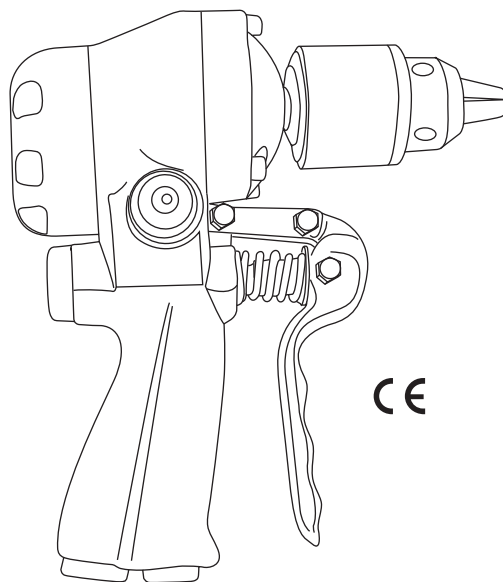


OPERATION MANUAL



H6400C Reversible Drill



Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

Register this product at www.greenlee.com

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Description

The Greenlee Utility H6400C Reversible Drill is intended for use with various types of bits for drilling in wood, concrete, or metal. It features a geared chuck that permits the use of drill bits with shank size up to 12 mm (1/2" diameter). Other features include a directional spool for forward or reverse operation, Super Spool™ for use on either an Open-Center or Closed-Center hydraulic system, and an insulated handle for operator comfort and safety.

Super Spool™ is protected by U.S. Patent No. 4548229.

Safety

Safety is essential in the use and maintenance of Greenlee Utility tools and equipment. This instruction manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

Purpose of this Manual

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following Greenlee Utility tool:

H6400C (42260)

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge at www.greenlee.com.

Other Publications

Tool Owners/Users

Specifications and Parts Manuals:
 Publication 99938600

SAE Standard J1273 (Hose and Hose Assemblies):
 Publication 99930323

Greenlee Utility Authorized Service Centers

Service Manual: Publication 99918013

All specifications are nominal and may change as design improvements occur. Greenlee Textron Inc. shall not be liable for damages resulting from misapplication or misuse of its products. Super Spool is a trademark of Greenlee Textron Inc.

KEEP THIS MANUAL

IMPORTANT SAFETY INFORMATION



**SAFETY
ALERT
SYMBOL**

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

⚠ DANGER

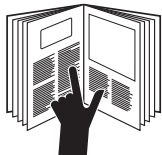
Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

⚠ WARNING

Hazards which, if not avoided, **COULD** result in severe injury or death.

⚠ CAUTION

Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.



⚠ WARNING

Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

Failure to observe this warning could result in severe injury or death.

⚠ WARNING

Electric shock hazard:

This tool is not insulated. When using this unit near energized electrical lines:



- Use only certified non-conductive hoses and proper personal protective equipment.
- Select and maintain the hydraulic fluid to meet the minimum dielectric standards required by your safety department.

Failure to observe this warning could result in severe injury or death.

⚠ WARNING

Skin injection hazard:



- Do not use hands to check for leaks.
- Do not hold hose or couplers while the hydraulic system is pressurized.
- Depressurize the hydraulic system before servicing.

Oil under pressure easily punctures skin, causing serious injury, gangrene, or death. If you are injured by escaping oil, seek medical attention immediately.

⚠ WARNING



Wear eye protection when operating or servicing this tool.

Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.

⚠ WARNING



Wear hearing protection when using this tool.

Long-term exposure to high noise levels could result in hearing damage.

IMPORTANT SAFETY INFORMATION

⚠ WARNING

- Remove the chuck key from the chuck before drilling. Operation with the key in the chuck can result in severe injury.
- Inspect accessories before use. Discard accessories that have cracks, chips or gouges.
- Keep all parts of the body away from rotating parts when the tool is in operation. Contact with moving parts can result in severe injury.
- Do not change accessories, inspect, adjust or clean tool when it is connected to a power source. Accidental start-up can result in serious injury.
- Maintain a firm grip on tool, using both hands at all times. Serious injury can result if the operator does not control the tool.
- Do not lock the trigger in the power-ON position. The operator cannot stop the tool when the trigger is locked.

Failure to observe these warnings could result in severe injury or death.

⚠ WARNING

Do not disconnect tool, hoses or fittings while the power source is running or if the hydraulic fluid is hot. Hot hydraulic fluid can cause serious burns.

⚠ WARNING

Do not reverse hydraulic flow. Operation with hydraulic flow reversed can cause tool malfunction. Connect the pressure (supply) hose and tank (return) hose to the proper tool ports.

Failure to observe this warning could result in severe injury or death.

⚠ WARNING

- Wear protective gloves when handling, removing and installing drill bits. Drill bits can cut even when stationary.
- Inspect tool before use. Replace any worn, damaged or missing parts with Greenlee Utility replacement parts. An improperly assembled tool can malfunction, injuring nearby personnel.
- Inspect the hydraulic hoses and couplings every operating day. Repair or replace if leakage, cracking, wear or damage is evident. Damaged hoses or couplings can fail, resulting in injury or property damage.
- Use this tool for the manufacturer's intended purpose only. Use other than that which is described in this manual can result in injury or property damage.
- Ensure that all bystanders are clear of the work area when handling, starting, and operating the tool. Nearby personnel can be injured by flying debris or by flying parts in the event of a tool malfunction.

⚠ WARNING



Tool and accessory may be hot during and after operation. Allow to cool before handling, or handle with heat-resistant gloves.

Failure to observe this warning could result in severe injury.

⚠ WARNING

Do not exceed the maximum hydraulic flow, pressure relief or back pressure listed in the Specifications and Parts manual.

Failure to observe this warning could result in severe injury or death.

IMPORTANT SAFETY INFORMATION

⚠ CAUTION

Hydraulic oil can cause skin irritation.

- Handle the tool and hoses with care to prevent skin contact with hydraulic oil.
- In case of accidental skin contact with hydraulic oil, wash the affected area immediately to remove the oil.

Failure to observe these precautions may result in injury.

IMPORTANT

Procedure for connecting or disconnecting hydraulic hoses, fittings, or components:

1. Move the flow lever on the hydraulic power source to the OFF position.
2. Stop the hydraulic power source.
3. Follow the sequence under “Hose Connections” to prevent pressure buildup. In case some pressure has built up, loosen hoses, fittings, or components slowly.

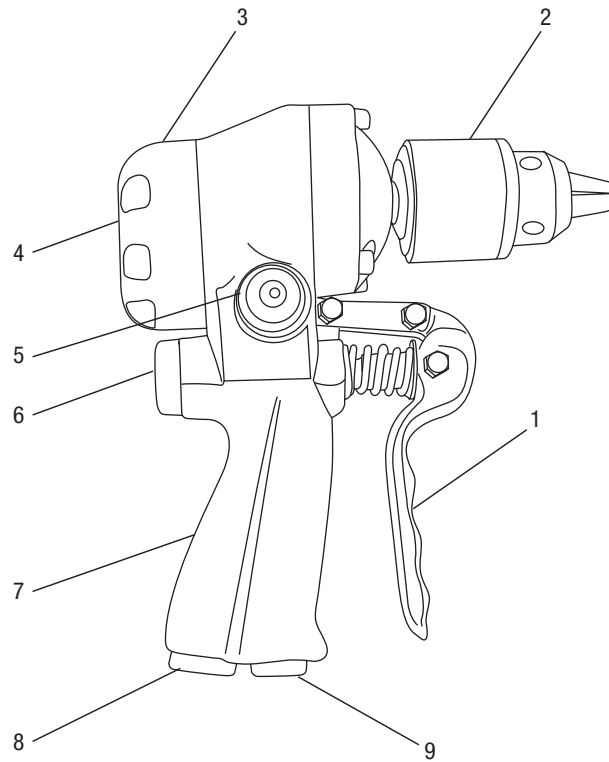
IMPORTANT

Emergency stop procedure:

1. Release the trigger.
2. Shut off the hydraulic power source.

Note: Keep all decals clean and legible, and replace when necessary. Refer to the decals listed in the Specifications and Parts manual.

Identification



- | | |
|----------------------|------------------|
| 1. Trigger | 6. Super Spool™ |
| 2. Chuck | 7. Handle |
| 3. Motor Cap | 8. Tank Port |
| 4. Serial Number | 9. Pressure Port |
| 5. Directional Spool | |

Setting the Super Spool™

The Super Spool™ allows the tool to be used with either Open-Center or Closed-Center hydraulic systems.

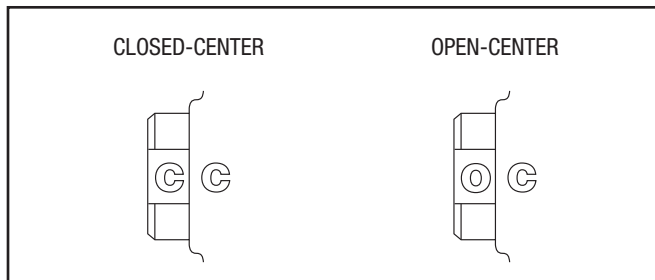
Open-Center Hydraulic System

Use a wrench to turn the Super Spool™ until the letter “O” on the spool is aligned with the letter “C” on the tool handle.

Closed-Center Hydraulic System

Use a wrench to turn the Super Spool™ until the letter “C” on the spool is aligned with the letter “C” on the tool handle.

Setting the Super Spool™ Position



Installing and Removing Accessories

⚠ WARNING

Inspect accessories before use. Discard accessories that have cracks, chips or gouges.

Failure to observe these warnings could result in severe injury or death.

1. Inspect the chuck. Remove any dirt or other contamination.
2. Insert the drill bit far enough to allow full contact with the chuck jaws, but not so far that the jaws contact the flute of the bit. Hand-tighten by turning the outer barrel of the chuck.
3. Insert the chuck key into one of the holes in the chuck and twist clockwise to tighten. Repeat for the other two holes.
4. To remove the drill bit, insert the chuck key into one of the holes in the chuck and twist counterclockwise to loosen.

Hoses and Fittings

Installation and Maintenance

See publication 99930323, SAE J1273
(Hose and Hose Assemblies)

Replacement

Refer to a Greenlee Utility catalog or bulletin 99910322
for a complete selection of hoses and fittings.

Hose Connections

Connecting Hoses

1. Move the flow lever on the power source to the OFF position.
2. Stop the hydraulic power source.
3. Connect the tank hose to the tank (or return) port on the power source, and then to the tank port on the tool.
4. Connect the pressure hose to the pressure port on the tool, and then to the pressure (or supply) port on the power source.

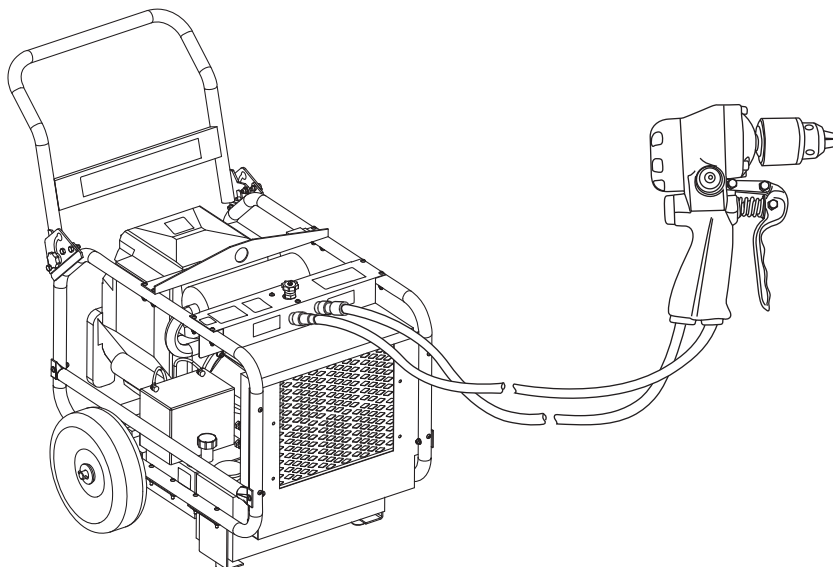
Disconnecting Hoses

1. Move the flow lever on the power source to the OFF position.
2. Stop the hydraulic power source.
3. Disconnect the pressure hose from the power source, and then from the tool.
4. Disconnect the tank hose from the tool, and then from the power source.
5. Install dust caps over the ports to prevent contamination.


Setup


1. Stop the hydraulic power source.
2. Install a drill bit according to the instructions under "Installing and Removing Accessories."
3. Connect the hydraulic hoses according to the instructions under "Hose Connections."

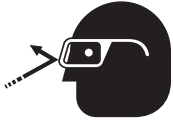
Typical Setup



Operation

	⚠ WARNING
	<p>Electric shock hazard: This tool is not insulated. When using this unit near energized electrical lines:</p> <ul style="list-style-type: none"> • Use only certified non-conductive hoses and proper personal protective equipment. • Select and maintain the hydraulic fluid to meet the minimum dielectric standards required by your safety department. <p>Failure to observe this warning could result in severe injury or death.</p>

	⚠ WARNING
	<p>Skin injection hazard:</p> <ul style="list-style-type: none"> • Do not use hands to check for leaks. • Do not hold hose or couplers while the hydraulic system is pressurized. • Depressurize the hydraulic system before servicing. <p>Oil under pressure easily punctures skin, causing serious injury, gangrene, or death. If you are injured by escaping oil, seek medical attention immediately.</p>

	⚠ WARNING
	<p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.</p>

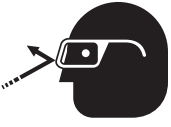
⚠ WARNING
<p>Do not change accessories, inspect, adjust or clean tool when it is connected to a power source. Accidental start-up can result in serious injury.</p> <p>Failure to observe this warning could result in severe injury or death.</p>

1. Start the power source.
Note: Allow the power source to run for a few minutes to warm the hydraulic fluid.
2. Set the directional control spool to the appropriate position (forward or reverse).

⚠ CAUTION
<p>Do not change the position of the directional control spool while the tool is operating. Allow the tool to stop before changing direction.</p> <p>Failure to observe this precaution may result in damage to the tool.</p>

3. Grasp the handle. Place your other hand on the top of the tool. This will allow you to apply leverage while operating the tool.
4. To start the tool, squeeze the trigger.
5. To stop the tool, release the trigger.
6. When the tool is not in use, stop the power source to reduce heat and wear on tool components.

Maintenance

	⚠ WARNING
	<p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.</p>

⚠ WARNING
<p>Do not change accessories, inspect, adjust or clean tool when it is connected to a power source. Accidental start-up can result in serious injury.</p> <p>Failure to observe this warning could result in severe injury or death.</p>

Use this maintenance schedule to maximize the tool's service life.

Note: Keep all decals clean and legible. Replace decals when necessary. Refer to the Specifications and Parts manual for decal part numbers.

When disposing of any components (hydraulic hoses, hydraulic fluid, worn parts, etc.), do so in accordance with federal, state and local laws or ordinances.

Daily

1. Wipe all tool surfaces clean.
2. Inspect the bit for signs of cracks, wear or damage. Replace if necessary.
3. Inspect the hydraulic hoses and fittings for signs of leaks, cracks, wear or damage. Replace if necessary.
4. Install dust caps over the hydraulic ports when the tool is disconnected.

Monthly

Perform a thorough inspection of the hydraulic hoses and fittings as described in publication 99930323, SAE J1273 (Hose and Hose Assemblies).

Annually

If required by your organization, have the tool inspected by a Greenlee Utility Authorized Service Center.

Troubleshooting

Before troubleshooting, determine whether the problem is in the tool, the hoses, or the power source. Substitute a tool, hoses, or power source known to be in good working order to eliminate the item that is not operating.

If the problem is in the tool, see the troubleshooting table in this manual. If the problem is in the power source, see the troubleshooting section of the power source instruction manual.

Problem	Probable Cause	Probable Remedy
Tool does not operate.	Improper power source.	Verify that the power source meets the specifications. Refer to the Specifications and Parts manual.
	Hydraulic fluid level low.	Check the fluid level. Check system for leaks.
	Incorrect hydraulic fluid viscosity.	Use hydraulic fluid with the correct viscosity. Refer to the Specifications and Parts manual.
Tool operates slowly or erratically.	Hydraulic fluid cold.	Allow fluid to warm to the operating temperature. Actuate the tool intermittently to reduce the warming time.
	Adjustable torque output screw incorrectly set, limiting hydraulic fluid flow.	Turn torque output screw counter-clockwise to increase flow until desired output is obtained.
	Power source not adjusted correctly.	Refer to the power source operator's manual. Set the flow and pressure to correspond with the tool.
	Hydraulic fluid level low.	Check the fluid level. Check system for leaks.
	Flow control cartridge not operating properly.	Remove and clean cartridge. Do not disassemble cartridge. Install a new, factory-preset cartridge.
	Air in the hydraulic system.	Refer to the power source manufacturer's instructions for removing air from the system.
	Incorrect hydraulic fluid viscosity.	Use hydraulic fluid with the correct viscosity. Refer to the Specifications and Parts manual.
Tool feels hot.	Hydraulic fluid level low.	Check the fluid level. Check for leaks.
	Incorrect hydraulic fluid viscosity.	Use hydraulic fluid with the correct viscosity. Refer to the Specifications and Parts manual.
	Hydraulic fluid dirty.	Refer to the power source owner's manual for procedure to replace hydraulic oil and filter.
Tool operates too fast.	Flow control cartridge not operating properly.	Remove and clean cartridge. Do not disassemble cartridge. Install a new, factory-preset cartridge.



GREENLEE®

A Textron Company

USA	800-435-0786	Fax: 800-451-2632
	815-397-7070	Fax: 815-397-1865
Canada	800-435-0786	Fax: 800-524-2853
International	+1-815-397-7070	Fax: +1-815-397-9247

4455 Boeing Drive • Rockford, IL 61109-2988 • USA • 815-397-7070
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www.greenlee.com