

Building connections that last™



Gruvlok® Roll Groover

1007 & 3007 Manual



For over 160 years, Anvil has worked diligently to build a strong, vibrant tradition of making connections — pipe to pipe and people to people.



We pride ourselves in providing the finest quality pipe products and services with integrity and dedication to superior customer service at all levels.



We provide expertise and product solutions for a wide range of applications, from plumbing and mechanical, HVAC, industrial and fire protection to mining, and oil and gas. Our comprehensive line of products includes: grooved pipe couplings, grooved and plain-end fittings, valves, cast and malleable iron fittings, forged steel fittings, steel pipe nipples and couplings, pipe hangers and supports, channel and strut fittings, mining and oil field fittings, along with much more.

As an additional benefit to our customers, Anvil offers a complete and comprehensive Design Services Analysis for mechanical equipment rooms, to help you determine the most effective and cost-efficient piping solutions for your pipe system.



At Anvil, we believe that responsive and accessible customer support is what makes the difference between simply delivering products — and delivering solutions.

BUILDING CONNECTIONS THAT LAST



SAFETY INSTRUCTIONS	04
GROOVER DESCRIPTION	05
GROOVER SET-UP MODEL 1007	06
GROOVER SET-UP MODEL 3007	07
PIPE SET-UP AND POSITIONING	08
SETTING GROOVE DIAMETER	10
GROOVING THE PIPE OR TUBE	11
GROOVING ROLL CHANGE	13
GROOVER MAINTENANCE	15
REPLACEMENT PARTS	16
GROOVE SPECIFICATIONS	20
TROUBLESHOOTING	22

IMPORTANT SAFETY NOTICE



Carefully read and understand instructions before assembling and operating the Groover(s). Become thoroughly familiar with the Groover operation, usage and possible hazards specific to the Groover(s).



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.

SAFETY INSTRUCTIONS

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 guide and grooving rolls. The Groover is designed for "hands clear" grooving.
5. Maintain balanced footing keeping 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.

EXTENSION CORD LENGTH**	REQUIRED WIRE SIZE
25'	12
50'	12
100'	10

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

**RIDGID® is a registered trade mark of Emerson Electric Company.

GROOVER DESCRIPTION

A. 1007 STANDARD EQUIPMENT

Roll Groover complete with groove and drive rolls for 2"-12" steel pipe, Steel/CTS Dual Guide Roll Assembly, one and one-half horsepower electric motor drive with foot switch. Two stage hydraulic hand pump, mounting base with footed support legs. Complete set-up and operating instructions; 2"-6" rolls on tool, 8"-12" rolls stored in box, and three depth gauges covering the range of 2" through 12" pipe are mounted on the tool.

Shipped in closed wood crate that can be used for storage or rental tool return.

Shipping Weight: 620 lbs.

A. 3007 STANDARD EQUIPMENT

Roll Groover complete with groove and drive rolls for 2"-12" steel pipe, Steel/CTS Dual Guide Roll Assembly, two stage hydraulic hand pump, mounting base with footed support legs for direct attachment to your Ridgid® 300 Power Drive. Complete set-up and operating instructions; 2"-6" rolls on tool; 8"-12" rolls stored in box, and three depth gauges covering the range of 2"-12" pipe are mounted on the tool. Required Ridgid 300 Power Drive not included.

Shipped in closed wood crate that can be used for storage or rental tool return.

Shipping Weight: 330 lbs.

B. OPTIONAL EQUIPMENT (See page 16-18 for part numbers)

STEEL PIPE:

- 2"-12" Schedule 10, 10S; 40,40S Rolls: Consisting of 2"-6" and 8"-12" roll sets.
- 14"-16" Steel Grooving Rolls (Model 1007 only)

CTS COPPER SYSTEM:

- 2"-8" CTS Copper System Grooving Rolls, 2"-4" CTS Depth Gauge, and 5"-8" CTS Depth Gauge.

OTHER:

- Optional 230 volt, 60Hz, 15 amp, single phase electrical panel with motor is available for the 1007 Roll Groover

C. GROOVER CAPABILITY

GROOVER CAPABILITY												
Pipe Material	Pipe Size/Wall Thickness (Schedule) ^{1,2}											
<i>In.</i>	2	2 ½	3	4	5	6	8	10	12	14	16	
DN(mm)	50	65	80	100	125	150	200	250	300	350	400	
Steel	Schedule 10, 40									STD.		
Stainless Steel	Schedule 10S, 40S											
Copper	K, L, M & DWV											

1. All wall thicknesses shown are the maximum wall thicknesses for the indicated pipe material.
2. Minimum wall thickness for each pipe material and size is:
 Steel: 2"-12" Schedule 10
 Stainless Steel: 2"-12" Schedule 10S, 40S
 Copper: 2"-2 ½" - Type M 3"-8" - Type DWV

D. GROOVING TIMES

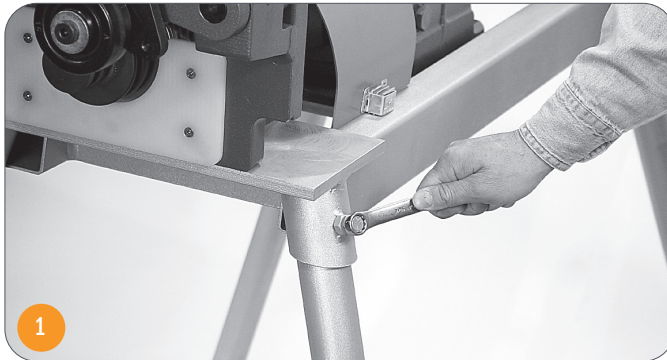
This chart shows approximate grooving times with the groover set-up for the proper size and groove diameter and the pipe properly positioned on the groover. The times shown are average times from the start of rotation of the pipe in the grooving rolls to completed groove.

MODEL 1007/3007 STEEL PIPE GROOVING TIMES (MINUTES: SECONDS)											
Pipe Size (In./DN(mm))/Max Steel Pipe Wall Thickness											
2	2 ½	3	4	5	6	8	10	12	14	16	
50	65	80	100	125	150	200	250	300	350	400	
0:20	0:20	0:25	0:30	1:00	1:20	1:35	1:50	2:20	2:40	3:00	



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.

GROOVER SET UP MODEL 1007



1
Install a 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 receiving socket. Repeat for the other three legs ($\frac{9}{16}$ " wrench).



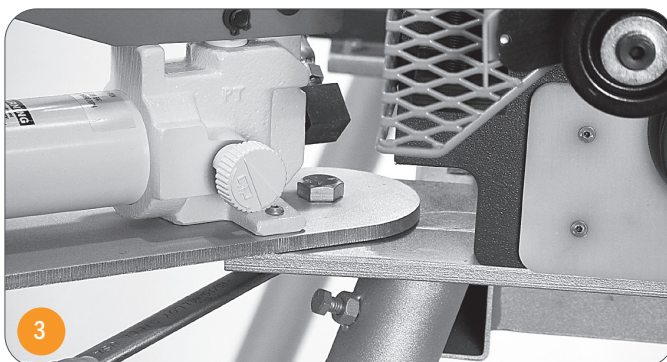
4
With a flat screwdriver, open the door to the electrical storage cabinet. Remove the power cord and foot switch from the cabinet mounted on the Groover frame. Plug the power cord into a grounded electrical outlet that matches the Groover. Power requirements: 110 volt, 30 amp or optional 230 volt.



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.



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



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 ($\frac{15}{16}$ " wrench).



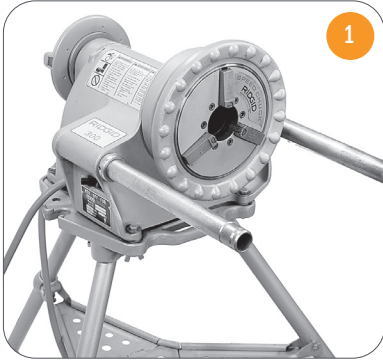
6
Turn the power switch to the "off" position when finished grooving or when moving the groover. Install the lockout clip to the power switch and padlock the lockout clip into position. ($\frac{1}{4}$ " shank padlock).

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

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.



GROOVER SET UP MODEL 3007

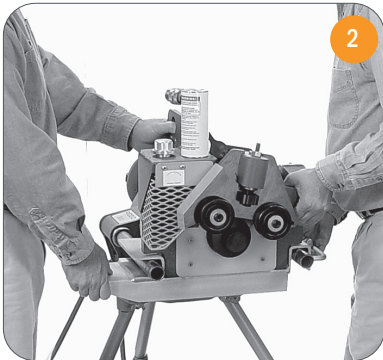


1 Extend the mounting arms of the Ridgid 300 power drive, approximately 12" out from the body of the drive.

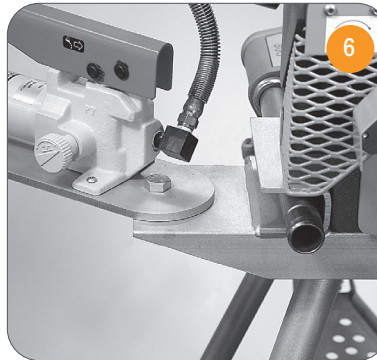
The Ridgid 300 must be mounted to the floor for continuous operation.



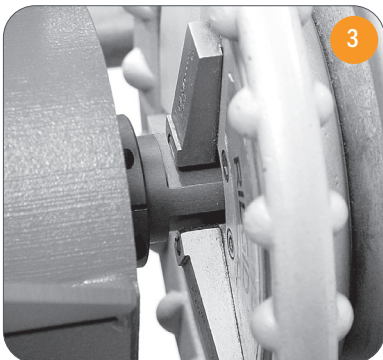
5 Extend the smaller diameter of the support leg by loosening the lock bolt on the support leg and sliding the smaller diameter tube to its required length. Retighten the lock bolt. ($\frac{9}{16}$ " wrench). The support legs must be mounted to the floor for continuous operation.



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.



6 Loosely attach pump assembly to groover base using the $\frac{5}{8}$ " nut and bolt provided, then securely connect the coupler located on the end of the hose assembly to its mating part on the hydraulic ram.



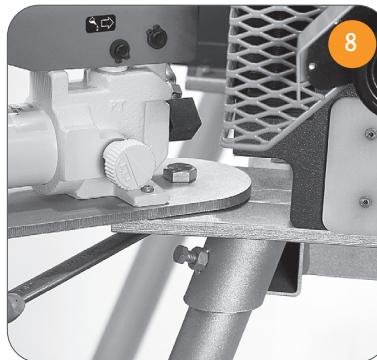
3 Align the flats on the triangular shaft tailpiece with the Ridgid 300 chuck jaws and slide the Groover back into the chuck jaws. Securely tighten the chuck jaws. Push extension arms in flush with the Groover mounting base front.



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.



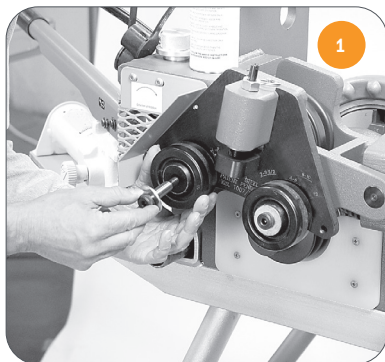
4 Install the larger diameter of the support leg tube into the receiving socket on the under side of the groover base. Push the tube fully into the receiving socket assuring that the angled cut on the tube bottoms in the receiving socket. Tighten the retaining bolt on the groover base. Repeat for the other leg ($\frac{9}{16}$ " wrench).



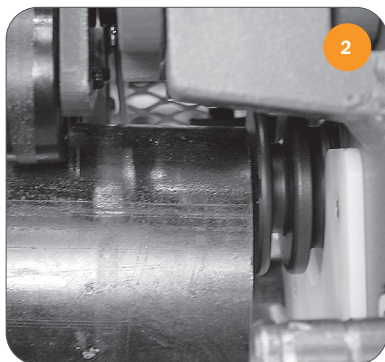
8 Position the pump to the desired orientation for ease of operation. Tighten nut to lock pump in position or, if desired, back off just slightly to permit pump to be oriented by operator to most comfortable position during groover operation ($\frac{15}{16}$ " wrench).

PIPE SET-UP AND POSITION - STEEL PIPE (MODEL 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 page 13 for grooving rolls and guide roll plate changeout.



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



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



Using the slot on top of the roller plate adjustment rod, raise (counterclockwise rotation) the guide roll mounting plate sufficiently to ensure that the top grooving roll makes contact with the pipe prior to guide roll contact.



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.

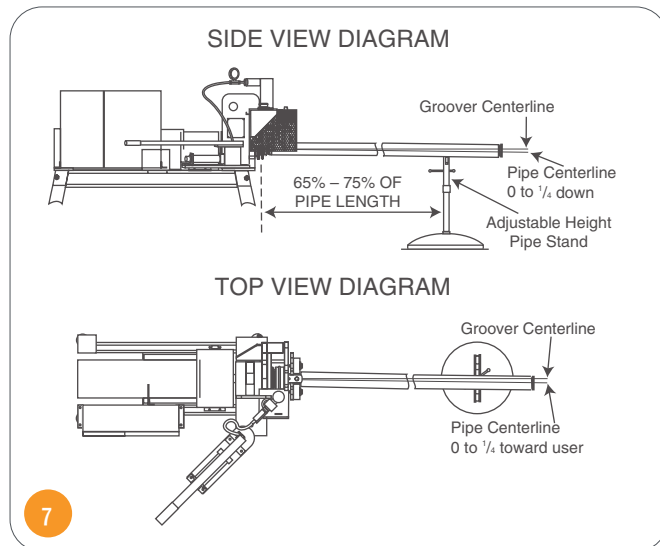


Make sure the knurled stop (groove diameter stop) is not in contact with the top surface of the groover housing. If contact is noted, release hydraulic pressure by turning the release valve knob counterclockwise allowing the groover head to raise. Turn the knurled stop counterclockwise sufficiently to 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.



Using the slot on top of the Roller plate adjustment rod, lower the guide rolls into firm contact with the pipe.

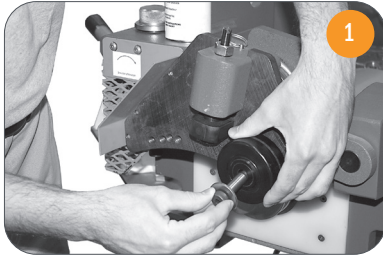
Note: Improper tool adjustment will cause pipe flare and/or the pipe to roll out of the machine.



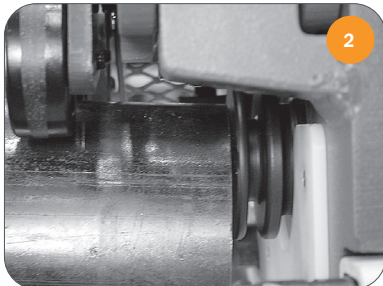
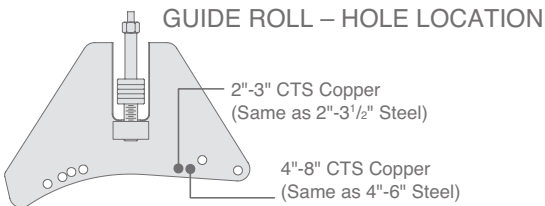
Use one (1) roller pipe stand to support the pipe. Adjust the outboard pipe stand to assure proper contact between the pipe and guide rolls. Pipe stand should be 65% - 75% of the pipe length away from Groover. Looking at the front of the Groover, the pipe stand should be positioned to angle the pipe approximately 0° to $\frac{1}{4}$ ° downward, away from the front of the groover and $\frac{1}{4}$ ° to the left side at the Groover. See figures above.

PIPE SET-UP AND POSITION - CTS COPPER SYSTEM (MODEL 1007 & 3007)

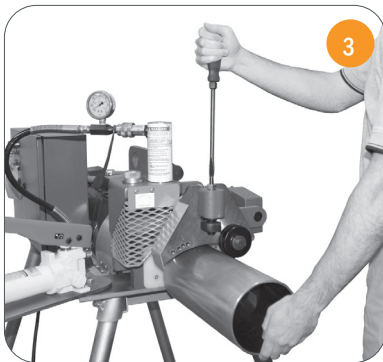
To groove copper tube using the CTS Copper System, the Steel/CTS Dual Guide Roll Assembly must be used for all sizes of tube. (K, L, M, DWV). DO NOT use the Advanced Copper Method guide roll assembly when using the Copper CTS System. Failure to use the correct guide roll assembly will result in the tubing rolling out of the machine before a correct groove can be made. If the Groover is set-up for steel pipe or Advanced Copper Method, it will also be necessary to change the grooving rolls to the ones required for CTS Copper System. Refer to page 13 for grooving roll and guide roll plate changeout.



1 Set one plastic guide roll located on the front of the Groover, into the correct hole for the size tube being grooved ($\frac{1}{4}$ " allen wrench). See hole location below.



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



3 Using the slot on top of the roller plate adjustment rod, raise (counterclockwise rotation) the guide roll mounting plate sufficiently to ensure that the top grooving roll makes contact with the tube prior to guide roll contact.



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 tube.



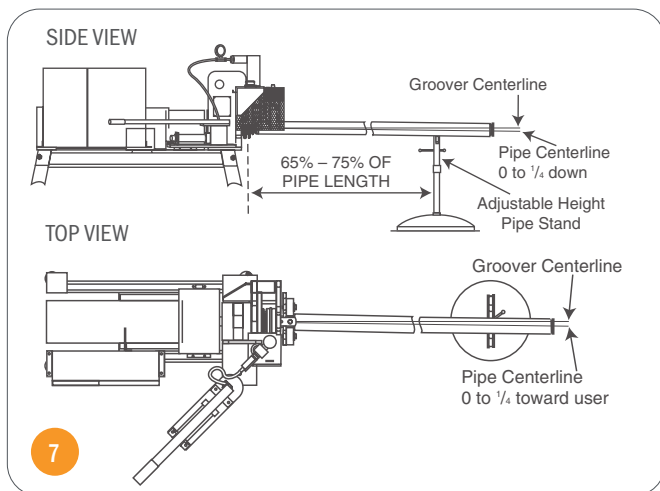
5 Make sure the knurled stop (groove diameter stop) is not in contact with the top surface of the groover housing. If contact is noted, release hydraulic pressure by turning the release valve knob counterclockwise allowing the groover head to raise.

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 tube.



6 Using the slot on top of the Roller plate adjustment rod, lower the guide rolls into firm contact with the tube.

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



7 Use one (1) roller pipe stand to support the pipe. Adjust the outboard pipe stand to assure proper contact between the tube 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 $\frac{1}{4}^\circ$ downward, away from the front of the groover and $\frac{1}{4}^\circ$ to the left side at the Groover. See figures above.

SETTING GROOVE DIAMETER - STEEL PIPE & CTS COPPER SYSTEM

For proper set-up and positioning of pipe, refer to instructions as shown on page 9

- 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.



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

The groove body diameter gauges are mounted on the back of the groover body.

Note: For CTS Copper System, use the CTS Depth Gauge

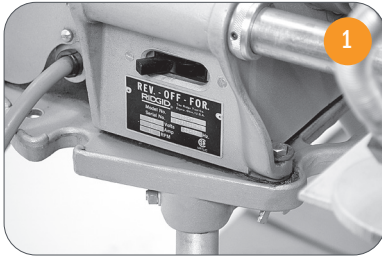
STEEL PIPE RECOMMENDED SET-UP PRESSURE (BOTH MODELS)		
Pipe Size	Wall	Set-up Pressure
Inches	Schedule	PSIG
2" - 6"	10	100
8" - 12"	10	2,000
14" - 16"	10	2,000
2"	40	100
2½" - 4"	40	2,500
5" - 6"	40	3,600
8" - 10"	40	4,000
12"	STD.	4,600
14" - 16"	STD.	4,600

CTS COPPER SYSTEM RECOMMENDED SET-UP PRESSURE (BOTH MODELS)		
Tube Size	Wall	Set-up Pressure
Inches	Type	PSIG
2"-4"	K, L, M, DWV	100
5"-6"	K, L, M, DWV	200
8"	K, L, M, DWV	400



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

GROOVING THE PIPE OR TUBE - 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 400 psi. (200 psi for Sch. 10)

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.

Burrs 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 gauge mounted on the hydraulic ram maintain approximately the listed grooving pressures for size and wall thickness of pipe to efficiently form the groove.

STEEL PIPE RECOMMENDED GROOVING PRESSURE		
Pipe Size	Wall	Grooving Pressure
Inches	Schedule	PSIG
2" - 6"	10	800 - 1,000
8" - 12"	10	3,000 - 3,400
14" - 16"	10	3,400 - 3,800
2"	40	1,600 - 2,000
2½" - 4"	40	2,600 - 3,000
5" - 6"	40	3,400 - 3,800
8" - 10"	40	4,400 - 4,800
12"	STD.	4,600 - 5,000
14" - 16"	STD.	4,600 - 5,000



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 Gruitlok groove specification limits. (Grooving Specifications are shown on page 20 of these instructions.)

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

KNURLED STOP** ADJUSTMENT	GROOVE DIAMETER CHANGE
Turns	Inches
⅛	.008 "
¼	.016 "
⅜	.024 "
½	.032 "
¾	.047 "
1	.062 "
1½	.094 "
2	.125 "

**Knurled Stop Rotation:

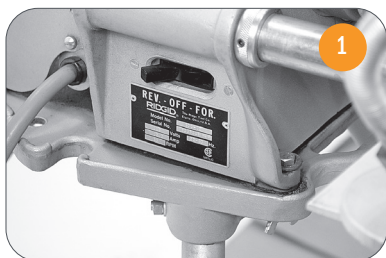
Clockwise rotation – Increase groove diameter

Counterclockwise rotation – Decrease groove diameter

5 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.

GROOVING THE PIPE OR TUBE - COPPER TUBE: CTS COPPER SYSTEM



Recheck for correct tube 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 tube looking at the front of Groover.) Tube must be square on ends. Burrs must be removed. Any tube manufacturing seam, on inside or outside of tube, must be removed.



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

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

Do not pump too fast.

Using the pressure gauge mounted on the hydraulic ram maintain approximately the listed grooving pressures for size and type of tube listed below to efficiently form the groove.

CTS COPPER SYSTEM RECOMMENDED GROOVING PRESSURE

Tube Size	COPPER TUBING TYPE			
	K Pressure	L Pressure	M Pressure	DWV Pressure
In.	PSI	PSI	PSI	PSI
2"	600	500	400	–
2½"	700	600	500	–
3"	700	600	500	250
4"	900	800	600	300
5"	1,200	900	700	450
6"	1,500	1,100	800	600
8"	2,000	1,600	1,000	700



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.



Open the hydraulic hand pump release valve by turning counterclockwise. Remove the tube 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 on page 20 of these instructions.)

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

KNURLED STOP** ADJUSTMENT	GROOVE DIAMETER CHANGE
Turns	Inches
⅛	.008 "
¼	.016 "
⅜	.024 "
½	.032 "
¾	.047 "
1	.062 "
1½	.094 "
2	.125 "

**Knurled Stop Rotation:

Clockwise rotation – Increase groove diameter

Counterclockwise rotation – Decrease groove diameter

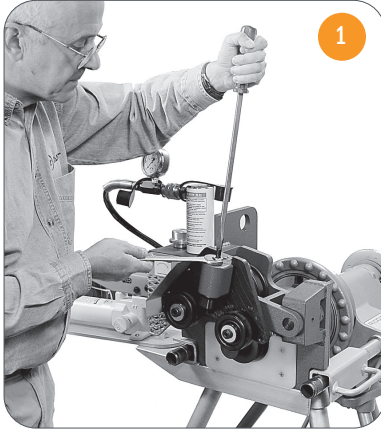
6 After adjustment of the Knurled Stop, if the groove diameter is large (i.e. shallow groove depth), place the tube end back into the Groover and complete the same groove to the new diameter stop setting. If the groove diameter is small (i.e. deep groove depth), put an unfinished end into the Groover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

Recheck the groove diameter for conformance to grooving specifications.

GROOVING ROLL CHANGE - 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

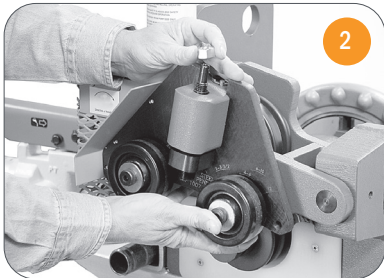


1

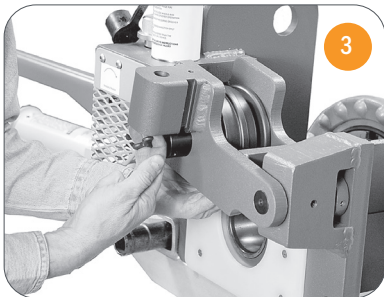
TOOLS REQUIRED

(1) Large Slotted Screwdriver
(1) 3/4" Wrench
(1) 3/16" Allen Wrench

Using a large slotted screwdriver and a 3/4" wrench, loosen the hex nut located on the top of the adjustment shaft protruding from the top of the groover head.



2



3

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

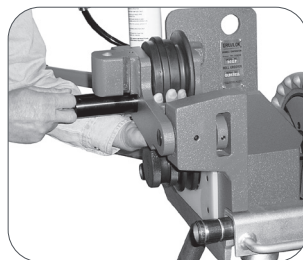
CAUTION: The top roll is heavy. Brace your hand to receive the weight of this component. As the shaft disengages, the top roll will fall into your hand.

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.

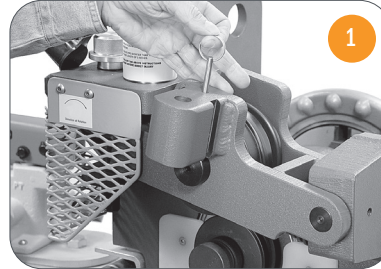


4

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.

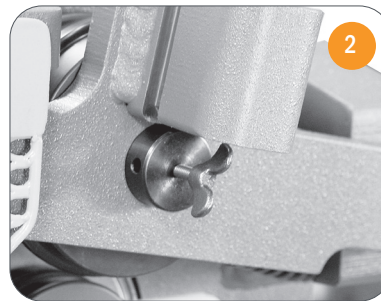


B. TOP (GROOVED) ROLL



1

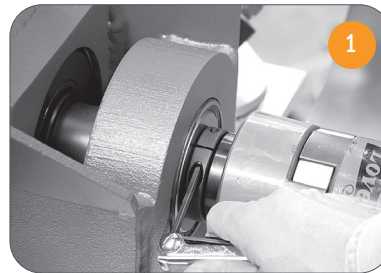
Remove the quick release pin by grasping the ring located on the end of the pin and pulling straight up.



2

Screw the 1/4" - 20 thumb screw (same one that is used to secure the depth gauges to the main housing) into the tapped hole in the top shaft.

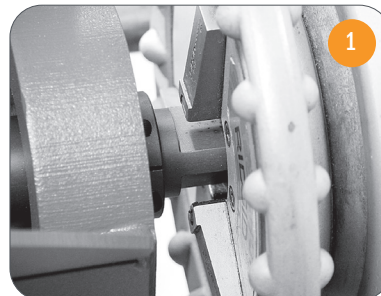
C. BOTTOM (DRIVE) ROLL



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 (3/16" allen wrench).

MODEL 3007 ONLY



1

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

2

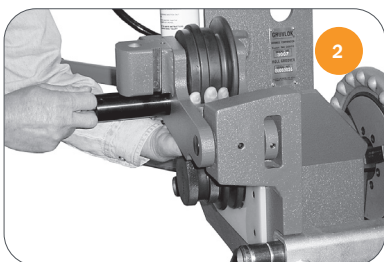
Pull the bottom roll shaft out the front of the Groover.

GROOVING ROLL CHANGE - 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 (GROOVED) ROLL

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



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.

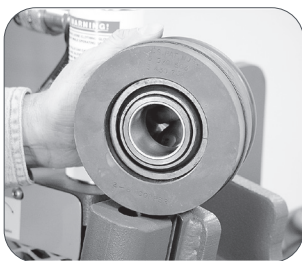
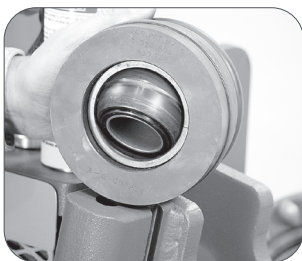
- 3 Push the shaft inward, through the top rollers bushings, stopping when the back of the shaft is flush with the back of the grooving head.



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.



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 Advanced 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.

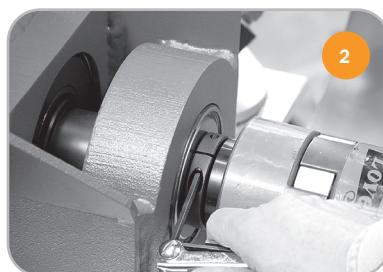
B. BOTTOM (DRIVE) ROLL



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 ($\frac{3}{16}$ " 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, Advanced Copper Method, or CTS Copper System.



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 $\frac{3}{4}$ " wrench, lightly snug the hex nut in place.

GROOVING MAINTENANCE

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

A. GENERAL

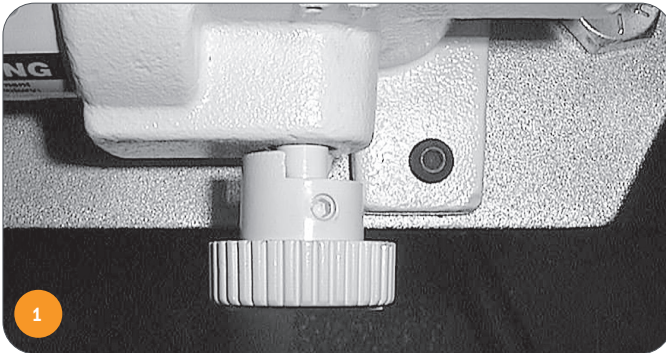
1. Pull the bottom roll shaft out the front of the Groover.
2. A protective film of light oil should be applied to all rollers and guide roll mounting plates. Frequency of application will vary due to environmental conditions but shall be sufficient to prevent the formation of surface rust.

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:



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.



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.



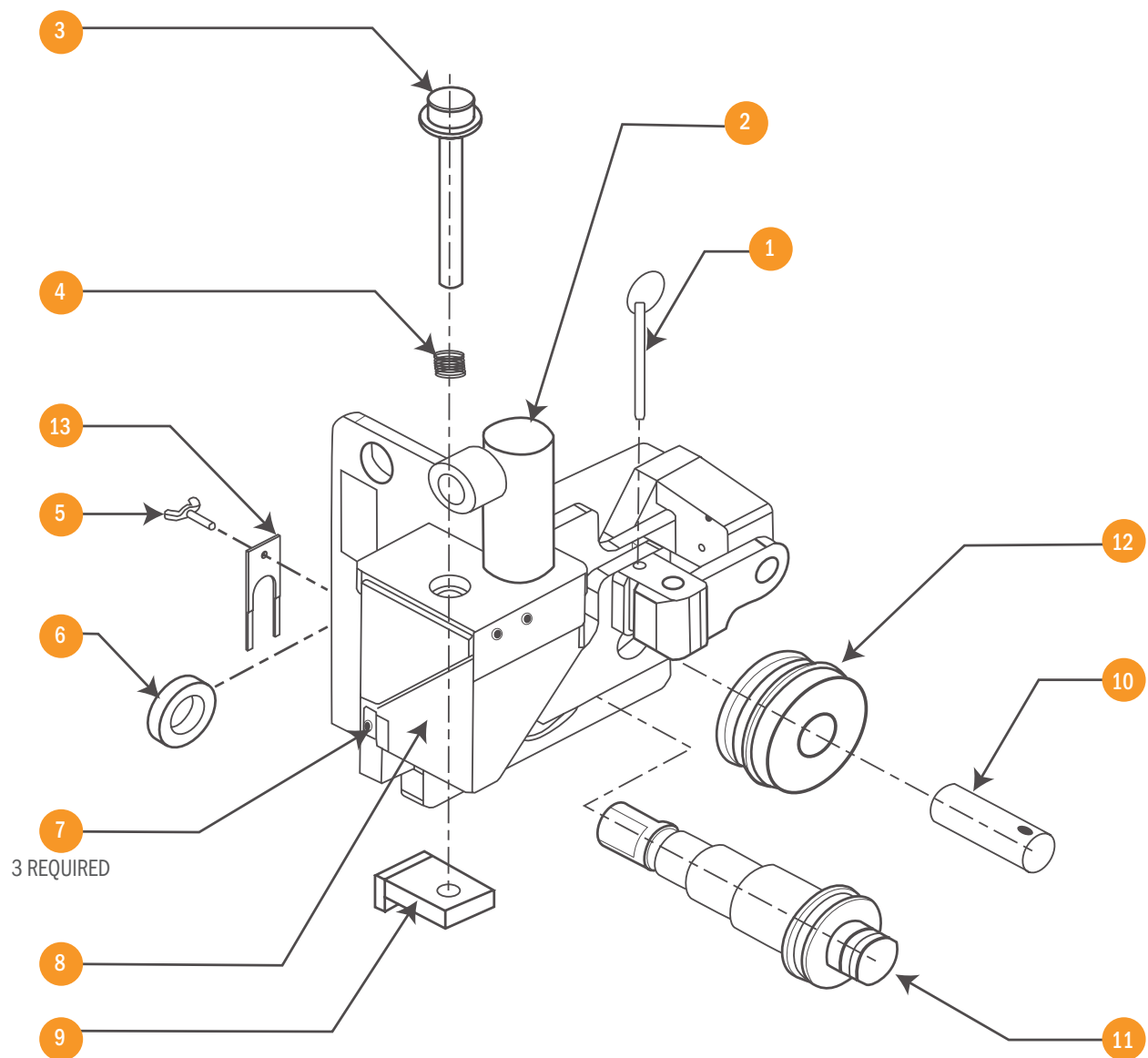
Bleeding air from the system is necessary.

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:

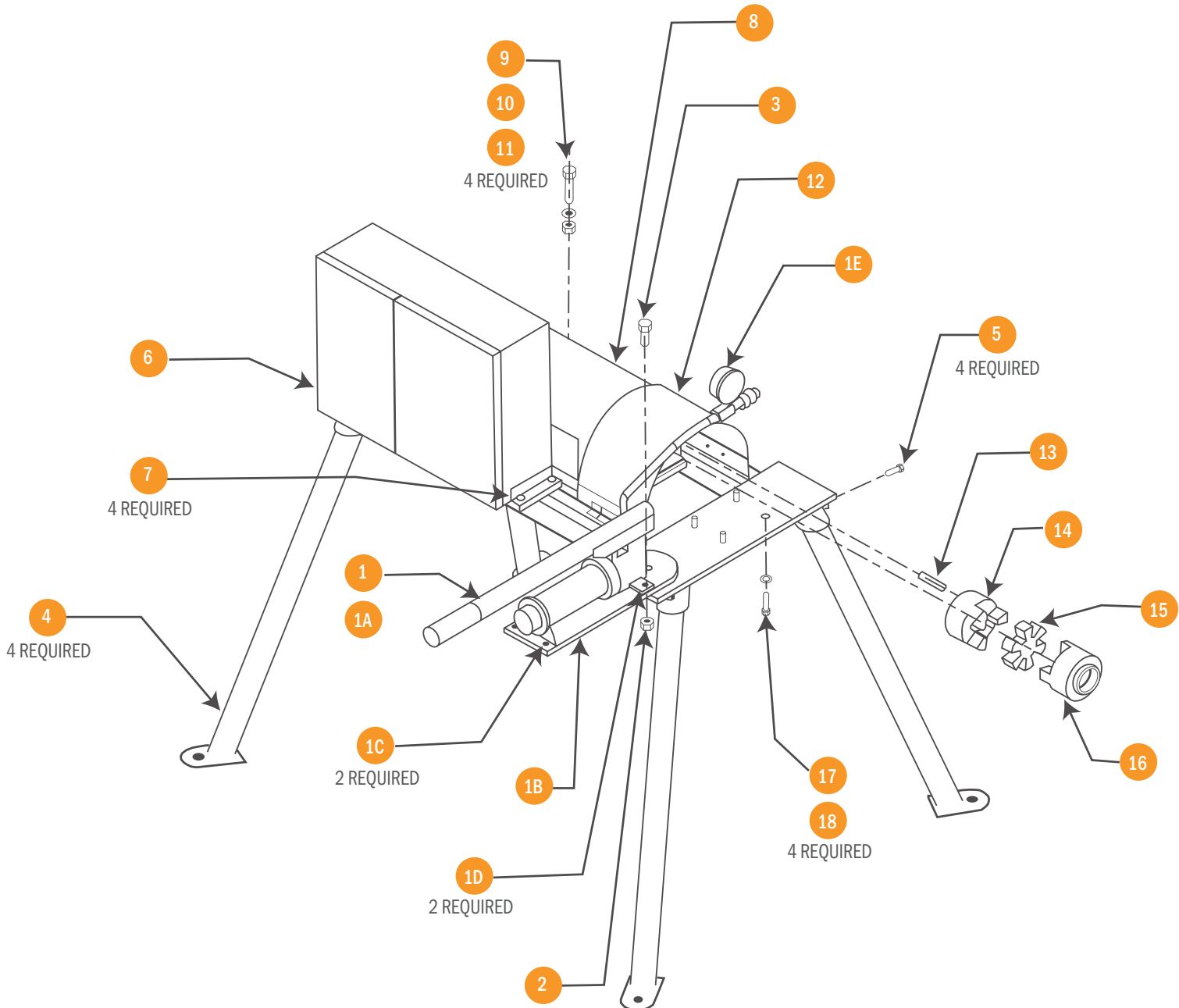
1. Disconnect quick connect coupling and remove hydraulic ram from the top of the Roll Groover.
2. Reconnect hydraulic ram to pump and allow hose and ram to hang down.
3. Close release valve on pump and pump to fully extend hydraulic ram. Tilt pump to the right (hose side) to eliminate high point in 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.
4. Recheck fluid level and add as required.

REPLACEMENT PARTS- 1007 & 3007 GROOVED HEAD



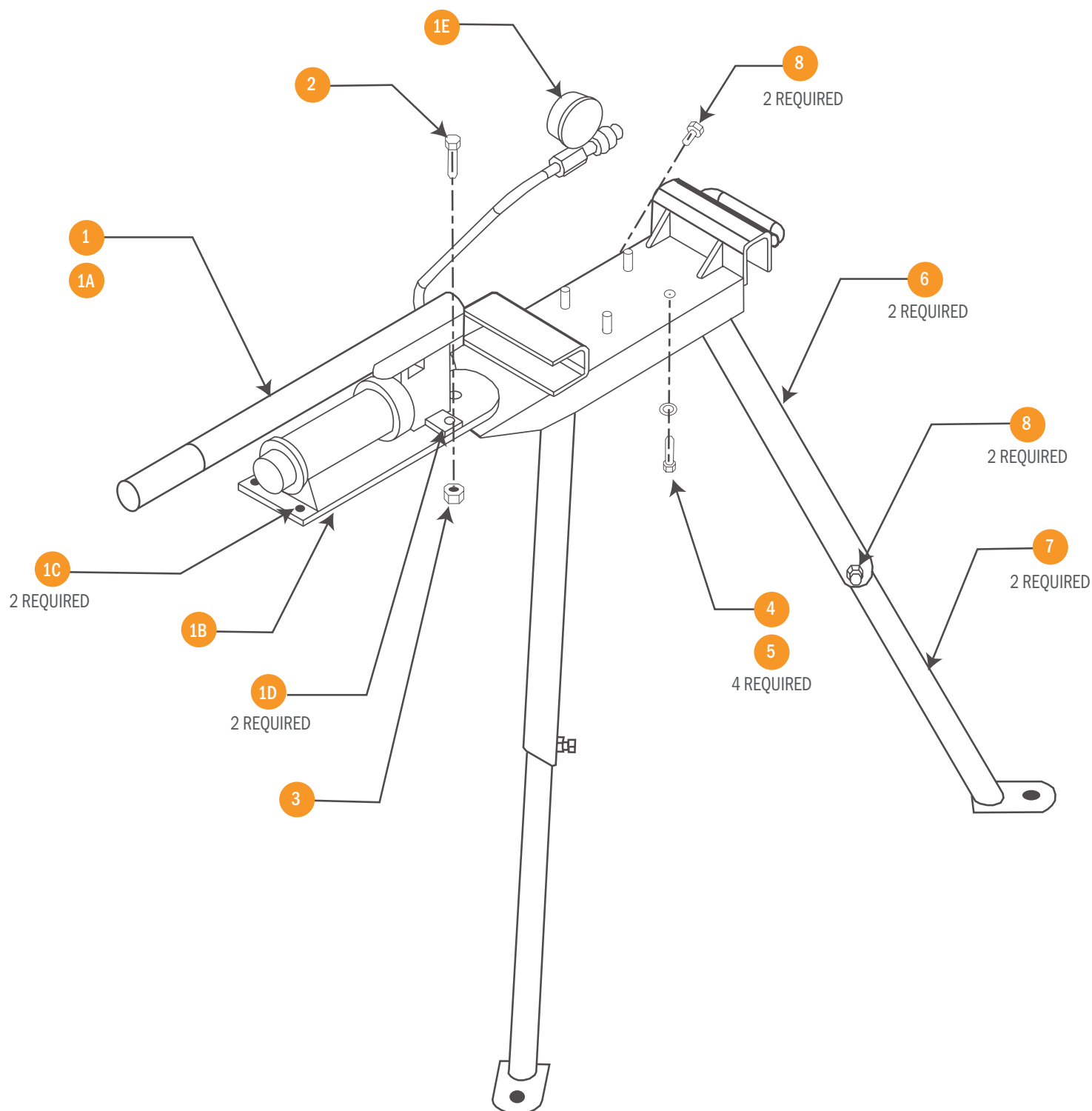
ID PART NAME	PART NO	ID PART NAME	PART NO.	I ID PART NAME	PART NO
1 Quick Release Pin	GL11775	10 Top Shaft	GL11039	13 Depth Gauge:	
2 Hydraulic Ram Assembly	GL11095	11 Bottom Roller:		1" -3" Steel	GL11115
3 Knurled Stop Assembly	GL11035	2"-6" Steel	GL11114	4" -6" Steel	GL11116
4 Spring	GL11065	8"-12" Steel	GL11119	8" -12" Steel	GL11120
5 Thumb Screw	GL11056	14"-16" Steel (OPT)	GL11337	2" -4" CTS Copper System (OPT)	GL13850
6 Hinged Shaft Collar	GL11194	2"-8" CTS Copper System (OPT)	GL13801	5" -8" CTS Copper System (OPT)	GL13851
7 Cap Screw, ¼" -20, L= ¾"	GL11767	12 Top Roller:			
8 Safety Mesh	GL11313	2"-6" Steel	GL11110		
9 Stop Plate Assembly	GL11467	8"-12" Steel	GL11117		
		14"-16" Steel (OPT)	GL11335		
		2"-8" CTS Copper System (OPT)	GL13799		

REPLACEMENT PARTS - 1007 BASE ASSEMBLY



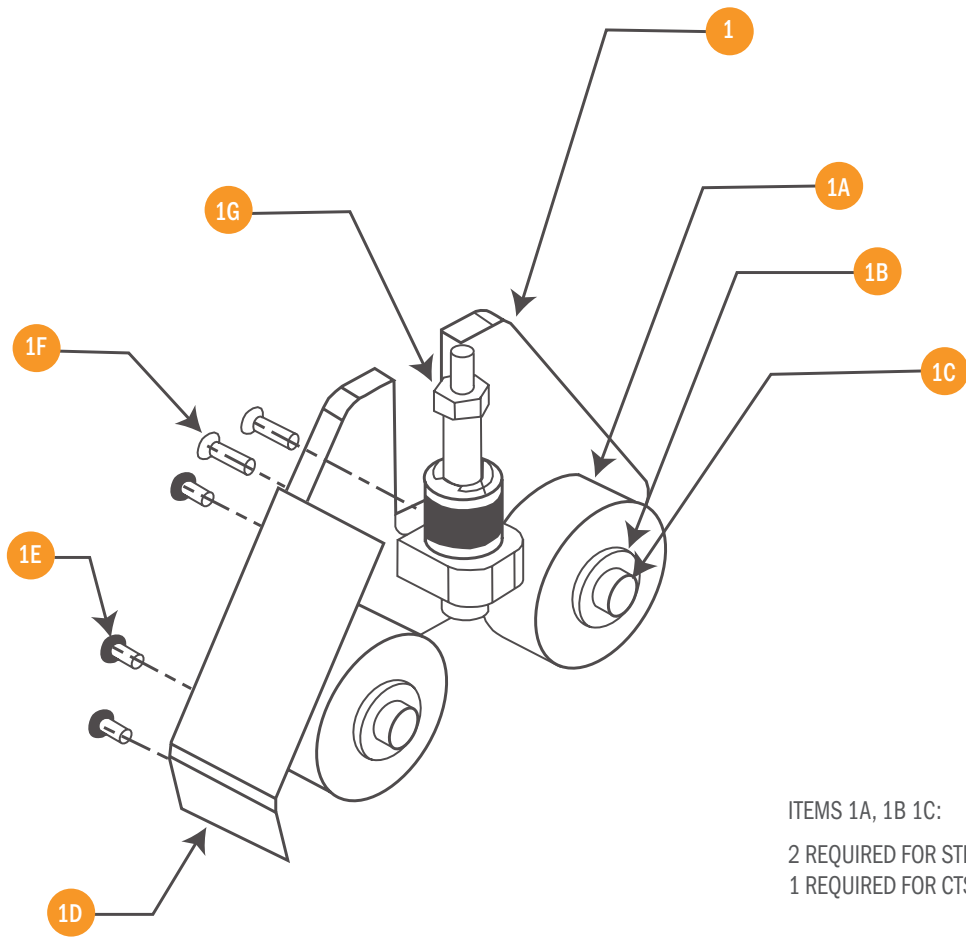
ID	PART NAME	PART NO	ID	PART NAME	PART NO	ID	PART NAME	PART NO
1	Pump Assembly	GL11081	5	Hex Bolt, $\frac{3}{8}$ " -16, L=1"	GL11150	13	Gearbox Key	GL11175
Pump Assembly Consists of the Following:			6	Electronic Control Panel	GL11168	14	Flexible Coupling Body	STD-0048
1A	Hydraulic Pump	GL11082	7	Hex Bolt, $\frac{5}{16}$ " -18, L= $\frac{1}{2}$ "	GL11217	15	Spider	GL11173
1B	Pump Plate	GL11090	8	Motor & Gear Reducer	GL11164	16	Shaft Coupling Assembly	GL11195
1C	Cap Screw, $\frac{1}{4}$ " -20, L= $\frac{1}{2}$ "	GL11230	9	Bolt, $\frac{1}{2}$ " -13, L= $2\frac{1}{2}$ "	GL11174	17	Lockwasher, $\frac{3}{8}$ " ID	GL11076
1D	Cap Screw, $\frac{1}{4}$ " -20, L= $\frac{5}{8}$ "	GL11093	10	Lockwasher, $\frac{1}{2}$ " ID	GL11197	18	Hex Bolt $\frac{3}{8}$ " -16, L= $1\frac{1}{4}$ "	GL11074
1E	Hydraulic Pressure Gauge	GL11084	11	Hex Nut, $\frac{1}{2}$ " -13	GL11198			
2	Hex Bolt, $\frac{5}{8}$ " -11, L= $1\frac{1}{2}$ "	GL11091	12	Shaft Safety Cover	GL11200			
3	Hex Nut, $\frac{5}{8}$ " -11	GL11313						
4	Leg Weldment	GL11161						

REPLACEMENT PARTS - 3007 BASE ASSEMBLY



ID PART NAME	PART NO	ID PART NAME	PART NO	ID PART NAME	PART NO
1 Pump Assembly	GL11081	1D Cap Screw, 1/4" -20, L=5/8"	GL11093	5 Bolt, 5/8" -16, L=1 1/4"	GL11074
Pump Assembly Consists of the Following:		1E Hydraulic Pressure Gauge	GL11084	6 Upper Leg Weldment	GL11145
1A Hydraulic Pump	GL11082	2 Hex Bolt, 5/8" -11, L= 1 1/2"	GL11091	7 Foot-Leg Sub-Assembly	GL11147
1B Pump Plate	GL11090	3 Hex Nut, 5/8" -11	GL11092	8 Hex Bolt, 5/8" -16, L=1"	GL11150
1C Cap Screw, 1/4" -20, L=1/2"	GL11230	4 Lockwasher, 3/8" ID	GL11076		

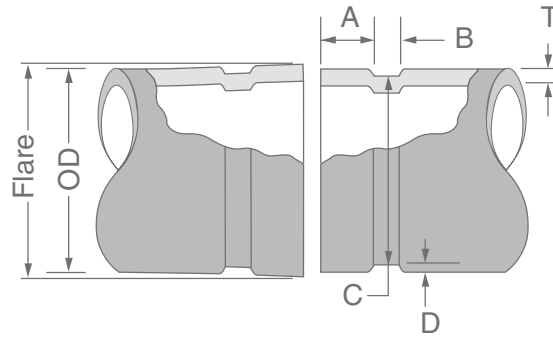
REPLACEMENT PARTS - 1007 & 3007 STEEL AND COPPER GUIDE ROLL ASSEMBLIES



ITEMS 1A, 1B 1C:
2 REQUIRED FOR STEEL
1 REQUIRED FOR CTS COPPER SYSTEM

ID	PART NAME	PART NO	ID	PART NAME	PART NO	ID	PART NAME	PART NO
1	2 "-12" Steel/CTS Dual Guide Roll Assembly	GL11100	1C	Shoulder Bolt, 1/2 "	GL11107	Options: 14 "-16" Steel Guide Roll Assembly GL11333		
Steel Guide Roll Assembly Consists of the Following:			1D	Guide Roll Guard	GL11304			
1A	Guide Roll	GL11106	1E	Cap Screw, 1/4 "-20, L=1/2 "	GL 11230			
1B	Washer, 1/2 "	GL11109	1F	Flat Head Screw, 1/4 "-20, L= 3/4 "	GL11108			
			1G	Hex Nut, 1/2 "	GL11198			

GROOVE SPECIFICATION - STEEL



GRUVLOK STANDARD ROLL GROOVE SPECIFICATIONS FOR STEEL & OTHER IPS SIZE PIPE

-1-	-2-			-3-	-4-	-5-		-6-	-7-	-8-
Nominal IPS Pipe Size	Pipe OD			Gasket Seat "A"	Groove Width "B"	Groove Diameter "C"		Groove Depth "D"	Min. Allow. Wall Thickness "T"	Max. Flare Diameter
	Actual	Tolerance		±0.030/ ±0.76	±0.030/ ±0.76	Actual	Tol. +0.000	(Ref. Only)		
	ln./DN(mm)	ln./mm	+ln./mm	-ln./mm	ln./mm	ln./mm	ln./mm	-ln./mm	ln./mm	ln./mm
2	2.375	+0.024	-0.024	0.625	0.344	2.250	-0.015	0.063	0.065	2.480
50	60.3	+0.61	-0.61	15.88	8.74	57.15	-0.38	1.60	1.7	63.0
2½	2.875	+0.029	-0.029	0.625	0.344	2.720	-0.018	0.078	0.083	2.980
65	73.0	+0.74	-0.74	15.88	8.74	69.09	-0.46	1.98	2.1	75.7
3	3.500	+0.035	-0.031	0.625	0.344	3.344	-0.018	0.078	0.083	3.600
80	88.9	+0.89	-0.79	15.88	8.74	84.94	-0.46	1.98	2.1	91.4
3½	4.000	+0.040	-0.031	0.625	0.344	3.834	-0.020	0.083	0.083	4.100
90	101.6	+1.02	-0.79	15.88	8.74	97.38	-0.51	2.11	2.1	104.1
4	4.500	+0.045	-0.031	0.625	0.344	4.334	-0.020	0.083	0.083	4.600
100	114.3	+1.14	-0.79	15.88	8.74	110.08	-0.51	2.11	2.1	116.8
5	5.563	+0.056	-0.031	0.625	0.344	5.395	-0.022	0.084	0.109	5.660
125	141.3	+1.42	-0.79	15.88	8.74	137.03	-0.56	2.13	2.8	143.8
6	6.625	+0.063	-0.031	0.625	0.344	6.455	-0.022	0.085	0.109	6.730
150	168.3	+1.60	-0.79	15.88	8.74	163.96	-0.56	2.16	2.8	170.9
8	8.625	+0.063	-0.031	0.750	0.469	8.441	-0.025	0.092	0.109	8.800
200	219.1	+1.60	-0.79	19.05	11.91	214.40	-0.64	2.34	2.8	223.5
10	10.750	+0.063	-0.031	0.750	0.469	10.562	-0.027	0.094	0.134	10.920
250	273.1	+1.60	-0.79	19.05	11.91	268.27	-0.69	2.39	3.4	277.4
12	12.750	+0.063	-0.031	0.750	0.469	12.531	-0.030	0.109	0.156	12.920
300	323.9	+1.60	-0.79	19.05	11.91	318.29	-0.76	2.77	4.0	328.2

OUT OF ROUNDNESS: Difference between maximum O.D. and minimum O.D. measured at 90° must not exceed total O.D. tolerance listed (reference column 2).

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.

COLUMN 1 - Nominal IPS Pipe size

COLUMN 2 - IPS outside diameter

COLUMN 3 - Gasket seat must be free from scores, seams, chips, rust or scale which may interfere with proper sealing of the gasket. Gasket seat width (Dimension A) is to be measured from the pipe end to the vertical flank in the groove wall.

COLUMN 4 - Groove width (Dimension B) is to be measured between vertical flank of the groove size walls.

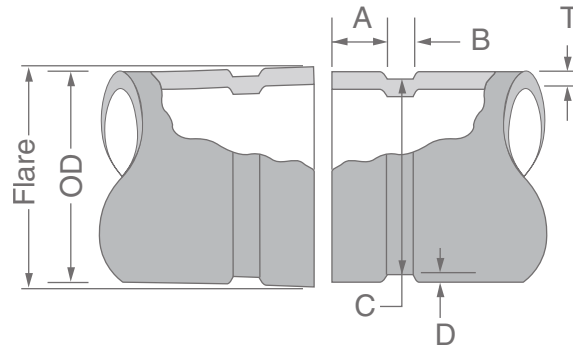
COLUMN 5 - The groove must be of uniform depth around the entire pipe circumference. (See column 6).

COLUMN 6 - Groove depth: for reference only. Groove must conform to the groove diameter "C" listed in column 5.

COLUMN 7 - Minimum allowable wall thickness which may be roll grooved.

COLUMN 8 - Maximum allowable pipe end flare diameter. Measured at the most extreme pipe end diameter of the gasket seat area.

GROOVE SPECIFICATION - CTS COPPER SYSTEM



GRUVLOK CTS COPPER SYSTEM – ROLL GROOVE SPECIFICATIONS

-1-	-2-			-3-	-4-	-5-		-6-	-7-	-8-
Nominal Size	Tubing Outside Diameter			Gasket Seat "A" +/- 0.03 in. +/- 0.76mm	Groove Width "B" +0.03/-0.00 in. +0.76/-0.00mm	Groove Diameter "C"		Nominal Groove Depth "D"	Min. Wall "T"	Max. Flare Diam.
	Actual	Tolerance				Actual	Tolerance +0.000			
<i>In.</i>	<i>In./mm</i>	<i>+ In./mm</i>	<i>- In./mm</i>	<i>In./mm</i>	<i>In./mm</i>	<i>In./mm</i>	<i>- In./mm</i>	<i>In./mm</i>	<i>In./mm</i>	<i>In./mm</i>
2	2.125	0.002	0.002	0.610	0.300	2.029	-0.020	0.048	0.058	2.220
	54.0	0.05	0.05	15.5	7.6	51.54	-0.51	1.2	1.6	56.4
2½	2.625	0.002	0.002	0.610	0.300	2.525	-0.020	0.050	0.065	2.720
	66.7	0.05	0.05	15.5	7.6	64.14	-0.51	1.3	1.7	69.1
3	3.125	0.002	0.002	0.610	0.300	3.025	-0.020	0.050	DWV	3.220
	79.4	0.05	0.05	15.5	7.6	76.84	-0.51	1.3		81.8
4	4.125	0.002	0.002	0.610	0.300	4.019	-0.020	0.053	DWV	4.220
	104.8	0.05	0.05	15.5	7.6	102.08	-0.51	1.3		107.2
5	5.125	0.002	0.002	0.610	0.300	4.999	-0.020	0.053	DWV	5.220
	130.2	0.05	0.05	15.5	7.6	126.97	-0.51	1.3		132.6
6	6.125	0.002	0.002	0.610	0.300	5.999	-0.020	0.063	DWV	6.220
	155.6	0.05	0.05	15.5	7.6	152.37	-0.51	1.6		158.0
8	8.125	0.002	0.004	0.610	0.300	7.959	-0.020	0.083	DWV	8.220
	206.4	0.05	0.10	15.5	7.6	202.16	-0.51	2.1		208.8

COLUMN 1 - Nominal tubing size ASTM B88

COLUMN 2 - Outside diameter of copper tubing per ASTM B88. Allowable tolerance from square cut ends is 0.030" / 0.76mm for sizes 2"-3"; 0.045" / 1.14mm for sizes 4-8"

COLUMN 3 - Gasket seat must be free from scores, roll marks, indentations, grease and dirt which may interfere with gasket sealing.

COLUMN 4 - Groove width is to be free from chips, dirt, etc. which may interfere with proper coupling assembly.

COLUMN 5 - Groove diameter must be of uniform depth for the entire circumference of the tubing. (See column 6).

COLUMN 6 - Groove depth is for reference only; the groove diameter must conform to column 5.

COLUMN 7 - DWV (Drain, Waste and Vent Piping) per ASTM B306.

COLUMN 8 - Maximum flare diameter is the OD at the most extreme tubing diameter.

TROUBLESHOOTING

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

NOTES:

About ASC Engineered Solutions

ASC Engineered Solutions is defined by quality—in its products, services and support. With more than 1,400 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruvlok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF® and SprinkFLEX®. With headquarters in Commerce, CA, and Exeter, NH, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, LA, KS, and RI.



asc-es.com

Building connections that last™

