



TECHNICAL PUBLICATIONS

Operator's Manual

WT212 3D

Issue 2.0

960-1131

Overview

Chapter Contents

Serial Number Location 2

Intended Use 3

Equipment Modification 3

Machine Components. 4

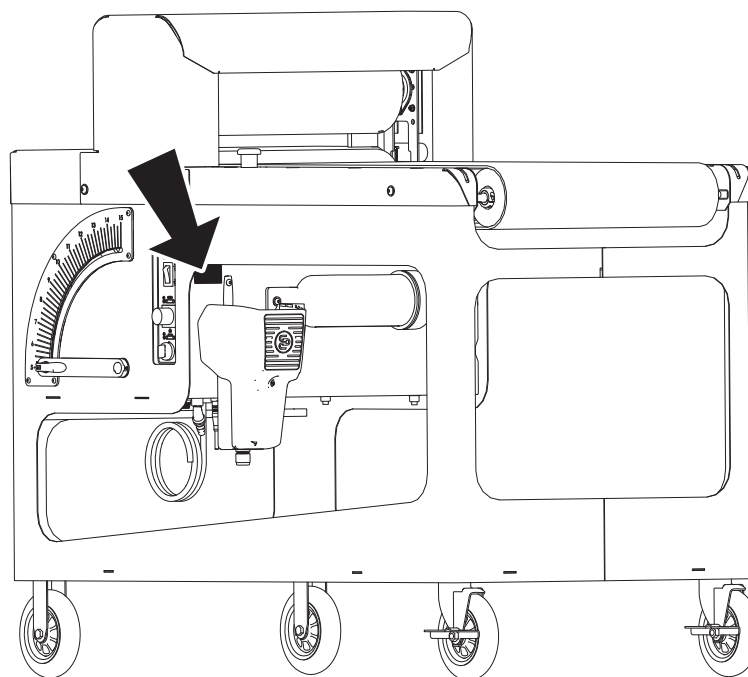
Operator Orientation. 6

About This Manual 7

- Bulleted Lists.7
- Numbered Lists7

Serial Number Location

Record serial numbers and date of purchase in spaces provided.



j77om001h19.eps

Model Number	
Serial Number	
Date of purchase	

Intended Use

The WT212 3D wet out table is intended to distribute resin in liners for use in cured in place pipe (CIPP) operations. The wet out table functions with liners with a diameter of 2-12" (5.08-30.48cm).

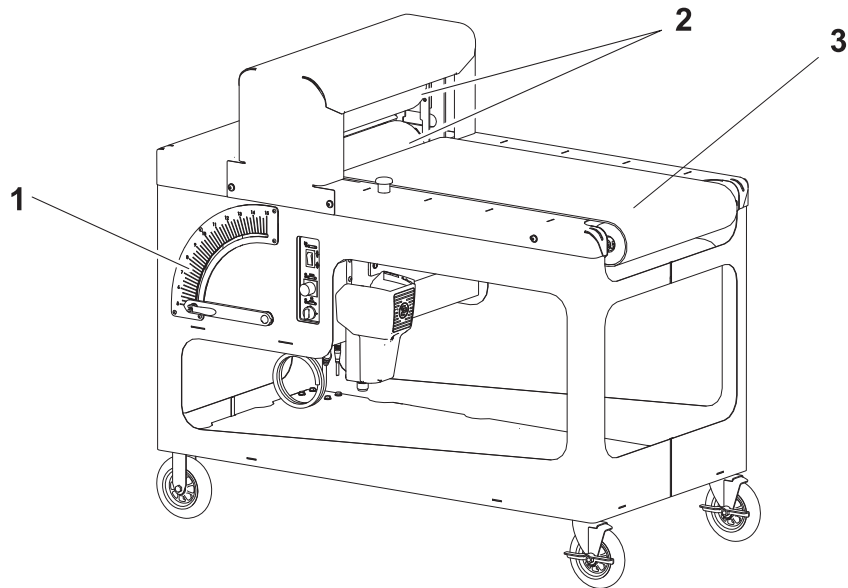
The machine is designed for operation in temperatures from 32° to 100° F (0° to 37.8° C). Contact your HammerHead® dealer for provisions required for operating in extreme temperatures. Use in any other way is considered contrary to the intended use.

The wet out table 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.

Machine Components



j77om002h19.eps

- | | |
|------------------------|------------------|
| 1. Control station | 3. Conveyor belt |
| 2. Compression rollers | |

Electromagnetic Compatibility Statement

U.S.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by **The Charles Machine Works, Inc.** could void the user's authority to operate the equipment.

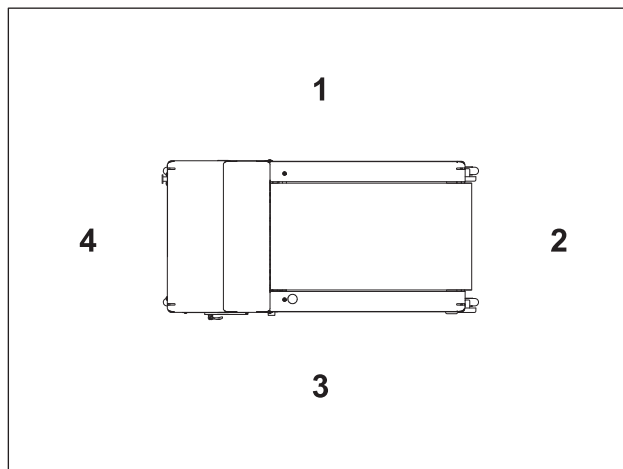
Canada

CAN ICES-3(A)/NMB-3(A)

Operator Orientation

IMPORTANT: Top view of machine is shown.

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

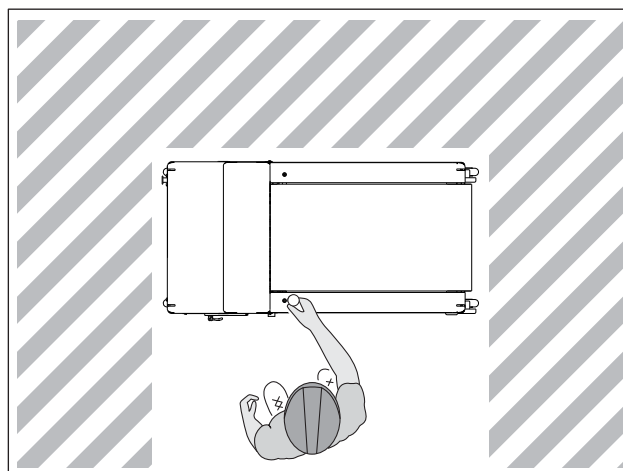


j77om004h19.eps

Operating Area

IMPORTANT: Top view of machine is shown.

Operator should stand only in the location shown.



j77om005h19.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** 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

**WT212 3D
Operator's Manual**

Issue number 2.0/OM-4/19

Part number 960-1131

**Copyright 2019
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>.

Contents


	Overview machine serial number, information about the type of work this machine is designed to perform, basic machine components, and how to use this manual	1
	Foreword part number, revision level, and publication date of this manual, and factory contact information	9
	Safety machine safety alerts and emergency procedures	13
	Controls machine controls and indicators and how to use them	19
	Prepare procedures for inspecting and classifying the jobsite, planning the installation, and preparing the jobsite for work	23
	Transport procedures for lifting and hauling	27
	Operate procedures for operating the equipment	29
	Complete the Job procedures for restoring the jobsite and storing equipment	33
	Service service intervals and instructions for this machine including lubrication, replacement of wear items, and basic maintenance	35
	Specifications machine specifications including weights, measurements, power ratings, and fluid capacities	45
	Support the warranty policy for this machine, and procedures for obtaining warranty consideration and training	47
	Service Record a record of major service performed on the machine	49

Safety

Chapter Contents

Guidelines	14
Safety Alert Classifications	17
Machine Safety Alerts.	18

Guidelines

 **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.**

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.hammerheadtrenchless.com/parts & services](http://www.hammerheadtrenchless.com/parts%20&%20services).
- 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:

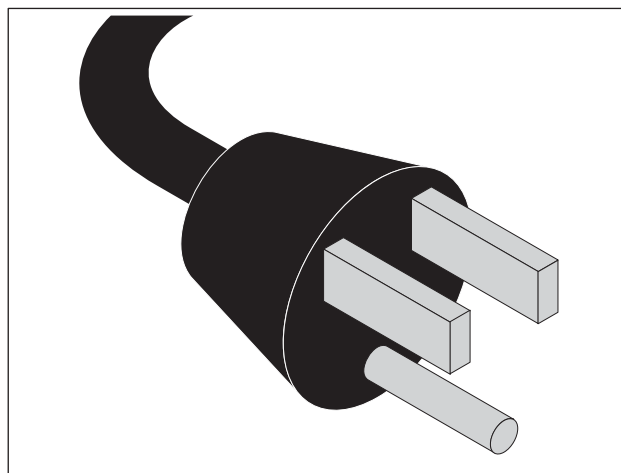
- This appliance is for use on a nominal 120V circuit.
- Never modify plug provided with product. If plug will not fit outlet, have a proper outlet installed by a qualified electrician.
- Never use adapters.
- The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- 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.

Extension Cord Use

Extension cords are available and may be used if care is exercised in their use. Follow these guidelines with using an extension cord:

- The marked electrical rating of the extension cord should be at least as great as the electrical rating of the machine.
- The extension should be a grounding type 3-wire cord.
- The extension cord should be marked with suffix letter "W" and with a tag stating "Suitable for Use with Outdoor Appliances".
- The extension cord should be arranged so that it will not drape over obstacles in such a way that it can be tripped over, snagged, or pulled unintentionally (especially by children).
- The extension cord connecting to the unit should be kept dry and off the ground.
- When using an extension cord, do not clean the appliance with water spray or the like, store indoors when not in use, and keep out of reach of children.



Electric_Plug_3_Prong.eps

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.

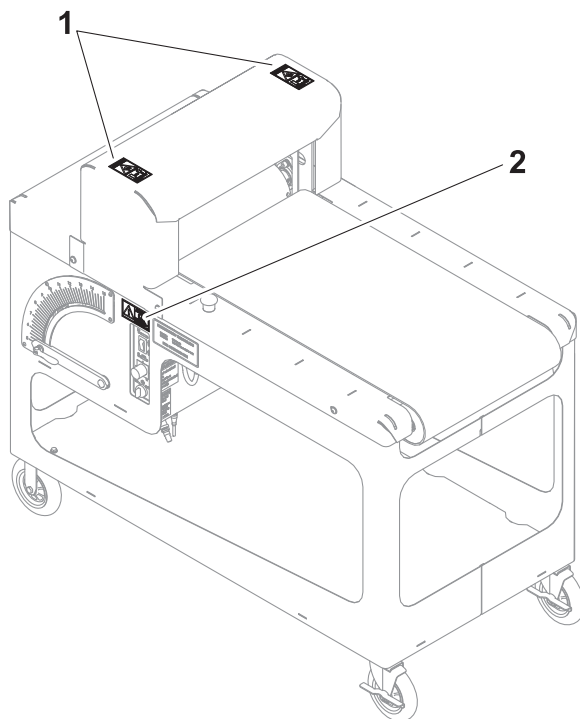
 **CAUTION** indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

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

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

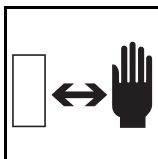
IMPORTANT can help you do a better job or make your job easier in some way.

Machine Safety Alerts



Decal_HH_WetOutTable.eps

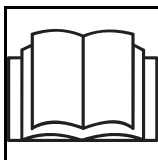
1



⚠ WARNING

Moving parts. Contact can cause serious injury.
Stay away.

2



⚠ WARNING

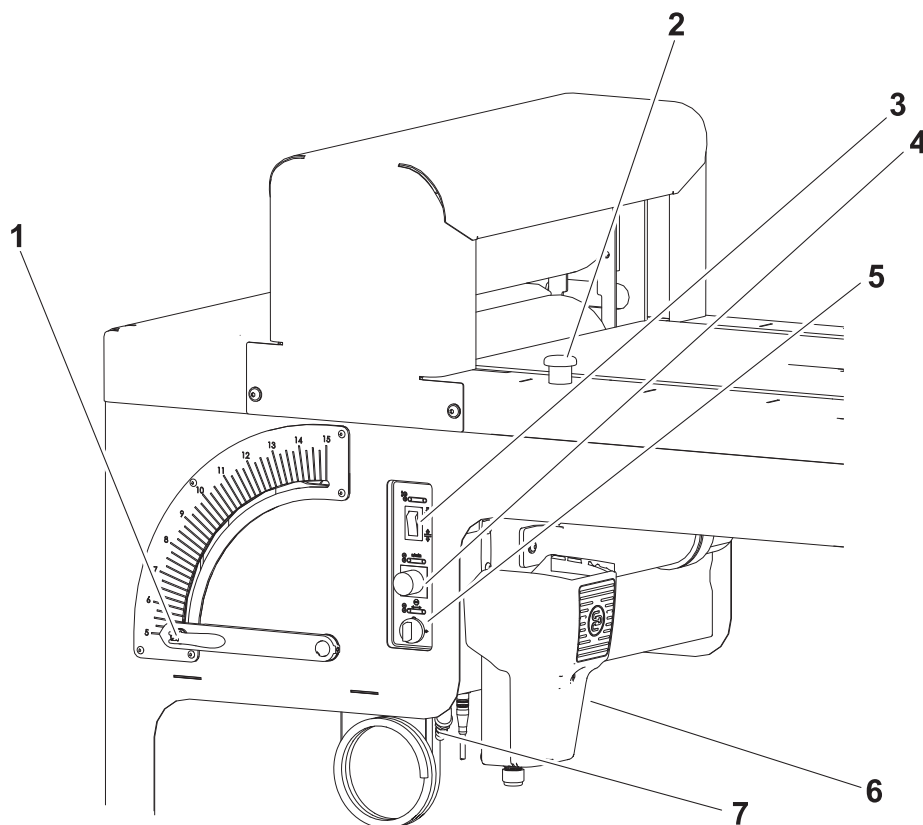
Read operator's manual. Follow safety rules and
know how to use all controls. Your safety is at stake.

Controls

Chapter Contents

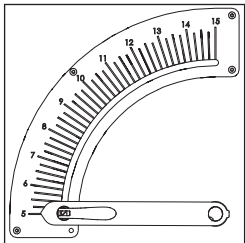
Controls	20
--------------------	----

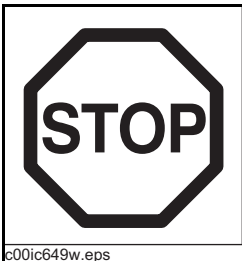
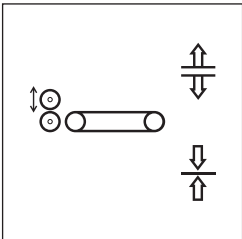
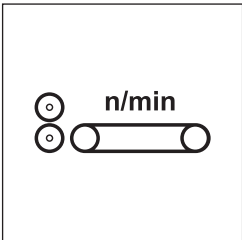
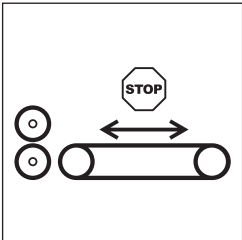
Controls



j77om003h19.eps

- | | |
|--------------------------|--------------------------|
| 1. Roller gap control | 5. Belt direction switch |
| 2. Stop button | 6. Start/Stop pedal |
| 3. Roller up/down switch | 7. Air inlet |
| 4. Table speed dial | |

Item	Description	Important
1. Roller gap control  <p>c00ic786h.eps</p>	<p>To increase roller gap, move right.</p> <p>To decrease roller gap, move left.</p>	<p>Clamp handle at desired gap before operation.</p> <p>Gap is measured in millimeters.</p>

Item	Description	Important
2. Stop button 	<p>To stop belt and compression roller movement, press.</p> <p>To enable belt and compression roller movement after stopping, pull up.</p>	Compression rollers will separate.
3. Roller up/down switch 	<p>To open compression roller, press top.</p> <p>To clamp compression roller, press bottom.</p>	
4. Table speed dial 	<p>To increase table speed, turn right.</p> <p>To decrease table speed, turn left.</p>	Belt will not move unless start/stop pedal is pressed.
5. Belt direction switch 	<p>To set belt movement away from compression rollers, move right.</p> <p>To set belt movement toward compression rollers, move left.</p> <p>To disable belt movement, move to middle.</p>	Belt will not move unless start/stop pedal is pressed.
6. Start/Stop pedal	To move belt and compression rollers, press.	In order to operate belt, pedal must be pressed.
7. Air inlet	Connects to compressor.	Air inlet should be 60-120psi (4.14-8.27bar).

Prepare

Chapter Contents

Gather Information 24

- Review Job Plan 24
- Notify One-Call Services 24
- Arrange for Traffic Control 24
- Plan for Emergency Services 24

Inspect Site 25

Prepare Jobsite 25

Check Supplies and Prepare Equipment 26

- Check Supplies 26
- Prepare Equipment 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



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

Ensure area where unit will be operated is on level and firm ground.

Check Supplies and Prepare Equipment

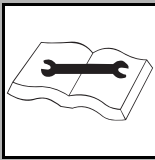
Check Supplies

- personal protective equipment, such as hard hat and safety glasses
- air compressor
- air hose
- resin
- hardener
- liner
- vacuum

Prepare Equipment

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.

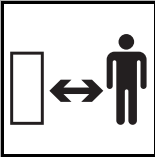

- hoses and valves
- cables and plugs

Transport

Chapter Contents

Lift	28
Tie Down	28

Lift



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

This machine is not configured for lifting. If it must be lifted, load machine into a container or onto a platform appropriate for lifting. Use lifting device capable of supporting machine's size and weight. See "Specifications" on page 45 or measure and weigh equipment before lifting.

Tie Down

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

Operate

Chapter Contents

Set Up and Configure	30
Operate	
Shut Down	31

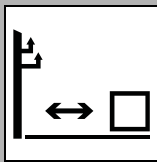
Set Up and Configure

IMPORTANT: For information on preparing resin and liner, see Installation and Procedures Guide.

1. Lock wheels.
2. Connect foot pedal and position for easy access to all controls.

IMPORTANT: Only operate in designated operating area. See "Operating Area" on page 6.

3. Plug in machine.

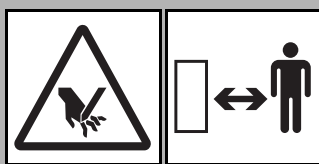


⚠ DANGER

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

4. Connect air hose to table at valve.
5. Set roller gap. Roller gap is determined by liner and resin being used. See HammerHead® Rehab Calculator app for gap settings or contact your HammerHead dealer.

Operate

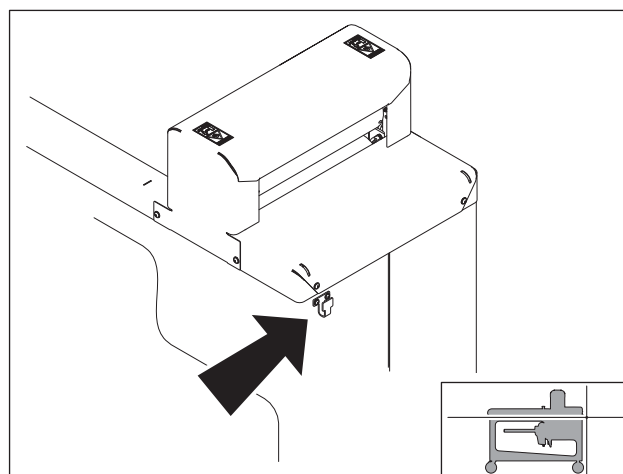


WARNING Moving parts. Contact can cause serious injury. Stay away.

To help avoid injury:

- Keep everyone away from belt and rollers while operating.
- Stop button stops all movement and releases rollers.

1. Place liner on belt with end near rollers.
2. Attach vacuum to liner.
3. Set belt speed to low.
4. Set belt direction toward rollers.
5. Start belt movement.
6. Push liner through rollers.
7. Hang cuff of liner on cuff hanger (shown), to prevent resin from leaking.
8. Adjust belt speed so resin is evenly distributed through liner.



j77om010h19.eps

Shut Down

1. Set all controls to off.
2. Unplug machine.

IMPORTANT: Only unplug at plug. Do not unplug by pulling on cord.

3. Disconnect air.
4. Stow foot pedal.

Complete the Job

Chapter Contents

Stow Components	34
Stow Tools	34

Stow Components

Load unit as specified to transport. See "Transport" on page 25 for more information.

Stow Tools

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

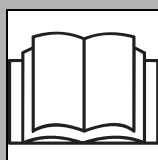
For long term storage, store in a protected environment, out of the elements.

Service

Chapter Contents

Service Precautions	36
Recommended Lubricants/Service Key	36
10 Hours.	37
As Needed	39

Service Precautions



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.
- Only service with unit unplugged unless otherwise stated.

Recommended Lubricants/Service Key

Item	Description		
EPG	Extreme-Pressure Grease		
PTO	Piercing Tool Oil, use genuine HammerHead [®] Mole Oil p/n ET1085		
	Check level of fluid or lubricant		Check condition
	Filter		Change, replace, adjust, service or test

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 49 to record all required service to your machine.

10 Hours

Tasks	Notes
Check conveyor belt tracking	

Check Conveyor Belt Tracking

Check conveyor belt tracking every 10 hours of operation. If belt is off center, see "Adjust Conveyor Belt Tracking" on page 40.

500 Hours

Tasks	Notes
Check air filter	
Drain water separator	
Check oil level	PTO

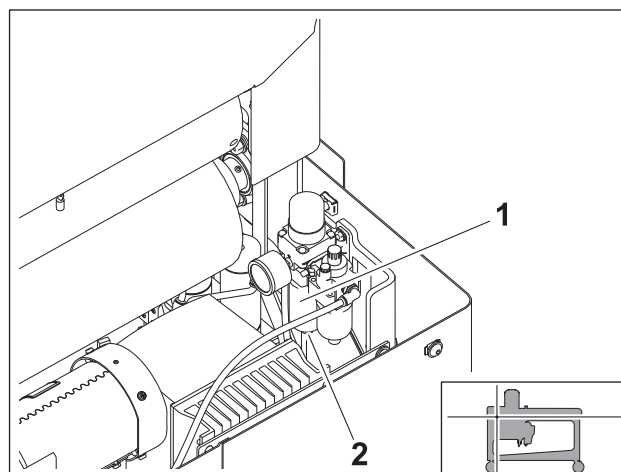
Check Air Filter

Check air filter every 500 hours.

1. Remove rear cover.
2. Remove filter cover (1) and inspect filter for damage or debris.
3. Replace filter as needed.
4. Install rear cover.

Drain Water Separator

Drain water separator at plug (2) every 500 hours.

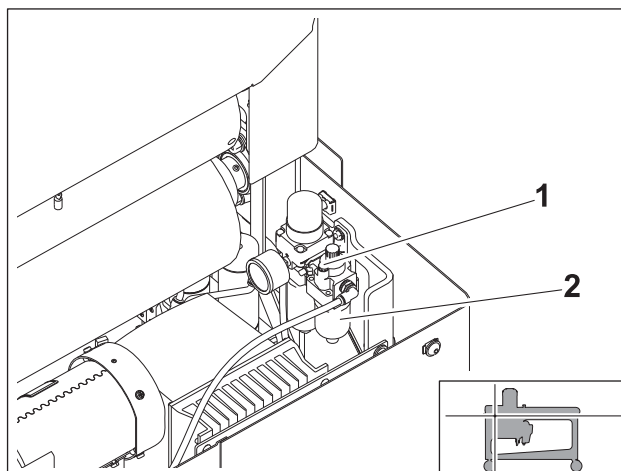


j77om013h19.eps

Check Oil Level

Check oil level every 500 hours.

1. Remove rear cover.
2. Check level at tank (2).
3. Add PTO at fill (1) as needed to keep level at halfway point on tank.
4. Install rear cover.



j77om014h19.eps

As Needed

Tasks	Notes
Grease wheels	EPG
Adjust conveyor belt tracking	
Replace drive belt	
Reset circuit breaker	
Check valves and hoses	
Change air filter	
Change oil	PTO

Grease Wheels

Grease wheels with EPG at zerks.

Adjust Conveyor Belt Tracking

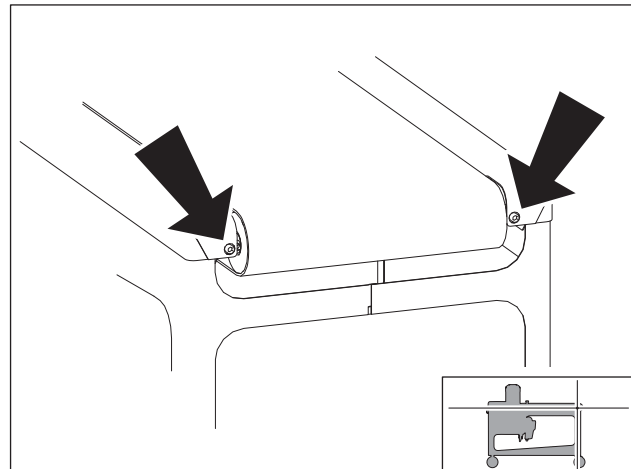


Adjust conveyor belt tracking at bolts (shown) as needed.

To adjust:

1. Tighten bolts (shown) on both sides of machine.

- To move belt left, tighten right bolt.
- To move belt right, tighten left bolt.



j77om006h19.eps

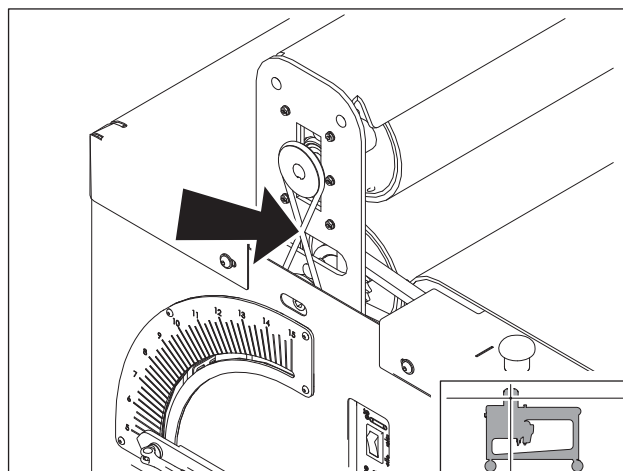
2. Plug in machine.
3. Move conveyor belt using start/stop pedal.
4. Monitor belt. If it moves left or right, stop belt movement, unplug machine, and repeat step one.

Replace Drive Belt

Replace drive belt as needed.



To replace:

1. Remove panel on left side of machine.
2. Replace drive belt (shown).
3. Reinstall panel.



j77om009h19.eps

Reset Circuit Breaker

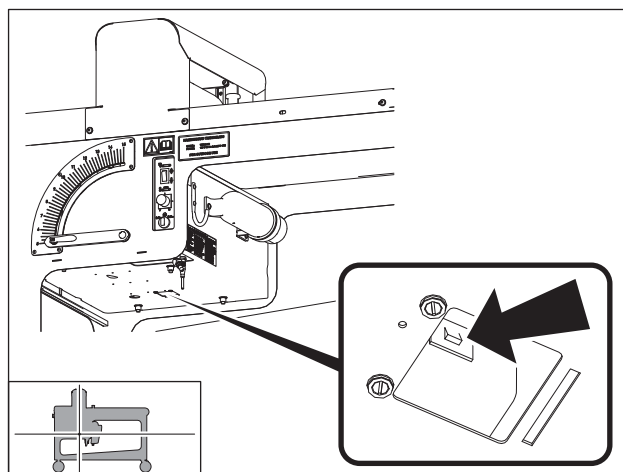


⚠ WARNING

Electric shock.
Contact can
cause death or
serious injury.

Disconnect from supply circuit before opening
or servicing.

Reset circuit breaker (shown) as needed.



j77om011h19.eps

Check Valves and Hoses

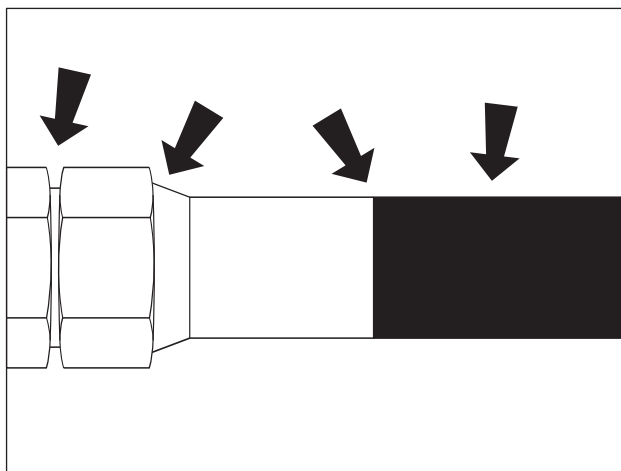


WARNING Pressurized fluid or air could pierce skin and cause severe injury. Refer to operator's manual for proper use. 270-6035

To help avoid injury:

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

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

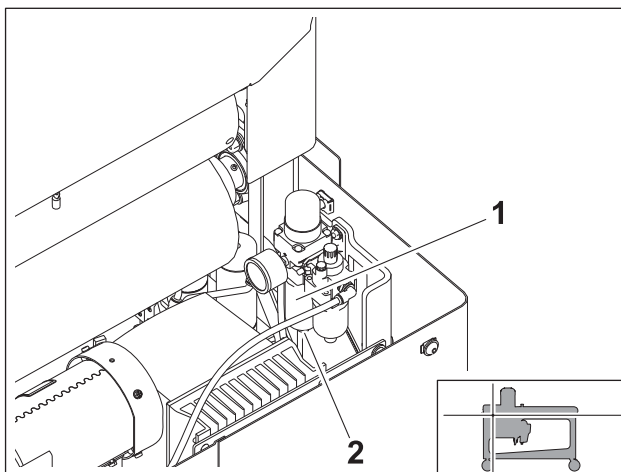


CheckHoses.eps

Change Air Filter

Change air filter as needed.

1. Remove rear cover.
2. Drain at plug (2).
3. Remove cover (1).
4. Replace filter.
5. Install cover.
6. Install rear cover.

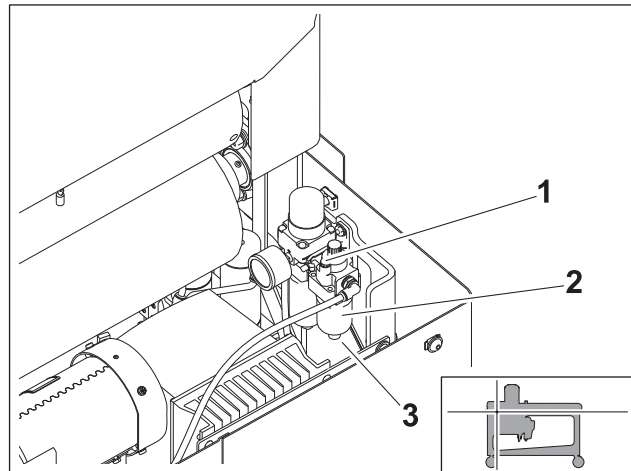


j77om013h19.eps

Change Oil

Change oil as needed.

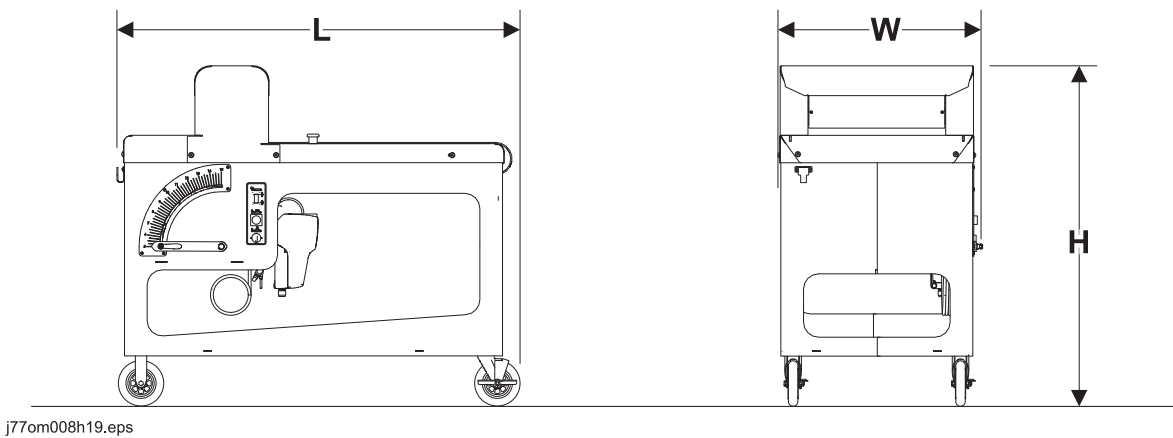
1. Remove rear cover.
2. Drain at plug (3).
3. Install plug.
4. Add PTO at fill (1) to keep level at halfway point on tank (2).
5. Install rear cover.



j77om012h19.eps

Specifications

WT212 3D



Dimensions	U.S.	Metric
L, length	52in	1.32m
W, width	26.5in	0.67m
H, height	45.25in	1.15m
Weight	350lb	158.76kg

Power	U.S.	Metric
120V, 60Hz, 2.3amps		

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]

WT212 3D Operator's Manual

[illegible]



A CHARLES MACHINE WORKS COMPANY