OPERATIONAL MANUAL

MODEL: S302 PORTABLE PIPE THREADER

by BLUEROCK ® Tools
UNPACKING THE ITEM
Caution: This machine is packed together with items that may be sharp, oily and overly heavy objects. Remove the machine from the packaging in a safe manner. Check to ensure all accessories are included with the item while unpacking. If any parts are found to be missing, contact the retailer as soon as possible. Do not throw away the packaging until the item is out of the guarantee period. Dispose of the packaging in an environmentally responsible manner. Recycle if possible. Keep all plastic bags away from children due to risk of suffocation.

WEEE - Waste Electrical & Electronic Equipment. Note this machine should be disposed of as electrical & electronic waste.
# Table of Contents

**SAFETY**

**PRE-OPERATIONAL SAFETY CHECKS**  1  
**OPERATIONAL SAFETY CHECKS**  1  

**SPECIFICATIONS**  3  

**INCLUDED ACCESSORIES**  3  

**ADDITIONAL AVAILABLE ACCESSORIES**  3  
ADDITIONAL ACCESSORIES FOR THIS MACHINE CAN BE FOUND IN BLUEROCK ® TOOLS ONLINE SHOP AT WWW.BLUEROCKTOOLS.COM OR FROM YOUR LOCAL RETAILER.  3  

**OPERATIONS**  4  

**PURPOSE**  4  
**OPERATIONAL PRINCIPLES**  4  
**MACHINE COMPONENTS**  4  
**TRANSPORTING THE MACHINE**  4  
**RUNNING THE MACHINE**  4  
**INSTALLING THE ADAPTER**  6  
**INSTALLING DIE HEAD**  7  

**TROUBLESHOOTING**  8  
**CORRECTION**  8  

**GENERAL MAINTENANCE**  9  

**OCCASIONAL MAINTENANCE**  9  

**PARTS LIST**  10  

**BREAKDOWN VIEW**  11
Safety

DO NOT USE THIS MACHINE UNLESS YOU HAVE READ THE OPERATING INSTRUCTIONS!

Safety glasses must be worn at all times in work areas. Use a full face mask whenever possible.

Appropriate footwear must be worn.

Safety gloves should be worn at all times and jewelry must not be worn.

Read operational manual prior to use.

Long and loose hair must be contained.

Close fitting/protective clothing must be worn.

Hearing protection should be worn when using this machine.

PRE-OPERATIONAL SAFETY CHECKS

- Examine the power cord and plug for damage.
- Examine the body of the machine and inspect for damage or defects.
- Examine the cutting dies and die head to insure they are operable.
- Ensure that the die head and dies are correctly attached to the machine.
- Make certain the on/off switch is in the off position before plugging into power to prevent unintentional starting.

OPERATIONAL SAFETY CHECKS

- ONLY to be operated by qualified personal who have read instructions.
- NOTE: Failure to read and follow instructions could result in electrical shock, fire, property damage and/or serious injury!
- DO ensure all non-essential people are clear of the immediate work area.
- DO keep body parts, clothing & power cords clear of turning pieces. Stay alert and use common sense when using this tool.
- DO use both hands when using this machine.
- DO remove adjusting keys or wrenches prior to turning machine on.
### SQ30 Pipe Threader

- **DO** guard against electric shock by preventing body contact with grounded surfaces such as pipes, radiators, ranges, refrigerators, etc.
- **DO** be mindful that power tools can expose an operator to vibrations transmitted through contact with the machine. Prolonged exposure can lead to medical issues, which should be discussed with a medical professional.
- **DO NOT** make adjustments to machine while the machine is running.
- **DO NOT** use dull cutting dies as the machine is more likely to bind and the user lose control.
- **DO NOT** leave the machine running when not in use.
- **DO NOT** hold the work piece by hand or using body. Always mechanically clamp or secure work piece.
- **DO NOT** allow liquids or dust to enter the machine’s ventilation system.
- **DO NOT** operate machine outside of machine specifications.
- **DO NOT** touch moving parts while the machine is running as death or dismemberment could occur.
- **DO NOT** remove machine panel while machine is connected to a power source. Only to be removed for service by qualified personal and put back on the machine after service is complete.
- **DO NOT** allow children or untrained personal to operate machine.
- **DO NOT** use this machine in the rain or a wet environment. If using outdoors, make sure the surface is clean and dry.
- **DO NOT** operate in the presence of explosive materials as power tools create sparks which may ignite dust or fumes.
- **DO NOT** use on a pipe that may contain a live electrical wire/circuit.
- **DO NOT** use this machine if the ON/OFF switch is broken. This switch is a safety device that lets you shut off the motor by releasing the switch.
- **DO NOT** operate this machine on the same work surface where welding is being performed. This could result in severe damage to the machine or personal injury to the user.
- **DO NOT** operate this machine on a lower voltage as this could limit the motor life and work efficiency.

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**NOTE:** Use of long small gauge power extension cords can result in decreased voltage. As local voltages can vary, it may be a good idea to test the voltage at the end of the extension cord to ensure proper voltage requirements are met. You might also consult an electrician to make sure the length of cord matches up with the proper wire gauge for this size motor. Make sure to use outdoor cords when operating outdoors. Use a GFCI circuit if using in wet locations.
Specifications

**ELECTRICAL DATA**
- Voltage: 110V, 60Hz
- Current: 11 Amps
- Motor Size: 1300W
- Power Connection: US Standard Plug

**MECHANICAL DATA**
- Pipe Capacity: ½” to 2” Diameter
- Die Head Size: 11R
- Die Size: 12R
- Gearbox: Forward and Reverse
- Gear Housing: Aluminum
- Machine Speed: 28 RPM Forward, 52RPM Reverse
- On/Off Switch: Paddle Type with Trigger Lock

**SHIPPING DATA**
- Shipping Weight: 57 Lbs
- Shipping Carton: 81cm x 15cm x 19cm

**Included Accessories**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction Manual</td>
<td>1</td>
</tr>
<tr>
<td>Support Arm</td>
<td>1</td>
</tr>
<tr>
<td>Stabilizing Bar</td>
<td>1</td>
</tr>
<tr>
<td>Die Head Adapter for Small Dies (1/2&quot; to 1-1/4&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>½&quot; Die Head and Dies</td>
<td>1</td>
</tr>
<tr>
<td>¾&quot; Die Head and Dies</td>
<td>1</td>
</tr>
<tr>
<td>1&quot; Die Head and Dies</td>
<td>1</td>
</tr>
<tr>
<td>1-1/4&quot; Die Head and Dies</td>
<td>1</td>
</tr>
<tr>
<td>1-1/2&quot; Die Head and Dies</td>
<td>1</td>
</tr>
<tr>
<td>2&quot; Die Head and Dies</td>
<td>1</td>
</tr>
<tr>
<td>Spare Brush</td>
<td>2</td>
</tr>
<tr>
<td>Plastic Carry Case</td>
<td>1</td>
</tr>
<tr>
<td>Oil Bottle</td>
<td>1</td>
</tr>
</tbody>
</table>

**Additional Available Accessories**

Additional accessories for this machine can be found in BLUEROCK ® Tools online shop at www.bluerocktools.com or from your local retailer.
**SQ30 PIPE THREADER**

### Operations

**Note**

**THOROUGHLY READ THROUGH THE ENTIRE MANUAL BEFORE OPERATING THIS MACHINE!**

<table>
<thead>
<tr>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The purpose of the SQ30 is for threading pipe and conduit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPERATIONAL PRINCIPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The machine uses a forward and reverse rotation to thread pipe. The user can select the forward or reverse toggle while the on/off switch is engaged. The paddle switch cuts the power when released.</td>
</tr>
<tr>
<td>The threading machine is designed to use 11R type die heads (1/2” – 2” pipe). An adapter is required for the 1/4” – 1-1/4” pipe sizes. The support arm should be used to secure the threader and resist high handle resistance when threading 3/4” or larger pipe.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MACHINE COMPONENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main components of the SQ30 is the die head assembly, gearbox, motor, housing and main handle. The die head is driven by the gearbox and the motor.</td>
</tr>
<tr>
<td>These components must be not be removed except by a qualified technician. Power must be disconnected prior to any service.</td>
</tr>
<tr>
<td>The machine has a paddle switch located on the main handle. This switch operates the turning mechanism to turn the die head forward or reverse. When depressed the switch starts the rotation. When released the rotation stops.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRANSPORTING THE MACHINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>When transporting the machine, always carry with both hands.</td>
</tr>
<tr>
<td>If transporting inside a vehicle, it is recommended to transport it on its side so as to avoid the item falling over.</td>
</tr>
<tr>
<td>DO NOT carry the machine by the cord.</td>
</tr>
<tr>
<td>DO NOT allow the cord or plug to drag along the floor when transporting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RUNNING THE MACHINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do all pre-operational and operational safety checks from Chapter 1.</td>
</tr>
<tr>
<td>Consider your security and stability as well as the orientation of the machine in the work area.</td>
</tr>
<tr>
<td>Consider the work surface material, condition, strength, density and rigidity. These factors directly affect the tools operation and user safety.</td>
</tr>
</tbody>
</table>
Ensure the work surface is free of debris, oil, etc.

Also ensure the machine handle is free of grease of oil.

Check the level and quality of the cutting fluid in the oil bottle. Fill or replace if necessary.

- NOTE: Cutting oil is a necessary part of operations. Thread cutting oil lubricates and cools the threads during threading operations. A dirty or poor grade oil can result in poor thread quality.

Select appropriate die head and dies. If using smaller die heads you may need to install the adapter head. Install on machine.

- Inspect the dies to ensure they are sharp and in the correct position.
  - Improperly installed or dull cutting dies can cause binding or poor quality threads.
- Note: See section below for more information on installation of adapter and dies heads.

Select rotational direction.

If possible secure the pipe in a portable tri-stand or a bench vice.

- To prevent tipping, long lengths of pipe should be supported by a pipe stand.

Position support arm on pipe so the end of the support arm is in line with end of the pipe (figure 5 below).

- Make sure the jaws are squarely contacting the pipe and tighten the handle firmly to prevent slipping of the jaws.
- NOTE: To avoid serious injury from losing control of the threader, a support arm should be used when threading ¾" or larger pipe.
  - When threading pipe smaller than ¾" in size without the support arm, hold onto the threader firmly to exert pressure against the handle developed during threading.
  - If the threader cannot be secured by the support arm, use other mechanical means to secure the machine from losing control.
  - Only use the aluminum gear case to secure the threader. Using the motor housing or handle may result in damage or injury.

Place die head over the end of the pipe and insert the post of the support arm through the notch in the gear case.

Plug the machine into power source.

Turn the machine on.

- NOTE: To start the machine depress the main handle switch. Stop the machine by releasing the switch.
Simultaneously depress the on/off paddle switch and exert pressure against the die head to assist in starting the thread.

- Apply plenty of thread cutting oil to the dies during threading. This will reduce the torque required to thread and improve the thread quality (figure 6).

Keep the on/off switch depressed until the end of the pipe is even with the edge of the dies.

- Release the switch button to turn the threader off.

Reverse the directional switch and engage the motor again, backing off the die from the pipe.

- NOTE: Hold onto the threader handle firmly to resist handle forces developed while backing off the die head.

- Release the on/off switch once the thread is fully reversed.

- When the dies clear the end of the pipe, grip the handle on top of the threader and remove the threader and die head from the pipe.

- Remove the support arm from the pipe.

**INSTALLING THE ADAPTER**

- The adapter is required for use of ½" through 1-1/4" 11R die heads.

- Make certain the machine is unplugged from power.

- Push adapter into threader and tighten the ring on the opposite side (figure 1 and 2 below).

- Installation can only be made from one side of the threader.
### Installing Die Head

- For ½" through 1-1/4" 11R die heads, the adapter must be used. See above section. To install these die heads after the adapter has been installed, rotate adapter cap clockwise. Push die heads into adapter spline end first, then release the adapter cap to hold die head (see figure 3 and 4 below).

- For 1-1/2" to 2" die heads, install the dies heads by pushing the die heads in spline end first, squarely into the threader until the spring engages securely.

![Figure 3](image1.png)  
![Figure 4](image2.png)
## Troubleshooting

**Note**

**SERVICING SHOULD ONLY BE DONE BY A QUALIFIED TECHNICIAN.**

**DON'T FORGET TO UNPLUG POWER TO UNIT PRIOR TO SERVICE!**

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor does not start</td>
<td>Threader unplugged</td>
<td>Plug into power source</td>
</tr>
<tr>
<td></td>
<td>Brushes do not touch armature</td>
<td>Check brushes, replace if worn</td>
</tr>
<tr>
<td>Motor sounds overloaded</td>
<td>Overload because of dull dies</td>
<td>Replace dies</td>
</tr>
<tr>
<td></td>
<td>Bad quality or insufficient thread cutting oil</td>
<td>Use thread cutting oil in adequate quantity</td>
</tr>
<tr>
<td>Sparks coming from motor</td>
<td>Bad contact between brushes and brush holder</td>
<td>Tighten the screws, make sure brush is pressed firmly onto armature</td>
</tr>
<tr>
<td></td>
<td>Brushes do not touch armature properly</td>
<td>Replace worn brushes</td>
</tr>
<tr>
<td></td>
<td>Sharp edge on brush</td>
<td>Break edge with sand paper</td>
</tr>
<tr>
<td>Die head does not start threading</td>
<td>Dull or broken dies</td>
<td>Replace dies</td>
</tr>
<tr>
<td></td>
<td>Machine running in wrong direction</td>
<td>Check setting of the direction switch</td>
</tr>
<tr>
<td></td>
<td>Improperly set dies</td>
<td>Reset dies</td>
</tr>
<tr>
<td>Damaged Thread</td>
<td>Dull dies</td>
<td>Replace dies</td>
</tr>
<tr>
<td></td>
<td>Dies not assembled in correct sequence</td>
<td>Put dies in correct sequence</td>
</tr>
<tr>
<td></td>
<td>Low quality pipe</td>
<td>Make sure only pipe of good quality is used</td>
</tr>
<tr>
<td></td>
<td>Bad quality or insufficient thread cutting oil</td>
<td>Use only thread cutting oil in adequate quantity</td>
</tr>
<tr>
<td>Support arm turns while threading</td>
<td>Support arm feedscrew not tight</td>
<td>Tighten feedscREW</td>
</tr>
<tr>
<td></td>
<td>Support arm jaws dirty</td>
<td>Clean with wire brush</td>
</tr>
<tr>
<td></td>
<td>Support arm not square on pipe</td>
<td>Make sure sits square on pipe</td>
</tr>
</tbody>
</table>
General Maintenance

- Inspect electrical cords and electrical connections.
- Keep machine clean and free of debris.
- Check for misalignment, binding and breakage of all moving parts. If damaged, repair tool before use.

Occasional Maintenance

- Have the power tool serviced by a qualified service technician using identical replacement parts.

  - Change motor brushes (inspect every 6 months – replace when they are worn to less than ¼”)

    1) Disconnect machine from power.
    2) Unscrew left and right side brush holder caps.
    3) Take out old brushes.
    4) Replace with exact same size new brushes.
    5) Screw in brush holder caps tightly.
    6) Replace motor handle housing.
## Parts List

<table>
<thead>
<tr>
<th>S/N</th>
<th>Description</th>
<th>S/N</th>
<th>Description</th>
<th>S/N</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Block</td>
<td>19</td>
<td>Bearing 1000902</td>
<td>37</td>
<td>Mounting plate</td>
</tr>
<tr>
<td>2</td>
<td>Washer</td>
<td>20</td>
<td>Bearing 102</td>
<td>38</td>
<td>Gear cover</td>
</tr>
<tr>
<td>3</td>
<td>Spring</td>
<td>21</td>
<td>Directional switch</td>
<td>39</td>
<td>Ring gear</td>
</tr>
<tr>
<td>4</td>
<td>Screw M10×10</td>
<td>22</td>
<td>Needle bearing 4524901</td>
<td>40</td>
<td>Adapter complete</td>
</tr>
<tr>
<td>5</td>
<td>Retaining ring 14.7</td>
<td>23</td>
<td>Switch bar</td>
<td>41</td>
<td>Gear housing</td>
</tr>
<tr>
<td>6</td>
<td>Pin 4×16</td>
<td>24</td>
<td>Extension lever</td>
<td>42</td>
<td>Motor complete</td>
</tr>
<tr>
<td>7</td>
<td>Bushing</td>
<td>25</td>
<td>Hi-speed gear</td>
<td>43</td>
<td>Support arm</td>
</tr>
<tr>
<td>8</td>
<td>Retaining ring</td>
<td>26</td>
<td>3 linkage gear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Pin 5×18</td>
<td>27</td>
<td>Bevel gear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Key 5×10</td>
<td>28</td>
<td>Feeding gear shaft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Key 5×22</td>
<td>29</td>
<td>Feeding gear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Key 5×25</td>
<td>30</td>
<td>Clutch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Screw M5×20</td>
<td>31</td>
<td>Conical gear shaft</td>
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<tr>
<td>14</td>
<td>Screw M5×25</td>
<td>32</td>
<td>Out-put gear</td>
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</tr>
<tr>
<td>15</td>
<td>Retaining ring</td>
<td>33</td>
<td>Bearing bronze</td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>Bearing 202</td>
<td>34</td>
<td>Bevel gear</td>
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<td></td>
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<tr>
<td>17</td>
<td>Bearing 1000804</td>
<td>35</td>
<td>Clutch gear</td>
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<tr>
<td>18</td>
<td>Bearing 101</td>
<td>36</td>
<td>Gear</td>
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