Important Safety Notice
Carefully read and understand these operating instructions before assembling and operating the Groover(s). Become thoroughly familiar with the operation of the Groover(s), usage, and possible hazards specific to the Groover(s).
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SECTION I - SAFETY INSTRUCTIONS

CAUTION

- The Gruvlok® Model 1007 and 3007 Roll Groovers are to be used only for roll grooving of pipe. These operating instructions provide important information for the safe operation of the Groovers to protect the operator from possible, serious injury. The Groovers are designed for safe, reliable operation. However, unforeseen circumstances, impossible to predict, could result in an accident. Following the information in these operating instructions will permit safe operation of the Groover.

A. GENERAL
1. Carefully read and understand these operating instructions before assembling and operating the Groover.
2. Read and follow the safety labels on the Groover.
3. Understand the function and the location of all power and grooving controls before using the Groover.

B. OPERATOR SAFETY
1. Do not wear loose clothing, loose sleeve cuffs, loose fitting gloves, or jewelry that could get caught in moving parts.
2. Wear safety glasses and safety shoes.
3. Tie-up or cover long hair.
4. Wear ear protection if using the Groover in a high noise area or for prolonged periods of grooving.
5. Do not operate the Groover if you are tired from fatigue or medication.
6. Do not allow horseplay around the Groover.

C. GROOVER SET-UP
1. Provide a safe work area. Keep the work area well lighted and maintain a clear, uncluttered space for operation of the Groover.
2. Do not use the Groover in wet or damp locations. The floor area around the Groover must be dry and free of slippery materials.
3. Set-up the Groover on firm, level ground. Do not locate the Groover on sloped or irregular ground conditions.
4. Remove all tools, wrenches, etc., from the Groover and power drive base before applying power to the Groover.
5. Do not attempt to lift the Groover by yourself. A hoist is recommended for lifting and moving the Groover.
6. Use the Model 3007 Groover only with a Ridgid* 300 Power Drive with 38 RPM operation.
7. The Model 3007 Groover must be properly mounted on the Ridgid 300 support arms and the Groover driveshaft firmly tightened into the Ridgid 300 chuck jaws.
8. Unplug the Ridgid 300 drive power cord on the Model 3007 Groover or switch the drive power switch to the “Off” position and lockout the switch with a padlock on the Model 1007 Groover prior to servicing or changing groover parts.
9. Tool and Ridgid 300 Power Drive must be mounted to the floor for proper operation.

D. GROOVER OPERATION
1. All safety guards must be in place. Never operate the Groover with the guards removed.
2. Do not operate the Groover without a foot switch. A foot switch is required for safe operation of the Groover.
3. Operate the Groover only from the pump side of the Groover.
4. Keep hands away from the guide and grooving rolls. The Groover is designed for ‘hands clear’ grooving.
5. Maintain balanced footing with the foot switch within comfortable reach. Do not reach across the Groover or pipe. Keep hands and clothing away from all moving parts.
6. Do not place excessive force on the hydraulic pump handle. Follow grooving instructions for safe Groover operation.
7. Provide proper pipe support with a pipe stand fastened to the floor or ground.
8. Use the Groover only for the size and wall thickness pipe for which it was designed.
9. Do not operate the Groover if any part of the Groover is damaged or broken.
10. Do not attempt to groove pipe shorter than 5” in length.
11. Keep all visitors and bystanders at a safe distance from the Groover, pipe and power cords.

E. ELECTRICAL SAFETY
1. Ground the Ridgid 300 Power Drive (Model 3007) or drive motor (Model 1007). The power drive must be connected to an internally grounded electrical system.
2. The Model 1007 Groover must be connected to the proper power supply that matches the Groover either a 115 volt, 60Hz, single phase power supply with 30 amp capacity.
3. Use 3-wire extension cords only which have 3-prong grounding plugs and 3-pole receptacles which mate with the Groover’s plug.
4. Extension cord conductor size (i.e. American Wire Gage) must be large enough to prevent significant voltage drop which could damage the Groover drive motor or cause loss of power. The chart below shows the recommended extension cord size.

<table>
<thead>
<tr>
<th>Extension Cord Length**</th>
<th>Required Wire Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25'</td>
<td>12</td>
</tr>
<tr>
<td>50'</td>
<td>12</td>
</tr>
<tr>
<td>100'</td>
<td>10</td>
</tr>
</tbody>
</table>

**Extension cord length greater than 100 feet is not recommended.

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D. **Grooving Times** – The chart below shows approximate grooving times with the groover set-up for the proper size and groove diameter and the pipe properly positioned on the groover. The times shown are average times from the start of rotation on the pipe in the grooving rolls to completed groove.

<table>
<thead>
<tr>
<th>Pipe Size (Inches)</th>
<th>2</th>
<th>2½</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Steel Pipe Wall Thickness</td>
<td>0:20</td>
<td>0:20</td>
<td>0:25</td>
<td>0:30</td>
<td>1:00</td>
<td>1:20</td>
<td>1:35</td>
<td>1:50</td>
<td>2:20</td>
<td>2:40</td>
<td>3:00</td>
</tr>
</tbody>
</table>

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CAUTION - Removal of the Groover from the shipping box and mounting of the support legs should be accomplished only with the aid of a hoist or other lifting device. To avoid possible injury DO NOT ATTEMPT TO LIFT THE MODEL 1007 ROLL GROOVER MANUALLY.

A. MODEL 1007

1. Install a support leg tube into the receiving socket on the underside of the groover base. Push the tube fully into the receiving socket assuring that the angled cut on the tube bottoms in the receiving socket. Tighten the retaining bolt on the receiving socket. Repeat for the other three legs (1/8" wrench).

2. The Groover should be leveled for best grooving results. Assure level position of the Groover and provide a firm fixed base location for the Groover.

3. Position the pump to the desired orientation for ease of operation. Tighten nut to lock pump in position or if desired, back off just slightly to permit pump to be oriented by operator to most comfortable position during groover operation (1/8" wrench).

4. With a flat screwdriver, open the door to the electrical storage cabinet. Remove the power cord and foot switch from the cabinet mounted on the Groover frame. Plug the power cord into a grounded electrical outlet that matches the Groover. Power requirements: 110 volt, 30 amp or optional 230 volt.

5. Remove the padlocked lockout clip from the power switch. Turn the power switch to the “on” position.

6. Turn the power switch to the “off” position when finished grooving or when moving the groover. Install the lockout clip to the power switch and padlock the lockout clip into position. (1/4" shank padlock).
SECTION III - GROOVER SET-UP

THE GRUVLOK® MODEL 3007 ROLL GROOVER IS DESIGNED FOR USE WITH A RIDGID* 300 POWER DRIVE.

CAUTION - Removal of the Groover from the shipping box and mounting of the Groover to the Ridgid 300 drive should be accomplished by 2 persons. To avoid possible injury DO NOT ATTEMPT TO LIFT THE MODEL 3007 ROLL GROOVER BY ONE PERSON.

B. MODEL 3007

1. Extend the mounting arms of the Ridgid 300 power drive, approximately 12’ out from the body of the drive.
   The Ridgid 300 must be mounted to the floor for continuous operation.

2. Grasp the Groover base on opposite sides, lift the Groover out of the shipping crate and place the mounting slots in the groover base over the extended mounting arms.

3. Align the flats on the triangular shaft tailpiece with the Ridgid 300 chuck jaws and slide the Groover back into the chuck jaws. Securely tighten the chuck jaws. Push extension arms in flush with the Groover mounting base front.

4. Install the larger diameter of the support leg tube into the receiving socket on the under side of the groover base. Push the tube fully into the receiving socket assuring that the angled cut on the tube bottoms in the receiving socket. Tighten the retaining bolt on the groover base. Repeat for the other leg. (5/8” wrench).

5. Extend the smaller diameter of the support leg by loosening the lock bolt on the support leg and sliding the smaller diameter tube to its required length. Re-tighten the lock bolt. (9/16” wrench). The support legs must be mounted to the floor for continuous operation.

6. Loosely attach pump assembly to groover base using the 5/8” nut and bolt provided, then securely connect the coupler located on the end of the hose assembly to it’s mating part on the hydraulic ram.

7. The Groover should be leveled for best grooving results. Place level on top of hydraulic ram as shown and adjust the support legs as required to level the Groover and provide a firm fixed base location for both the Groover and power drive.

8. Position the pump to the desired orientation for ease of operation. Tighten nut to lock pump in position or if desired, back off just slightly to permit pump to be oriented by operator to most comfortable position during groover operation. (15/16” wrench)

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SECTION IV - PIPE SET-UP AND POSITIONING (MODELS 1007 & 3007)

The Model 1007 and Model 3007 Groovers come with 2" through 6" IPS pipe size grooving rolls installed unless otherwise requested on your order. To change grooving rolls for other size(s) or for copper tube refer to Section VII for grooving rolls and guide roll plate changeout.

A. STEEL PIPE

1. Set both plastic guide rolls located on the front of the Groover, into the correct holes for the size pipe being grooved (1/4" allen wrench).

4. Close the release valve on the hydraulic pump by turning the knob clockwise. Pump the hydraulic hand pump to lower the top grooving roll into light firm contact (approx. 100 psi) with the pipe.

5. Make sure the knurled stop (groove diameter stop) is not in contact with the top surface of the groover housing. If contact is noted, release hydraulic pressure by turning the release valve knob counterclockwise allowing the groover head to raise. Turn the knurled stop counterclockwise sufficiently to allow clearance between the bottom of the knurled stop and the top of the groover housing when the top grooving roll is in contact with the pipe.

6. Using the slot on top of the Roller plate adjustment rod, lower the guide rolls into firm contact with the pipe. **NOTE:** Improper tool adjustment will cause pipe flare and/or the pipe to roll out of the machine.

7. Adjust the outboard pipe stand to assure proper contact between the pipe and guide rolls. Pipe stand should be 65% - 75% of the pipe length away from Groover. Looking at the front of the Groover, the pipe stand should be positioned to angle the tube approximately 0° to 1/4° downward, away from the front of the groover and 1/4° to the left side at the Groover. See figures below.

**SIDE VIEW DIAGRAM**

**TOP VIEW DIAGRAM**
SECTION IV - PIPE SET-UP AND POSITIONING (MODELS 1007 & 3007)

To groove copper tube, the guide roll plate must be changed to match the type of copper tubing that is to be rolled. There are individual plates to roll type K tubing, to roll DWV tubing, and a third plate to roll both type M and type L tubing. Failure to use the correct guide plate will result in the tubing rolling out of the machine before a correct groove can be made. If the Groover is set-up to groove steel, it will also be necessary to change the grooving rolls to the ones required for copper. Refer to Section VII for grooving roll and guide roll plate changeout.

NOTE: The 2" - 6" copper option comes standard with the M&L guide plate. For other guide plates, please contact your local Gruvlok representative.

B. 2" - 6" COPPER TUBE

1. Set both plastic guide rolls located on the front of the Groover into the correct holes for the size tube being grooved.

2. Insert tube over bottom roll (groove roll) positioning the pipe flush against the front flange of the bottom roll. Be certain pipe does not override.

3. Close the release valve on the hydraulic pump by turning clockwise. Pump the hydraulic hand pump to lower the top roll (groove roll) into light firm contact (approx. 100 psi) with the pipe.

4. Knurled nut cannot be used for depth adjustment. Make certain it is clear, with no contact during grooving.

   A separate, universal diameter gage is used for copper. See page 10.

5. Adjust the outboard pipe stand to assure proper contact between the pipe and guide rolls. Pipe stand should be 65% - 75% of the pipe length away from Groover. Looking at the front of the Groover, the pipe stand should be positioned to angle the tube approximately 0° to 1/4° downward, away from the front of the groover and 1/4° to the left side at the Groover. See figures below.

   NOTE: Improper tool adjustment will cause pipe flare and/or the pipe to roll out of the machine.

   SIDE VIEW DIAGRAM

   TOP VIEW DIAGRAM

B. 8" COPPER TUBE

Due to substantial variation in wall thickness about the tubes circumference, the 8" Copper Method guide roll assembly contains a secondary hydraulic cylinder. One guide roll assembly is utilized for rolling K, L, M, and DWV wall thickness. In addition, a set of top and bottom rolls as well as a Universal Diameter Gage have been specifically designed for the grooving of 8" copper.

Component installation is the same as that for the 2" - 6" copper with the additional hydraulic connection of the 8" copper guide roll assembly tee between the Roll Groover’s pump and hydraulic ram. This connection is easily facilitated through the use of quick connect couplings.
SECTION V – SETTING GROOVE DIAMETER (MODELS 1007 & 3007)

STEEL PIPE

For proper set-up and positioning of pipe, refer to instructions as shown in Section IV.

1. Increase the pump pressure to the recommended set-up pressure shown in the chart for the size and wall thickness pipe to be grooved.

2. Slide the ‘C’ shaped groove diameter gage, for the pipe size to be grooved under the adjustable Knurled Stop at top left side of the groover base. Each gage is marked with two (2) pipe size ranges. Place the correct pipe size area, for the size of pipe being grooved, under the adjustable knurled nut. When grooving pipe with a diameter of 14” - 16”, please use the area marked 12”.

Note: The groove diameter gages are mounted on the back of the groover body.

3. Turn the Knurled Stop to snug against the surface of the groove diameter gage. Release the pump pressure by turning the pump release valve counterclockwise and remove the groove diameter gage.

RECOMMENDED SET-UP PRESSURE (BOTH MODELS)

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Wall Schedule</th>
<th>Set-up Pressure PSIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>2” - 6”</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>8” - 12”</td>
<td>10</td>
<td>2000</td>
</tr>
<tr>
<td>14” - 16”</td>
<td>10</td>
<td>2000</td>
</tr>
<tr>
<td>2”</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>21/2” - 4”</td>
<td>40</td>
<td>2500</td>
</tr>
<tr>
<td>5” - 6”</td>
<td>40</td>
<td>3600</td>
</tr>
<tr>
<td>8” - 10”</td>
<td>40</td>
<td>4000</td>
</tr>
<tr>
<td>12”</td>
<td>STD.</td>
<td>4600</td>
</tr>
<tr>
<td>14” - 16”</td>
<td>STD.</td>
<td>4600</td>
</tr>
</tbody>
</table>

*1007 only.
**SECTION VI – GROOVING THE PIPE (MODELS 1007 & 3007)**

**A. STEEL PIPE**

1. Recheck for correct pipe set-up and position on the bottom roll and adjust as required. Close the relief valve on the hydraulic hand pump and increase pump pressure to 100 psi.

**MODEL 3007 ONLY – Extremely Important**

Check to see that the Ridgid* 300 drive directional switch is set to “reverse” position (clockwise rotation of the pipe looking at the front of Groover.)

Pipe must be square on ends.

Burr or torch slag must be removed. Any pipe manufacturing seam, on inside or outside of pipe, must be removed.

2. Start the drive motor by depressing the foot switch to rotate the pipe. Assure that the pipe is tracking firmly against the back of the bottom roll.

3. With the pipe rotating, increase grooving force by slowly pumping the hydraulic pump handle to raise pump pressure.

Do not pump too fast. Using the pressure gage mounted on the hydraulic ram maintain approximately the listed grooving pressures for size and wall thickness of pipe to efficiently form the groove.

4. Maintain grooving force until the Knurled Stop (groove diameter stop) comes into full, firm contact with the top of the groover base head. Allow the pipe to rotate 1 to 2 revolutions assuring completion of the groove.

Release the foot switch to allow the pipe to stop rotation.

5. Open the hydraulic hand pump release valve by turning counterclockwise. Remove the pipe from the Groover.

Check the groove diameter. If required, adjust the groove diameter stop to assure grooves to be within Gruvlok groove specification limits. (Grooving Specifications are shown in Section X of these instructions.)

**NOTE:** Adjustment of the Knurled Stop (groove diameter stop) will produce the below listed groove diameter changes.

<table>
<thead>
<tr>
<th>Knurled Stop** Adjustment</th>
<th>Groove Diameter Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td></td>
</tr>
<tr>
<td>1/8</td>
<td>.008</td>
</tr>
<tr>
<td>1/4</td>
<td>.016</td>
</tr>
<tr>
<td>3/8</td>
<td>.024</td>
</tr>
<tr>
<td>1/2</td>
<td>.032</td>
</tr>
<tr>
<td>5/8</td>
<td>.047</td>
</tr>
<tr>
<td>1</td>
<td>.062</td>
</tr>
<tr>
<td>1 1/2</td>
<td>.094</td>
</tr>
<tr>
<td>2</td>
<td>.125</td>
</tr>
</tbody>
</table>

**Knurled Stop Rotation:**

Clockwise rotation – Increase groove diameter

Counterclockwise rotation – Decrease groove diameter

6. After adjustment of the Knurled Stop, if the groove diameter is large (i.e. shallow groove depth), place the pipe end back into the Groover and complete the same groove to the new diameter stop setting. If the groove diameter is small (i.e. deep groove depth), put an unfinished end into the Groover and complete the groove.

Recheck the groove diameter for conformance to grooving specifications.

---

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SECTION VI – GROOVING THE PIPE (MODELS 1007 & 3007)

B. COPPER TUBE: GRUVLOK COPPER METHOD

1. Recheck for correct pipe set-up and position on the bottom roll and adjust as required. Close the release valve on the hydraulic hand pump and increase pump pressure to 100 psi.

MODEL 3007 ONLY – Extremely Important

Check to see that the Ridgid* 300 drive directional switch is set to “reverse” position (clockwise rotation of the pipe looking at the front of Groover.)
Tube must be square on ends.
Burrs must be removed.
Any pipe manufacturing seam, on inside or outside of pipe, must be removed.

2. Start the drive motor by depressing the foot switch to rotate the pipe. Assure that the tube is tracking firmly against the back of the bottom roll.

3. Increase the pump pressure to 300 psi.

4. Smoothly increase pump pressure to the specified grooving pressure indicated on the following chart.

GRUVLOK COPPER-PREP GROOVING PRESSURE

<table>
<thead>
<tr>
<th>Copper Tube Type</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>DWV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size  Inches</td>
<td>Pressure PSI</td>
<td>Pressure PSI</td>
<td>Pressure PSI</td>
<td>Pressure PSI</td>
</tr>
<tr>
<td>2&quot;</td>
<td>1500</td>
<td>1500</td>
<td>1000</td>
<td>–</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>1700</td>
<td>1700</td>
<td>1500</td>
<td>–</td>
</tr>
<tr>
<td>3&quot;</td>
<td>1700</td>
<td>1700</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>4&quot;</td>
<td>1700</td>
<td>1700</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>5&quot;</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
<td>1700</td>
</tr>
<tr>
<td>6&quot;</td>
<td>2600</td>
<td>2600</td>
<td>2600</td>
<td>2300</td>
</tr>
</tbody>
</table>

5. Insert the Universal Diameter Gage from below the tubing into the groove being formed.

Holding the fixed gage arm against the far side of the groove, observe the lead edge of the moveable arm’s black sleeve as it moves along the groove diameter indicator tube.

6. When the lead edge of the sleeve centers** on the appropriate groove diameter line for the tube size being grooved, stop the groover motor by releasing the foot switch. Open the hydraulic hand pump release valve by turning counterclockwise. Remove the tube from the Groover.

**May vary from leading edge to center of line depending on actual gage used.

7. Using a pi tape check the groove diameter produced and compare it to the specifications presented in Section X. If the groove diameter is small:
   • Re-insert tube into Groover.
   • Pump ram until pressure gage reads 100 psi.
   • Start the drive motor with the foot switch.
   • Quickly pump up to recommended pressure.
   • Monitor groove growth with universal diameter gage.

8. Repeat steps 1-7 for each groove.

Note: It is necessary to use the Universal Diameter Gage while grooving every tube end.
Note: If the end of the tubing becomes dented after grooving, simply place that end back into the machine and rerun at approximately 300 psig for two to three revolutions.
Note: DO NOT allow Universal Diameter Gage to become covered with dirt or grease. Provide a safe location for storage, as well as during usage.

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1. ROLL REMOVAL

NOTE: With 2” – 6” grooving rolls installed – remove the bottom roll first, then remove the top roll. With 8” – 12” and 14” – 16” grooving rolls installed – remove the top roll first, then remove the bottom roll.

A. GUIDE ROLL MOUNTING PLATE

1. Using a large slotted screwdriver and a 1/2” wrench, loosen the hex nut located on the top of the adjustment shaft protruding from the top of the groover head.

2. Place one hand under the guide roll mounting plate and remove the hex nut from the adjustment shaft. Remove the guide roll mounting plate by lowering until fully disengaged.

TOOLS REQUIRED

<table>
<thead>
<tr>
<th>(1) Large Slotted Screwdriver</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 3/4” Wrench</td>
</tr>
<tr>
<td>(1) 5/16” Allen Wrench</td>
</tr>
</tbody>
</table>
SECTION VII – GROOVING ROLL CHANGE (MODELS 1007 & 3007)

1. ROLL REMOVAL

B. TOP (GROOVE) ROLL

1. Remove the quick release pin by grasping the ring located on the end of the pin and pulling straight up.

2. Screw the ¼” - 20 thumb screw (same one that is used to secure the depth gages to the main housing) into the tapped hole in the top shaft.

3. Cradle one hand under the top roll and pull the top roll shaft out from the front.

   Caution: The top roll is heavy. Brace your hand to receive the weight of this component. As the shaft disengages, the top roll will fall into your hand. If you have not removed the bottom roll (8” – 12” and 14” – 16” roll removal) the weight of the top roll could pinch, or trap your hand against the bottom roll.

4. Remove the top roll from between the front and back plates of the grooving head. If the bottom roll has been removed, lower the roll out of the grooving head. If the bottom roll has not been removed (8” – 12” and 14” – 16” roll removal), raise the roll out of the grooving head.

C. BOTTOM (DRIVE) ROLL

1. Loosen and remove the socket cap screw to remove the hinged collar from around the bottom roll shaft at the back of the groover base (⅛” allen wrench).

MODEL 3007 ONLY

1. Release the Ridgid* 300 chuck jaws from around the tailpiece on the bottom roll.

2. Pull the bottom roll shaft out the front of the Groover.

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SECTION VII – GROOVING ROLL CHANGE (MODELS 1007 & 3007)

2. ROLL INSTALLATION

NOTE: With 2’ – 6’ grooving rolls – Install the top roll first, then install the bottom roll. With 8’ – 12’ and 14’ – 16’ grooving rolls – Install the bottom roll first, then install the top roll.

A. TOP (GROOVE) ROLL

1. Thoroughly clean and inspect top shaft to ensure that it is free from all burrs and galling.

2. Position roller between the front and back plates of the grooving head aligning the rollers bushings to receive the top shaft as it is inserted from the front of the machine.

3. Push the shaft inward, through the top rollers bushings, stopping when the back of the shaft is flush with the back of the grooving head.

4. Rotate the top shaft to align the cross drilled hole with the corresponding hole in the groover head. Remove thumb screw from top shaft and return it to its proper storage position.

5. Insert the quick release pin. When properly installed, the spring loaded locking ball on the bottom portion of the pin will extend below the bottom of the top shaft.

NOTE: Top rollers for the Copper-Method utilize a spherical bearing that the top shaft passes through. This bearing must be aligned such that the top shaft hole is perpendicular to the face of the roll prior to pin installation. **DO NOT FORCE TOP SHAFT.** When properly aligned, the top shaft will slide in with little effort.

B. BOTTOM (DRIVE) ROLL

1A. Insert the bottom roll shaft through the front of the groover base exposing the triangular shaped tailpiece at the back of the Groover.

1B. Lubricate shaft for ease of installation.

2. MODEL 1007 ONLY

Align the flats on the triangular shaft with the motor drive coupling and insert the shaft into the coupling.

NOTE: Push the shaft in from the front to fully expose the collar receiving slot at the back end of the Groover.

3. Insert the hinged collar into the shaft slot and tighten the socket cap screw (3/16” allen wrench).

4. MODEL 3007 ONLY

Align the flats on the triangular shaft with the Ridgid 300* chuck jaws. Slide the Groover back on the mounting arms to insert the triangular shaft tailpiece into the chuck jaws. Securely tighten the Ridgid 300 chuck jaws.

C. GUIDE ROLL MOUNTING PLATE

NOTE: Select the correct mounting plate for either steel pipe or for copper tube.

1. Insert the adjustment shaft from the bottom, into the hole in the mounting block at the front of the groover head. Slide the shaft up to expose threaded portion above the top of the mounting block and install the hex nut.

2. Using a large slotted screwdriver and a 3/8' wrench, lightly snug the hex nut in place.

*"RIDGID" is a registered trade mark of Ridgid Tool of Elyria, Ohio.
SECTION VIII - GROOVER MAINTENANCE

Due to the use of sealed bearings, the 1007 and 3007 Roll Groovers require very little maintenance.

A. General

1. Periodically unplug and thoroughly clean your Roll Groover.

2. A protective film of light oil should be applied to all rollers and guide roll mounting plates. Frequency of application will vary due to environmental conditions but shall be sufficient to prevent the formation of surface rust.

B. Replacement Parts

Please contact your local Gruvlok branch to purchase replacement parts and accessories for the Roll Groover. To facilitate ordering, an exploded drawing of each machine along with replacement parts listings are presented in the next section.

C. Hydraulic Maintenance

If you are having problems achieving or maintaining hydraulic pressure, the following user serviceable items should be checked:

1. Verify that the release valve knob on the pump is not hitting the pump housing prior to the valve closing completely. There should be a slight gap between the stop located on the knob and the pump body. If there is not, loosen the two set screws using a 1/8" allen wrench and reposition knob accordingly.

2. Check hydraulic fluid level. Fully retract hydraulic ram piston by turning pump release valve counterclockwise. Remove filler cap from the rear of the reservoir body. The fluid level should come to the bottom edge of the filler hole when the pump is level and resting horizontally on its base. Mobil DTE 24 hydraulic oil or its ISO 32 equivalent should be used.

3. Bleeding air from the system is necessary. Air can accumulate in the system through prolonged use as well as repeatedly making up the quick connect coupling to the hydraulic ram.

   Bleeding procedure is as follows:
   - Disconnect quick connect coupling and remove hydraulic ram from the top of the Roll Groover.
   - Reconnect hydraulic ram to pump and allow hose and ram to hang down.
   - Close release valve on pump and pump to fully extend hydraulic ram. Tilt pump to the right (hose side) to eliminate high point in hose and open release valve allowing the hydraulic ram to return to above its fully retracted position. Repeat the above procedure fully extending and retracting the hydraulic ram several times, thereby releasing the trapped air into the pump reservoir.
   - Recheck fluid level and add as required.
SECTION IX - REPLACEMENT PARTS

A. 1007 & 3007 GROOVER HEAD

ID No. | Part Name | Part No. |
-------|-----------|----------|
1      | Quick Release Pin | GL11775  |
2      | Hydraulic Ram Assembly | GL11095 |
3      | Knurled Stop Assembly | GL11035 |
4      | Spring | GL11065 |
5      | Thumb Screw | GL11056 |
6      | Hinged Shaft Collar | GL1194  |
7      | Cap Screw, \( 
\frac{1}{4} \)-20, \( L = \frac{3}{8} \) | GL11767 |
8      | Safety Mesh | GL11313 |
9      | Stop Plate Assembly | GL11467 |
10     | Top Shaft | GL11039 |
11     | Bottom Roller: | |
   11a | 2"-6" Steel | GL11114 |
   11b | 8"-12" Steel | GL11119 |
   11c | 14"-16" Steel (optional) | GL11337 |
   11d | 2"-6" Copper (optional) | GL11121 |
   11e | 8" Copper (optional) | GL11584 |
12     | Top Roller: | |
   12a | 2"-6" Steel | GL11110 |
   12b | 8"-12" Steel | GL11117 |
   12c | 14"-16" Steel (optional) | GL11335 |
   12d | 2"-6" Copper (optional) | GL11122 |
   12e | 8" Copper (optional) | GL11586 |
### SECTION IX - REPLACEMENT PARTS

#### B. 1007 Base Assembly

<table>
<thead>
<tr>
<th>ID No.</th>
<th>Part Name</th>
<th>Part No.</th>
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<tbody>
<tr>
<td>1</td>
<td>Pump Assembly</td>
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</tr>
<tr>
<td>1A</td>
<td>Hydraulic Pump</td>
<td>GL11082</td>
</tr>
<tr>
<td>1B</td>
<td>Pump Plate</td>
<td>GL11090</td>
</tr>
<tr>
<td>1C</td>
<td>Cap Screw, 1/4&quot;-20, L=1/2&quot;</td>
<td>GL11230</td>
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<tr>
<td>1D</td>
<td>Cap Screw, 1/4&quot;-20, L=5/8&quot;</td>
<td>GL11093</td>
</tr>
<tr>
<td>1E</td>
<td>Hydraulic Pressure Gage</td>
<td>GL11084</td>
</tr>
<tr>
<td>2</td>
<td>Hex Bolt, 5/16&quot;-18, L=1/2&quot;</td>
<td>GL11219</td>
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<tr>
<td>3</td>
<td>Hex Nut, 5/16&quot;-18</td>
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<td>Leg Weldment</td>
<td>GL11161</td>
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<td>Hex Bolt, 5/16&quot;-18, L=1&quot;</td>
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<td>Electronic Control Panel</td>
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<td>Hex Bolt, 5/16&quot;-18, L=1/2&quot;</td>
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<td>Elect. Box Brace</td>
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<td>9</td>
<td>Hex Nut, 5/16&quot;-18</td>
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<td>Lifting Lug</td>
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<td>Cap Screw, M10X1.5</td>
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<td>Motor &amp; Gear Reducer</td>
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<td>Bolt, 3/8&quot;-13, L=21/2&quot;</td>
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<td>Lockwasher, 1/2&quot; ID</td>
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<td>15</td>
<td>Hex Nut, 1/2&quot;-13</td>
<td>GL11198</td>
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<tr>
<td>16</td>
<td>Shaft Safety Cover</td>
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<tr>
<td>17</td>
<td>Gearbox Key</td>
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<tr>
<td>18</td>
<td>Flexible Coupling Body</td>
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<td>19</td>
<td>Spider</td>
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<td>Shaft Coupling Assembly</td>
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<td>21</td>
<td>Lockwasher, 5/16&quot; ID</td>
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<td>22</td>
<td>Hex Bolt, 5/16&quot;-18, L=1/4&quot;</td>
<td>GL11074</td>
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### SECTION IX - REPLACEMENT PARTS

#### C. 3007 Base Assembly

<table>
<thead>
<tr>
<th>ID No.</th>
<th>Part Name</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pump Assembly</td>
<td>GL11081</td>
</tr>
<tr>
<td>1A</td>
<td>Hydraulic Pump</td>
<td>GL11082</td>
</tr>
<tr>
<td>1B</td>
<td>Pump Plate</td>
<td>GL11090</td>
</tr>
<tr>
<td>1C</td>
<td>Cap Screw, ( \frac{1}{4} )-20, L=( \frac{1}{2} )</td>
<td>GL1230</td>
</tr>
<tr>
<td>1D</td>
<td>Cap Screw, ( \frac{1}{4} )-20, L=( \frac{3}{4} )</td>
<td>GL11093</td>
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<tr>
<td>1E</td>
<td>Hydraulic Pressure Gage</td>
<td>GL 11084</td>
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</table>

Pump Assembly Consists of the Following:

<table>
<thead>
<tr>
<th>ID No.</th>
<th>Part Name</th>
<th>Part No.</th>
</tr>
</thead>
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<td>Hex Nut, ( \frac{3}{4} )-11</td>
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<td>Lockwasher, ( \frac{3}{8} ) ID</td>
<td>GL11076</td>
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<td>5</td>
<td>Bolt, ( \frac{3}{8} )-16, L=1( \frac{1}{4} )</td>
<td>GL11074</td>
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<td>6</td>
<td>Upper Leg Weldment</td>
<td>GL11145</td>
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<td>7</td>
<td>Foot-Leg Sub-Assembly</td>
<td>GL11147</td>
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<td>8</td>
<td>Hex Bolt, ( \frac{3}{8} )-16, L=1</td>
<td>GL11150</td>
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D. 1007 & 3007 Steel and Copper Guide Roll Assemblies

Steel Guide Roll Assembly Consists of the Following:

1A Guide Roll .............................................................. GL11106
1B Washer, 1/2" ............................................................ GL11109
1C Shoulder Bolt, 1/2" .................................................. GL11107
1D Guide Roll Guard ................................................... GL11304
1E Cap Screw, 1/4"-20, L=1/2" ...................................... GL 11230
1F Flat Head Screw, 1/4"-20, L=3/4" ............................... GL11108
1G Hex Nut, 1/2" ........................................................... GL11198

Options:
14"-16" Steel Guide Roll Assembly .......................... GL11333

Copper Guide Roll Assembly Consists of the Following:

2A Guide Roll .............................................................. GL11106
2B Washer, 1/2" ............................................................ GL11109
2C Shoulder Bolt, 1/2" .................................................. GL11107
2D Guide Roll Guard ................................................... GL11304
2E Cap Screw, 1/4"-20, L=1/2" ...................................... GL 11230
2F Flat Head Screw, 1/4"-20, L=3/4" ............................... GL11108
2G Hex Nut, 1/2" ........................................................... GL11198
2H E-Ring ................................................................... GL11078

Options:
2"-6" K Copper Guide Roll Assembly ....................... GL11232
3"-6" DWV Copper Guide Roll Assembly ..................... GL11234
8" Copper Guide Roll Assembly ................................. GL11583
### Gruvlok Standard Roll Groove Specification for Steel & Other IPS

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<td><strong>COLUMN 2</strong></td>
<td><strong>COLUMN 3</strong></td>
<td><strong>COLUMN 4</strong></td>
<td><strong>COLUMN 5</strong></td>
<td><strong>COLUMN 6</strong></td>
<td><strong>COLUMN 7</strong></td>
<td><strong>COLUMN 8</strong></td>
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<td>2.375</td>
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<td>-0.031</td>
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<td>0.344</td>
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<td>8.625</td>
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<td>-0.031</td>
<td>0.750</td>
<td>0.469</td>
<td>8.441</td>
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<td>15.781</td>
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<td>0.109</td>
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### Notes:
- Out of roundness: Difference between maximum OD and minimum OD measured at 90° must not exceed total OD tolerance listed.
- For IPS pipe, the maximum allowable tolerance from square cut ends is 0.03" for 2" thru 3½"; 0.045" for 4" thru 6"; and 0.060" for sizes 8" and above measured from a true square line.
- Beveled End Pipe in conformance with ANSI B16.25 (37½°) is acceptable, however square cut is preferred.
## SECTION X – GROOVE SPECIFICATIONS

### GRUVLOK® COPPER-METHOD: COPPER PREP SPECIFICATIONS

![Diagram of Gruvlok Copper Prep Roll Groove Specifications](image)

<table>
<thead>
<tr>
<th>Nominal Tubing Size</th>
<th>Tubing Outside Diameter</th>
<th>Tube End Connection Diameter</th>
<th>Gasket Seat A ±0.030</th>
<th>Groove Width B ±0.77</th>
<th>Groove Diameter “C” Actual</th>
<th>Groove Depth D (Ref. Only)</th>
<th>Allow Wall Thick T</th>
<th>Max. Flare Dia</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>2.125 ±0.002</td>
<td>0.002</td>
<td>2.375 0.045 0.024</td>
<td>0.025 0.034 2.250</td>
<td>-0.015 0.063 0.059</td>
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<tr>
<td>2 1/2</td>
<td>2.625 ±0.002</td>
<td>0.002</td>
<td>2.875 0.029 0.029</td>
<td>0.625 0.344 2.720</td>
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<td>3.500 0.035 0.031</td>
<td>0.625 0.344 3.344</td>
<td>-0.018 0.078 DWV 3.566</td>
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<td>-0.020 0.083 DWV 4.576</td>
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<td>5.562 0.056 0.031</td>
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<td>6.625 0.063 0.031</td>
<td>0.625 0.344 6.455</td>
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<tr>
<td>8</td>
<td>8.125 ±0.002</td>
<td>0.004</td>
<td>8.625 0.063 0.031</td>
<td>0.750 0.469 8.441</td>
<td>-0.025 0.092 DWV 8.719</td>
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</table>

Notes:
- Out of roundness: Difference between maximum OD and minimum OD measured at 90° must not exceed tolerance listed.
- The maximum allowable tolerance from square cut ends is 0.030” for 2’ thru 3’ and 0.045” for 4’ thru 6’; measured from a true square line.

**COLUMN 1:** Nominal ASTM B88 copper tubing size.

**COLUMN 2:** Outside diameter of copper tubing in accordance with ASTM B88.

**COLUMN 3:** Outside diameter of Copper Prep roll grooved copper tubing.

**COLUMN 4:** Gasket seat and groove must be free from scores, seams, chips, or corrosion which may interfere with proper coupling assembly.

**COLUMN 5:** Groove width is to be measured between vertical flank of the groove size walls.

**COLUMN 6:** The groove must be of uniform depth around the entire tubing circumference. (See column 7).

**COLUMN 7:** Groove depth: for reference only. Groove must conform to the groove diameter “C” listed in column 6.

**COLUMN 8:** Minimum allowable copper tube wall thickness which may be prepared to Gruvlok Copper-Prep specifications.

**COLUMN 9:** Maximum allowable end flare diameter. Measured at the most extreme tubing end diameter of the gasket seat area.
## TROUBLESHOOTING INSTRUCTIONS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pipe will not stay in grooving rolls</td>
<td>Incorrect pipe positioning. Improper grooving technique. Power drive running counterclockwise Model 3007.</td>
<td>See &quot;Pipe Set-up &amp; Positioning&quot; See &quot;Grooving Pipe&quot; Rigid 300 check setting in reverse Clockwise rotation of pipe</td>
</tr>
<tr>
<td>2. Pipe stops rotating during grooving.</td>
<td>Rust or dirt has built up on lower roll. Worn grooving rolls. Rigid 300 chuck jaws not engaged properly on Model 3007. Steel Pipe – Groove Diameter Stop improperly adjusted. Copper Pipe – Groove Diameter Stop making contact with top surface of Groover.</td>
<td>Remove accumulation from lower roll with stiff wire brush. Inspect lower rolls for worn knurls, replace if worn. See &quot;Groover Set-up&quot; Adjust Groove Diameter Stop to correct IPS. Verify Groove Diameter Stop Nuts are fully backed off.</td>
</tr>
<tr>
<td>3. Pipe flare excessive</td>
<td>Pipe stand adjusted too high. Tool is tilted forward. Incorrect pipe stand offset positioning. Pipe is over &quot;tracking&quot;. Warped bottom roll shaft</td>
<td>See &quot;Pipe Set-up &amp; Positioning&quot; See &quot;Groover Set-up&quot; See &quot;Pipe Set-up &amp; Positioning&quot; Replace damaged bottom roll shaft. The hinged collar may be missing. Replace damaged parts.</td>
</tr>
<tr>
<td>4. While grooving loud squeaks echo through the pipe.</td>
<td>Pipe or Tube not square cut. Incorrect pipe roller offset positioning Pipe is over &quot;tracking&quot;.</td>
<td>Cut pipe or tube ends squarely. Move pipe stand for proper offset. See &quot;Pipe Set-up &amp; Positioning&quot;</td>
</tr>
<tr>
<td>5. During grooving loud thumps or bangs occur about once every revolution of the pipe.</td>
<td>Pipe has a pronounced weld seam.</td>
<td>Grind welds flush with pipe surface inside &amp; out 2&quot; back from pipe end.</td>
</tr>
<tr>
<td>6. Tool won't groove pipe.</td>
<td>Hand pump is low on oil. Air in hydraulic system. Pipe wall thickness exceeds tool's capability.</td>
<td>See &quot;Groover Maintenance&quot; See &quot;Groover Maintenance&quot; See &quot;Groover Description&quot;</td>
</tr>
</tbody>
</table>
ANVIL INTERNATIONAL, INC.

ANVIL MANAGEMENT TEAM
Thomas E. Fish  President
Bob Arison  Regional Vice President
Ernie Chuter  Director, Marketing
Ken Dangelmaier  Vice President, International Business Development
Laura DiLiegro  Director, Human Resources
Bob Kim  Vice President, Manufacturing
John Martin  Vice President, National Accounts
Ron Pound  Director, National Operations
William Strous  Vice President, Finance
Dean Taylor  Regional Vice President
Tom Ward  Regional Vice President

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Longview, TX 75604
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Van O’Keefe — Plant Manager

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Houston, TX 77011
Tel: 713-928-5460 • Fax: 713-928-6733
Ray Mulliken — Plant Manager

North Kingstown Plant
160 Frenchtown Road
North Kingstown, RI 02852
Tel: 401-886-3001 • Fax: 401-886-3010
Robert Taylor — General Manager

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• Field Services
• Non-destructive Testing
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806-881-3001

ANVIL RESEARCH AND DEVELOPMENT
20 Thruher Blvd.
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