6 gpm	23 L/min

Noise Levels
Operator ear 91 dBA sound pressure per ISO 6394
Exterior 102 dBA sound power per ISO 6393

PB13 Operator's Manual

Power	U.S.	Metric
Engine: GX390 4 stroke overhead valve		
Fuel: gasoline		
Cooling medium: air		
Displacement	23.7 in ³	389 cm ³
Bore	3.46 in	88 mm
Stroke	2.52 in	64 mm
Manufacturer's net power rating (per SAE J1349) @ 3600 rpm	13 hp	9.7 kW
Rated speed	3600 rpm	3600 rpm
Maximum engine lubrication tilt angle*	20°	20°
*Exceeding these operational angles will cause engine damage. This DOES NOT IMPLY machine is stable to maximum angle of safe engine operation.		

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

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PB13 Operator's Manual

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