

Pierce Airrow II Series

Operation, Service & Parts Manual



CMW®

Issue 1.2



053-1129

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Support

the warranty policy for this machine, and procedures for obtaining warranty consideration and training

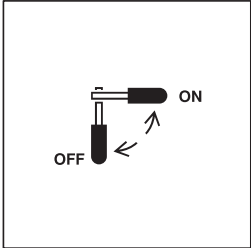
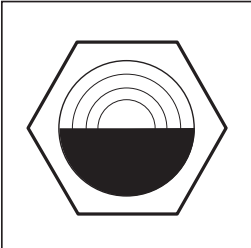
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Service Record

a record of major service performed on the machine

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Item	Description	Notes
<p>2. Air supply valve</p>  <p>om2492a.eps</p>	<p>To close air supply and stop tool, move valve perpendicular to edge of oiler cover to OFF.</p> <p>To open air supply and turn tool on, move valve parallel to edge of oiler cover to ON.</p>	
<p>3. Sight glass</p>  <p>ic0270h.eps</p>	<p>Used to monitor the amount of oil remaining in the oiler.</p> <p>Stop unit and fill oiler when level drops below halfway point on glass.</p>	<p>NOTICE: Discharge air from oiler before opening fill plug. For instructions on how to discharge air from the oiler, see "Adjust Oil Flow" on page 66.</p>

Excavate Pits



WARNING Crushing weight could cause death or serious injury. Use proper procedures and equipment or stay away.



CAUTION Fall possible. Slips or trips may result in injury.



WARNING Moving traffic - hazardous situation. Death or serious injury could result. Avoid moving vehicles, wear high visibility clothing, post appropriate warning signs.

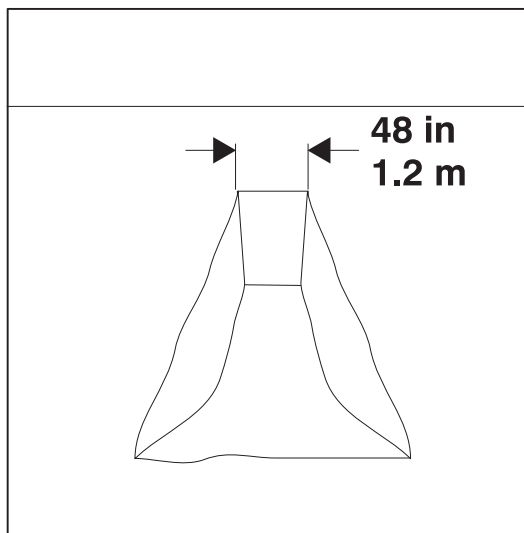
NOTICE: Read, understand, and follow U.S. Department of Labor regulations on confined spaces, excavating, and trenching.

Entry Pit

Dig an entry pit long enough to house launching tool and piercing tool.

Pit must be wide enough for operator to maneuver around tool. A width of at least 48" (1.2 m) is recommended.

Pit must also be deep enough to launch tool at appropriate depth. See "Determine Bore Depth" on page 27.



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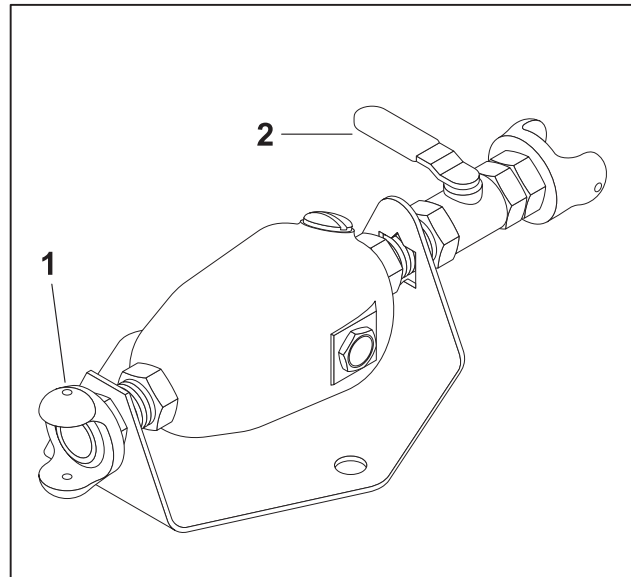
Oiler Hose

IMPORTANT: Monitor the progression of the tool through the bore by marking the air hose in equal increments. For additional accuracy, measure length of bore. Measure the same distance from front of tool along hose. Mark distance of bore on hose.

1. Check air hose coupling. Make sure all gaskets are securely seated.
2. If the hose is new, pour 2 oz (60 ml) of Pierce Airrow oil into hose at oiler end to coat lining.
3. Connect air hose to oiler at QDC (1).
4. Slowly move air supply valve (2) to ON.

NOTICE: Secure hose end firmly. Loose hose can whip and cause injury or become contaminated by dirt.

5. After flushing debris, move air supply valve to OFF.
6. Check connections again and tighten if necessary.
7. Connect air hose to tool whip hose.



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Air Pressure Method

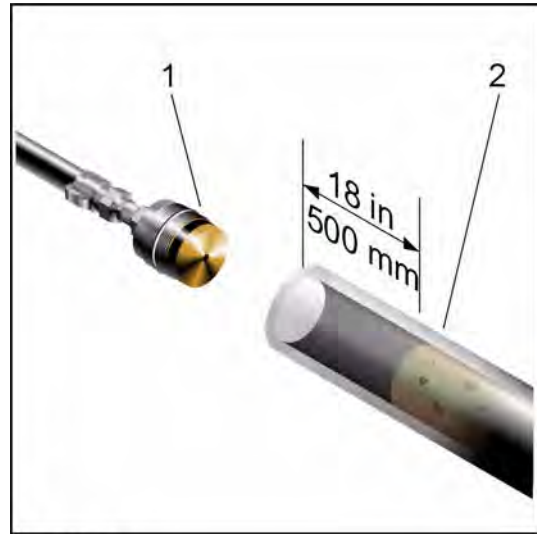
1. Remove pipe pusher cone and other equipment from both ends of pipe.
2. Remove spoil from inside the first 12-18" (300-500 mm) of last pipe (2).

NOTICE: If the compressor does not have a discharge valve, install one inline away from the pit.

3. Install blowout sealing plug (1) into end of pipe and tighten by turning large adjustment nut clockwise until plug fits snugly.

IMPORTANT: Any plug used for spoil removal should have at least an ANSI 150-lb rating.

4. When plug is sealed, attach compressor air hose and pressurize pipe. Do not exceed 100 psi (7 bar).
5. Keep pipe pressurized for up to 30 minutes.
6. If spoil does not clear with air pressure, discharge air pressure from pipe and use water method.

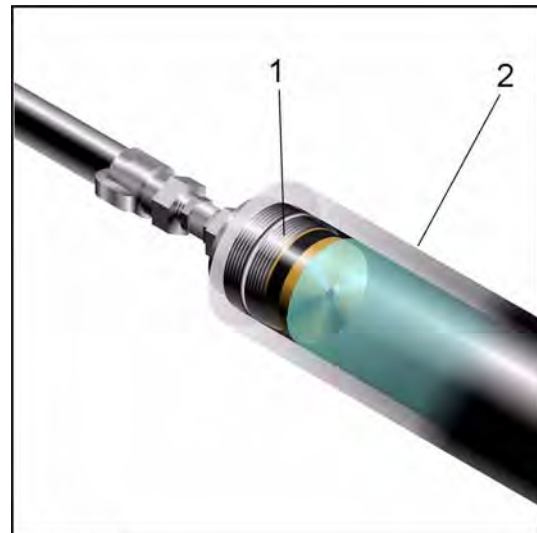


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Water Method

1. After air pressure has been discharged from pipe (2), remove two-claw coupler and connect water line to end of plug.
2. Fill empty section of pipe with water.
3. Close and disconnect water line.
4. Replace two-claw coupler on the blowout sealing plug (1).
5. Connect air compressor hose to blowout sealing plug (1) and open air valve to pressurized pipe.

NOTICE: Do not exceed 100 psi (7 bar).



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Note: If these methods do not work, or if air leaks around spoil without clearing spoil from pipe, discharge air from pipe and contact your Ditch Witch dealer for information on mechanical augers and hydraulic pushers.

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Optional Tool Heads

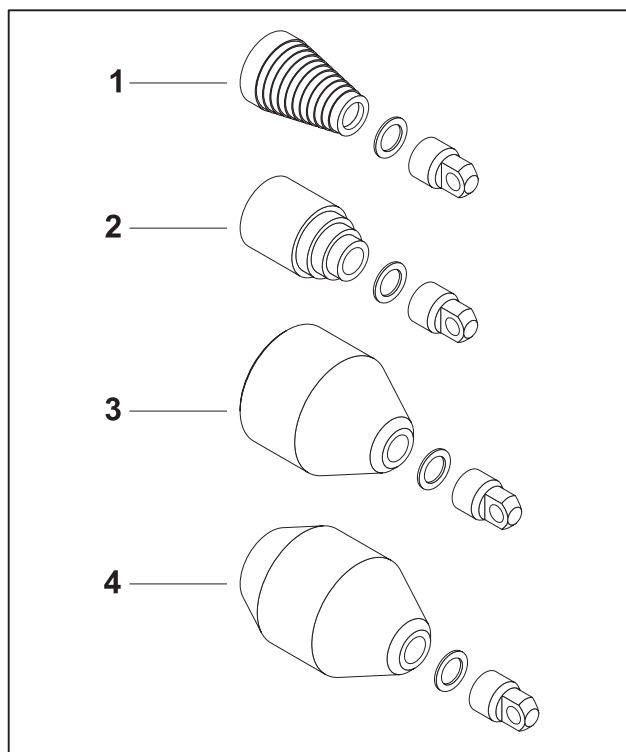
Optional Tool Heads

Optional tool heads are available for threaded models. Optional heads come in a variety of styles for different soils or uses.

Select Head Type

Once you have determined the soil type, use the following table to determine which head or expander is most suitable for soil conditions and job situations.

Head type	Suitable for
tapered (grooved) head	wet, spongy, or loose soil conditions with no anticipated obstructions
stepped head	hard, dry, compacted soil conditions
non-reversible expander	enlarging existing tool path on a second pass
reversible expander	enlarging existing tool path as tool is removed from hole



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1. tapered (grooved)
2. stepped
3. non-reversible expander
4. reversible expander

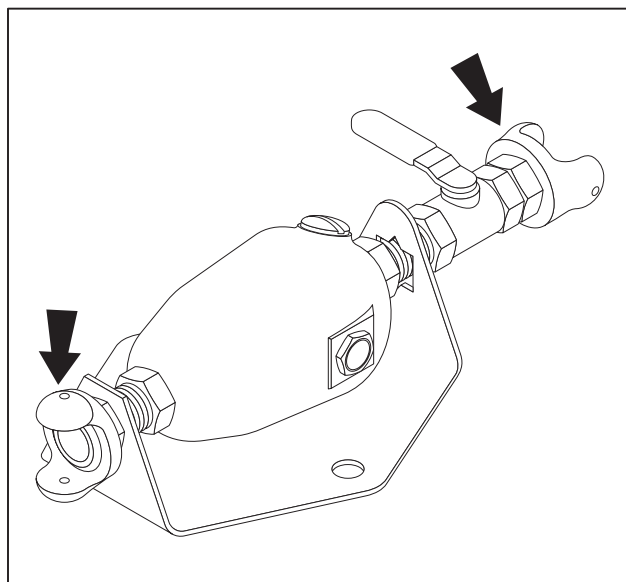
When the job is complete, the tool should be given proper care in order to extend its life. Additionally, the tool must be rebuilt yearly. For information on rebuild kits, see your Ditch Witch dealer.

Tool Body and Hoses

1. Remove tool from the exit pit or entry pit and remove tape and coupling clips.
2. Uncouple whip hose from air hose.
3. Carefully remove any dirt and oil residue from whip hose.
4. Pour a generous amount of Pierce Airrow oil into the whip hose.
5. Install dust caps or tape whip hose end.
6. Store tool in a dry area to prevent condensation inside tool.

Oiler

1. Carefully remove any dirt or residue from oiler surfaces.
2. Cover QDC bodies (shown).
3. Store oiler on a flat area to prevent oil from leaking.



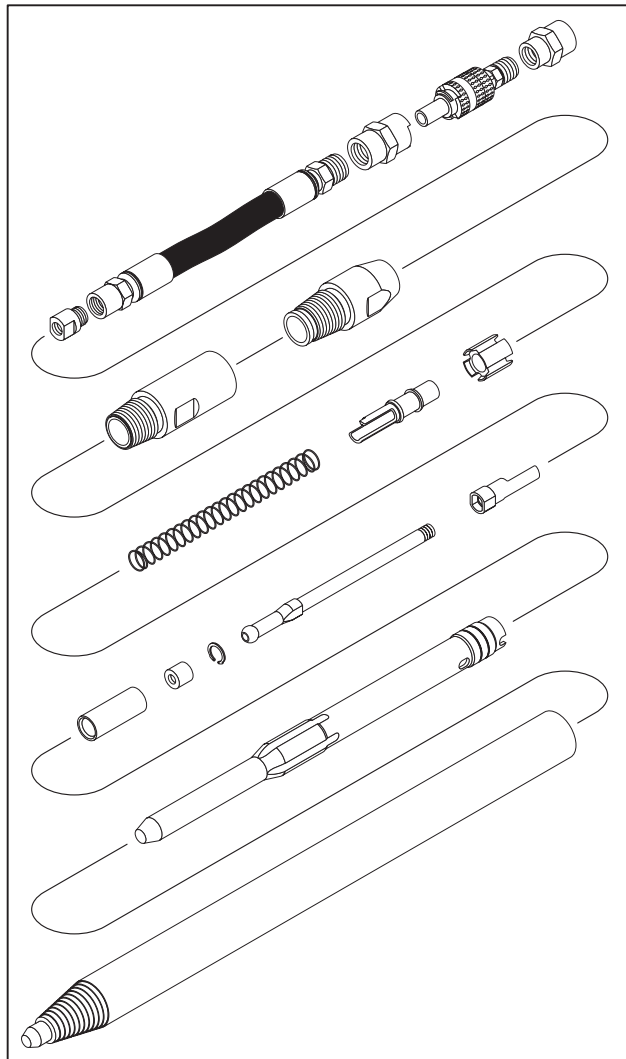
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Rebuild

Disassemble and inspect components yearly or when production drops. Replace components as needed.

Disassembly Overview

1. Remove tail assembly and striker.
2. Remove tapered tail adapter.
3. Remove whip hose and fittings.
4. Disassemble valve stem components.
5. Remove end cap components.

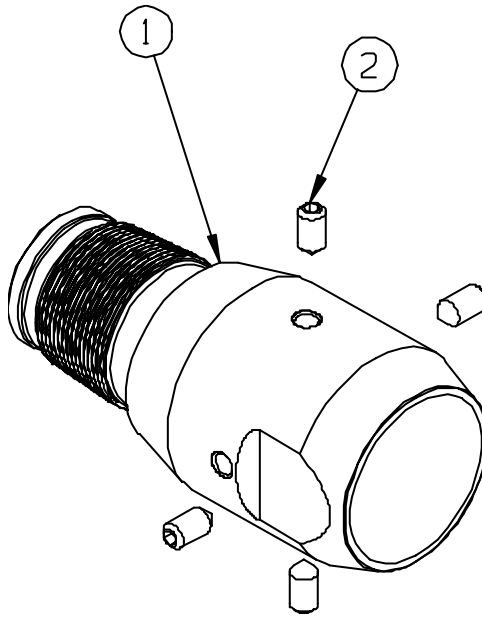


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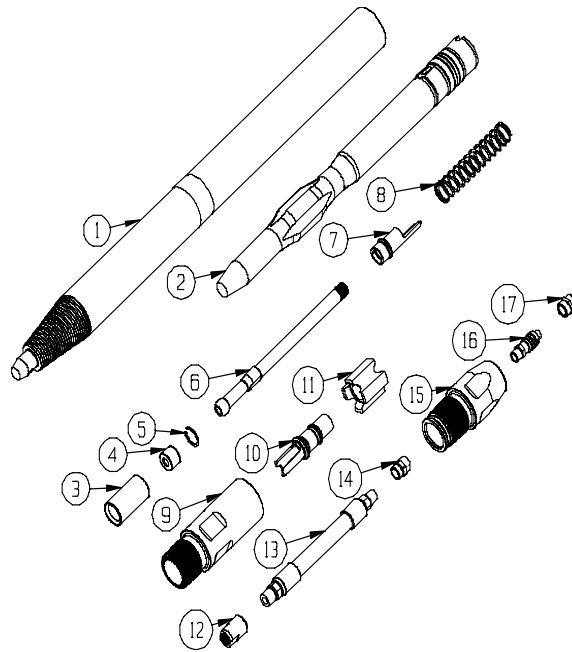
PA310		U.S.	METRIC
OD	Diameter	3.1 in	79 mm
L	Overall length		
	Standard	54.7 in	1.39 m
	Threaded	57.9 in	1.47 m
	Weight		
	Standard	75 lb	34 kg
	Threaded	80 lb	36 kg
	Operating pressure	110 psi	7.6 bar
	Air consumption	40 cfm	1.2 m ³ /min
	Percussion rate	440 bpm	
	Delivery hose inside diameter	0.75 in	19 mm

PA425		U.S.	METRIC
OD	Diameter	4.25 in	108 mm
L	Overall length		
	Standard	66.7 in	1.69 m
	Threaded	69.9 in	1.78 m
	Weight		
	Standard	170 lb	77 kg
	Threaded	177 lb	80 kg
	Operating pressure	110 psi	7.6 bar
	Air consumption	110 cfm	3.1 m ³ /min
	Percussion rate	425 bpm	
	Delivery hose inside diameter	1 in	25.4 mm

Specifications are called out according to SAE recommended practices where indicated. Specifications are general and subject to change without notice. If exact measurements are required, equipment should be weighed and measured. Due to selected options, delivered equipment may not necessarily match that shown.



Model PA270 PVC Puller Assembly Part No. AL571993			
Item No.	Part No.	Qty.	Description
1	AL571994	1	PVC Puller 2 inch
2	AL831732	4	Set Screw 3/8-16 X .75 Cone Point



Model PA425 Pierce Airrow II Assembly			
Item No.	Qty.	Part No.	Description
1	1	AL572129	Body/Anvil Assy.
2	1	AL572132	Striker
3	1	AL572134	Valve Sleeve
4	1	AL572135	Valve Bushing
5	1	AL572136	Snap Ring
6	1	AL572137	Valve Stem
7	1	AL572138	Valve Finger
8	1	AL572139	Valve Spring
9	1	AL572140	End Cap
10	1	AL572141	Valve Guide
11	1	AL572142	Shock Absorber
12	1	AL572143	Stem Adapter
13	1	AL572144	Whip Hose
14	1	AL831027	Q.D Coupler Socket
15	1	AL572145	Tail Adapter
16	1	AL102395	Q.D. Coupler Plug W/Loc
17	1	AL798056	Adapter

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