

RIDGID[®]

915 In Place Roll Groover



General Safety Information

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in serious personal injury.

SAVE THESE INSTRUCTIONS!

Work Area Safety

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **Keep bystanders, children, and visitors away while operating a tool.** Distractions can cause you to lose control.
- **Keep floors dry and free of slippery materials such as oil.** Slippery floors invite accidents.

Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a tool. Do not use tool while tired or under the influence of drugs, alcohol, or medications.** A moment of inattention while operating tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Tool Use and Care

- **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Store idle tools out of the reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- **Use only accessories that are recommended by the**

manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

- **Keep handles dry and clean; free from oil and grease.** Allows for better control of the tool.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified repair personnel could result in injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance Section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.

Specific Safety Information

▲ WARNING

Read this operator's manual carefully before using the 915 Roll Groover. Failure to understand and follow the contents of this manual may result in serious personal injury.

Call the Ridge Tool Company, Technical Service Department at (800) 519-3456 if you have any questions.

Roll Groover Safety

- **Keep fingers away from rolls when grooving pipe. Keep Sleeves and jackets buttoned.** They can become pinched resulting in serious injury.
- **Do not wear loose fitting gloves.** Can become caught in rolls resulting in serious injury.
- **Handle pipe carefully and have all burrs removed from ends.** Eliminates the risk of cuts to fingers and hands.
- **When working overhead, all personnel should wear hard hats and be clear of the area below.** Prevents serious injuries if roll groover or workpiece falls.
- **Groover is designed to manually roll groove pipe and tubing.** Other uses may result in injury.
- **Do not use power activated devices to aid in rotating the groover.** Using a tool in a manner not intended can result in injury.

SAVE THESE INSTRUCTIONS!

Description, Specifications and Equipment

Description

The RIDGID No. 915 Roll Groover is designed to manually form standard roll grooves on pipe or copper tube that is installed. The 915 is lightweight, only 23 lbs., and capable of grooving steel, stainless steel, PVC and aluminum pipe from 1 1/4" to 12" and 2" to 8" copper tube (Type K, L, M, and DWV). The 1/2" hand ratchet rotates a feed screw that advances a groove roll into the pipe/tube to form a groove that meets specifications required for mechanical coupling systems, and also drives the 915 around the pipe.

CAUTION When properly used, the Model 915 Roll Groover makes grooves that are dimensionally within the specifications of AWWA C606-87. Selection of appropriate materials and joining methods is the responsibility of the system designer and/or installer. Before any installation is attempted, careful evaluation of the specific service environment, including chemical environment and service temperature, should be completed.

Specifications

Capacity	Standard 2" – 6" Schedule 10 and 2" – 3 1/2" Schedule 40 Steel Pipe
Depth Adjustment.....	Feed Screw with 1/2" Female Drive
Actuation	Feed Screw with 1/2" Ratchet Wrench
Weight.....	23 lbs.
With Roll Changes:	
•	2" – 8" Copper Tube, Type K, L, M, DWV
•	1 1/4" and 1 1/2" Schedule 10 and 40 Steel/Stainless Steel Pipe
•	4" – 6" Schedule 40 Steel/Stainless Steel Pipe
•	8" – 12" Schedule 10 Steel/Stainless Steel Pipe

(See Table II for Wall Thickness.)

Standard Equipment

Model 915.....	Groove set for 2" – 6" Schedule 10 and 2" – 3 1/2" Schedule 40 1/2" Drive Ratchet w/button release
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Figure 1 – 915 Roll Groover

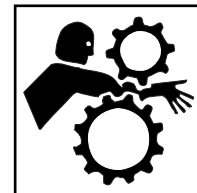
Accessories

- Groove set for 1 1/4" to 1 1/2" Schedule 10 & 40 pipe.
- Groove set for 4" to 6" Schedule 40 pipe.
- Groove set for 8" – 12" Schedule 10.
- Copper groove set for 2" to 8" Copper Tube Type K, L, M, DWV.
- Carrying case for 915 and roll sets.

The 915 Roll Groover is a portable unit designed for occasional use on the jobsite and should not be used for high volume work.

Roll Groover Inspection

▲ WARNING



To prevent serious injury, inspect your Roll Groover. The following inspection procedures should be performed on a daily basis:

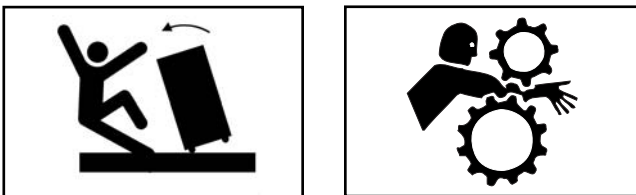
1. Inspect the Roll Groover for any broken, missing, misarranged or binding parts as well as any other conditions which may affect the safe and normal operation of this equipment. If any of these conditions are present, do not use the Roll Groover until any problem has been repaired.
2. Lubricate the Roll Groover if necessary according to the Maintenance Instructions.

3. Use groover rolls and accessories that are designed for your Roll Groover and meet the needs of your application. The correct groover tools and accessories allow you to do the job successfully and safely. Accessories designed for use with other equipment may be hazardous when used with this Roll Groover.
4. Clean any oil, grease or dirt from all handles and controls. This reduces the risk of injury due to a tool or control slipping from your grip.
5. Inspect the groove rolls to insure they are not damaged or worn. Worn groover rolls can lead to slippage and poor quality grooves.

- If the pipe/tube is installed, care must be taken to prevent pipe rotation or movement. Make sure that the added weight and force required of the 915 can be supported by the pipe hangers and clamps.

Roll Groover and Work Area Set-Up

▲ WARNING



To prevent serious injury, proper set-up of the Groover and work area is required. The following procedures should be followed to set-up the machine:

1. Insure work area has adequate lighting.
2. Clean up the work area prior to setting up any equipment. Always wipe up any oil that may be present.
3. Check the groove and drive rolls to insure they are the correct size.

CAUTION Use of roll sets on both carbon and stainless steel pipe can lead to contamination of the stainless steel material. This contamination could cause corrosion and premature pipe failure. To prevent ferrous contamination, use roll sets dedicated for stainless steel grooving.

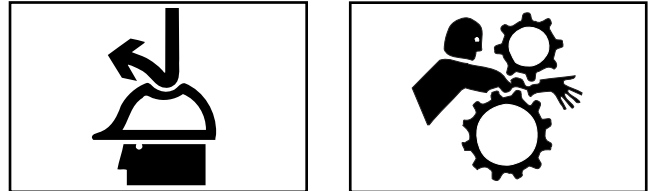
4. Make sure pipe/tube is secured and not free to rotate prior to roll grooving.
 - If pipe is not installed, use a bench vise or triland vise to secure the pipe. Pipe supports must be used if pipe is greater than 36" in length.

▲ WARNING Failure to properly support the pipe can result in the pipe falling.

Place vise and stands on a flat level surface. Be sure the pipe, vise and stands are stable.

Operating the 915 Roll Groover

▲ WARNING



Do not wear loose clothing when operating a Roll Groover. Keep sleeves and jackets buttoned.

Always wear eye protection to protect eyes from dirt and other foreign objects. When working overhead, wear a hard hat and keep personnel clear of area.

Keep hands away from grooving rolls. Do not wear loose fitting gloves when operating groovers. Use pipe stands to support pipe when using a pipe vise.

Unit to be hand driven only. Do not power with drill or other types of units.

Pipe Preparation

1. Make sure pipe/tube end is cut square and free of burrs. Do not attempt to groove pipe that has been cut with a torch.
2. Pipe/tube out-of-roundness must not exceed the total O.D. tolerances listed in the dimension specification (*Table 1*).

NOTE! Determine out-of-roundness by measuring maximum and minimum outside dimensions at 90 degree increments. Compare minimum and maximum numbers with pipe diameter column in *Table 1*.

3. All internal or external weld beads, flash or seams must be ground flush at least 2" back from the pipe end.

IMPORTANT! Do not grind flats on the pipe outside wall where the coupling gasket seals (gasket seat area).

4. The 915 Roll Groover will orbit around the pipe/tube. Care must be taken that adequate space is provided completely around material.

NOTE! The RIDGID 915 can roll groove pipe/tube within 3 1/2" of a wall, ceiling or any other obstruction.

915 Roll Groover Set-up

IMPORTANT! To confirm the proper groove depth, test grooves should be performed and checked with a Pi tape.

1. At a bench or on the ground, rotate the feed screw counter clockwise to “open” the groove roll from the drive roll (Figure 2).

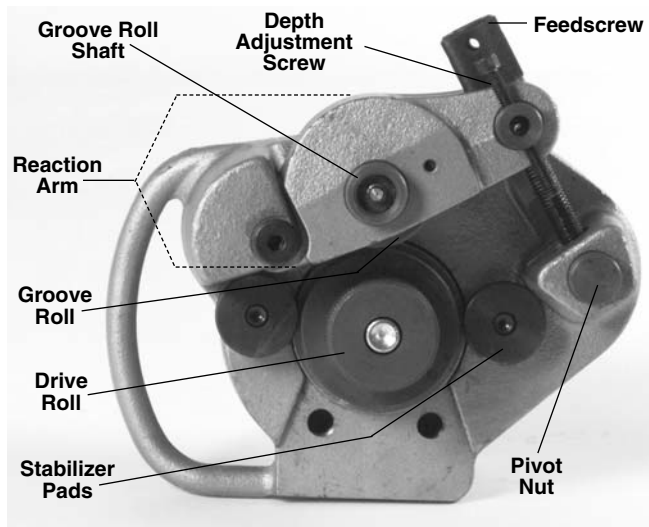


Figure 2 – “Open” Groove Roll from Drive Roll.

NOTE! Ensure that groove set specifications matches pipe/tube capacity to be grooved. See drive roll for capacity.

IMPORTANT! Do not attempt to groove copper tube with the steel groove set. Also do not attempt to groove steel with copper groove rolls.

2. Place 915 onto pipe/tube with feedscrew accessible (Figure 3).

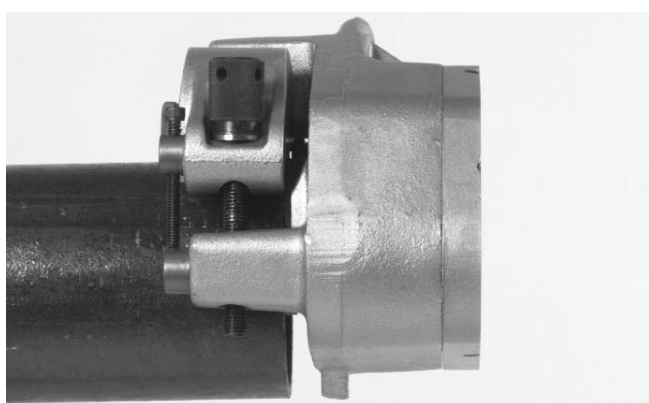


Figure 3 – Placing Groover on Pipe

3. Push 915 into pipe/tube until fully engaged. End of pipe should contact the drive roll flange (Figure 4).

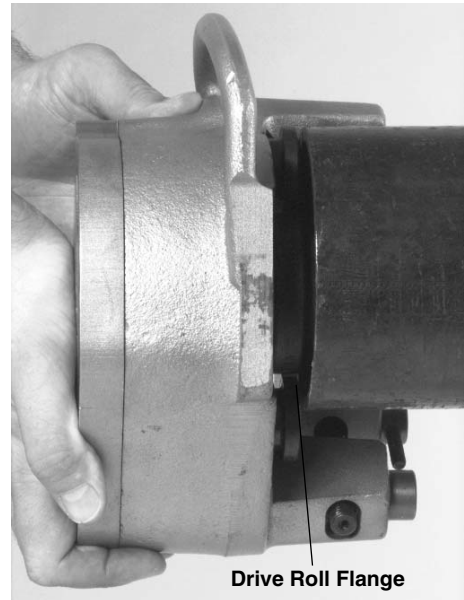


Figure 4 – Pipe Contact with Drive Roll Flange

4. Rotate the feed screw clockwise by hand until tight. 915 should now be held in position on the pipe/tube.

Adjusting for Groove Depth

NOTE! The groove depth must be adjusted for each pipe/tube diameter and wall thickness.

1. With feedscrew handtight, run depth adjustment screw down until it touches the pivot nut.
2. Back the depth adjustment screw off the number of turns indicated in Chart 1 (For Steel/Stainless Steel, For Copper See Chart 2. These are approximate settings only).

NOTE! The distance between the depth adjustment screw and the pivot nut equals roll groove depth. Adjustments up or down, with test grooves, will ensure proper groove depths for couplings.

Steel/Stainless Steel Pipe Diameter	Sch. 10 Turns	Sch. 40 Turns
1 1/4"	3 3/4	4
1 1/2"	3 3/4	4
2"	3 3/4	4
2 1/2"	4 3/8	5 3/8
3"	4 3/8	5 5/8
4"	4 5/8	6 7/8
6"	5	7 1/2
8"	6	N/A
10"	6 1/4	N/A
12"	7 1/2	N/A

Chart 1 – Depth Adjustment for Steel/Stainless Steel

Cut Tube Size	K	# of Screw Turns		
		L	M	DWV
2"	2	2	1.75	N/A
2½"	2	2	1.75	N/A
3"	2.25	2.25	2	2
4"	3	2.75	2.75	2.5
5"	4.25	3.75	3.5	3.25
6"	4.75	4	3.75	3.25
8"	6.5	4.75	4.25	3.5

Chart 2 – Depth Adjustment for Copper Tubing

NOTE! 1 turn depth setting screw = approximately .020" change in groove depth (.040 change in groove diameter).

Forming the Groove

1. Place the ratchet into feedscrew (Figure 5).



Figure 5 – Ratchet in Feedscrew

2. Tighten feedscrew 1½ turns. Be sure pipe is still flush with drive roll flange.

IMPORTANT! Extreme pressure caused by over ratcheting will cause distortion to thin wall pipe.

⚠ WARNING Do not use power actuated devices (drills, power drives, impact wrenches, etc.) to drive the 915 roll groover!

3. Move ratchet from feedscrew to input drive. Turn ratchet to rotate 915 around pipe/tube one revolution (Figure 6).



Figure 6 – Grooving pipe

4. Disconnect ratchet from input drive and place in feedscrew.
5. Tighten feedscrew ½ turn.

CAUTION Under or over tightening the feed screw could result in the 915 “walking” off or slipping inside the pipe.

6. Repeat steps 3 – 5 until depth adjustment screw touches the pivot nut.
7. Move ratchet from feedscrew to input drive (Figure 7). Turn ratchet to rotate 915 around pipe/tube two revolutions to complete groove and ensure uniformity.



Figure 7 – Ratchet in Input Drive

Dismounting the 915 Roll Groover

1. After the roll grooving process is complete, insert the ratchet onto the feed screw and reverse the ratchet direction.
2. Rotate the feed screw counter clockwise to release the pipe from the groove set.
3. Once the groove roll is free from the pipe, slide the 915 off of the pipe.

▲ WARNING The 915 will now be free and not supported by the pipe, make sure one hand is supporting the unit to prevent the 915 from falling.

4. Check groove to see if it is grooved to specification. See Table 1 or Table 3 for groove specifications.

Removing and Installing Groove Rolls

1. Separate groove rolls are required when roll grooving the following:
 - 1¼" – 1½" Schedule 10 and 40 steel
 - 2" – 6" Schedule 10 steel
 - 2" – 3½" Schedule 40 steel
 - 4" – 6" Schedule 40 steel
 - 8" – 12" Schedule 10 steel
 - 2" – 8" copper tube (Type K, L, M, DWV)

Removing Rollsets for the Installation of Steel Rollsets

1. Place 915 on table with groove set up.
2. Rotate feedscrew counter clockwise until the reaction arm is fully retracted.
3. Remove the hex screw retaining the drive roll with a 5/16" hex key (Figure 8). If using the 8" – 12" or 4" – 6" rollset, remove the drive roll support bolts with a 3/8" hex key.

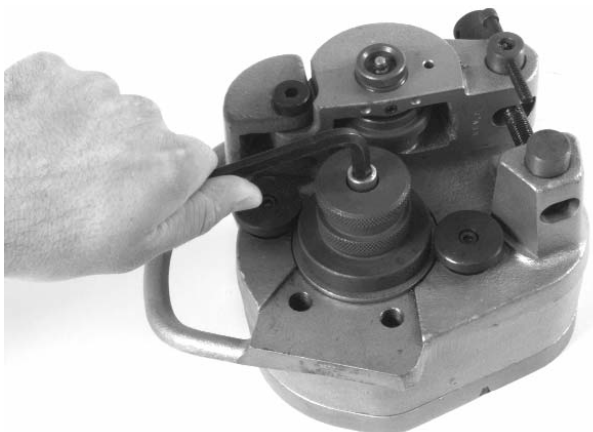


Figure 8 – Removing Hex Screw from Drive Roll

4. Remove drive roll from drive shaft.
5. Using a 1/8" hex key, loosen set screw in reaction arm and remove groove roll shaft (Figure 9).

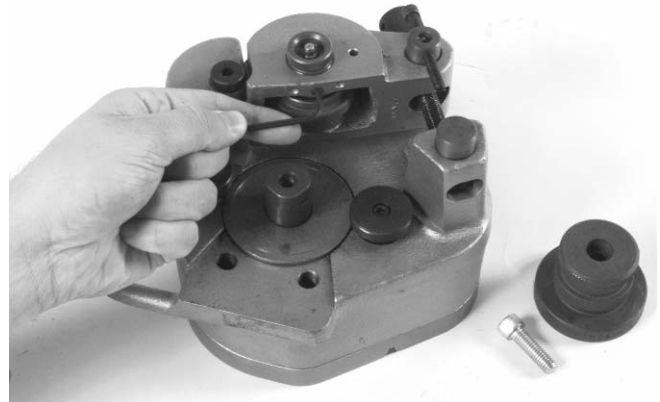


Figure 9 – Loosening Set Screw in Reaction Arm

6. Remove groove roll and thrust washers from reaction arm.

Installing New Rollset

1. Place the plain thrust washer at the back of the reaction arm slot. Place the tabbed thrust washer in the front of the reaction arm slot with the tab inserted in the small hole to the right of the groove roll shaft (Figure 10).



Figure 10 – Placement of Thrust Washer

2. Slide groove roll between the thrust washers in the reaction arm. Be sure that the groove roll is properly oriented with identification stamping in the "up" position.
3. Look through the groove roll shaft hole and align the groove roll and thrust washers with the hole. Insert groove roll shaft (Figure 11).

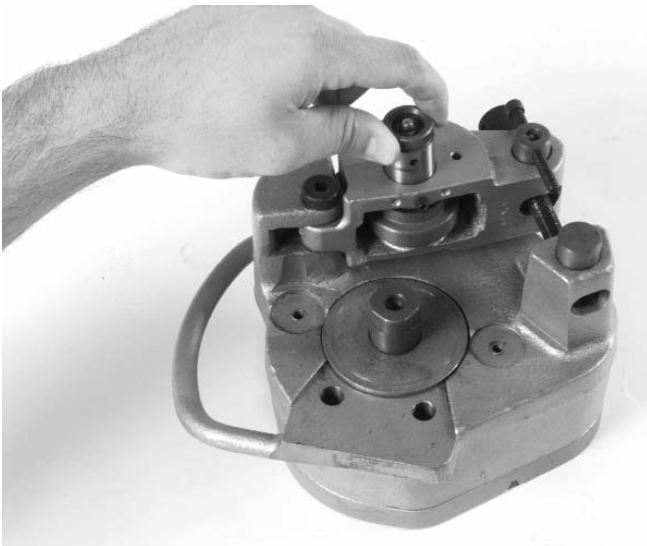


Figure 11 – Inserting Groove Roll Shaft

4. Tighten set screw in reaction arm with $\frac{1}{8}$ " hex key to retain the groove roll shaft.
5. Place drive roll over driveshaft. Be sure that the drive roll flange contacts the bronze thrust washer.
6. Insert the hex screw into drive roll and tighten with $\frac{5}{16}$ " hex key.
7. If installing 4" – 6" Schedule 40 or 8" – 12" Schedule 10 drive rolls, install the screws into support housing and tighten with a $\frac{3}{8}$ " hex key (*Figure 12*).

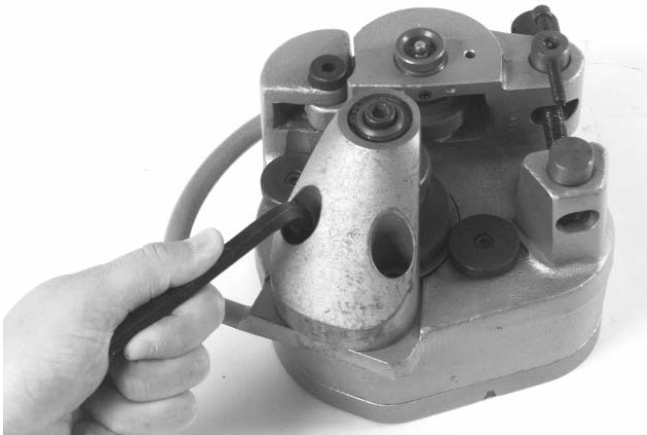


Figure 12 – Installing Drive Rolls

8. If installing 8" – 12" Schedule 10 groove set, using a $\frac{3}{16}$ " hex key, remove the 2" – 6" stabilizers and install 8" – 12" stabilizers (*Figure 13*).



Figure 13 – Installing Stabilizers

Removing Roll Sets for the Installation of Copper Roll Set

1. Place 915 on table with groove set up.
2. Remove shoulder screw that retains the reaction arm to the main housing with $\frac{1}{4}$ " hex key (*Figure 14*).

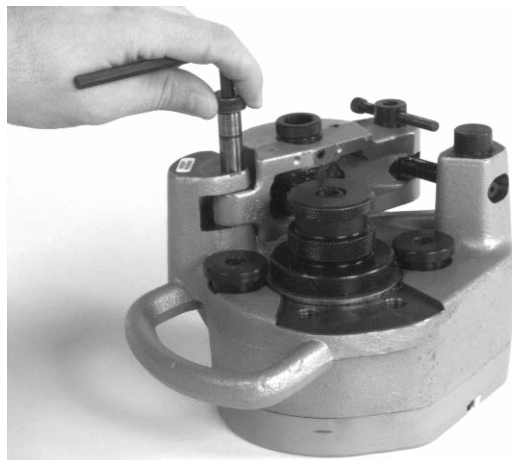


Figure 14 – Removing Shoulder Screw

3. Rotate feedscrew counter clockwise until free from pivot nut and remove reaction arm (*Figure 15*).



Figure 15 – Removing Feedscrew

4. Using a 1/8" hex key, remove set screw in reaction arm and remove groove roll shaft.
5. Remove groove roll and thrust washers from reaction arm.
6. Remove feedscrew from pivot pin. Remove pivot pin from reaction arm (Figure 16).
7. Remove the hex screw retaining the drive roll with a 5/16" hex key. If removing the 4" – 6" Sch. 40 or 8" – 12" Sch. 10 roll set, remove the drive roll support bolts using a 3/8" hex key (Figure 16).
8. Remove stabilizer pad on the handle side of the 915 using a 3/16" hex key. If removing the 8" – 12" Sch. 10 roll set remove both stabilizer pads (Figure 16).

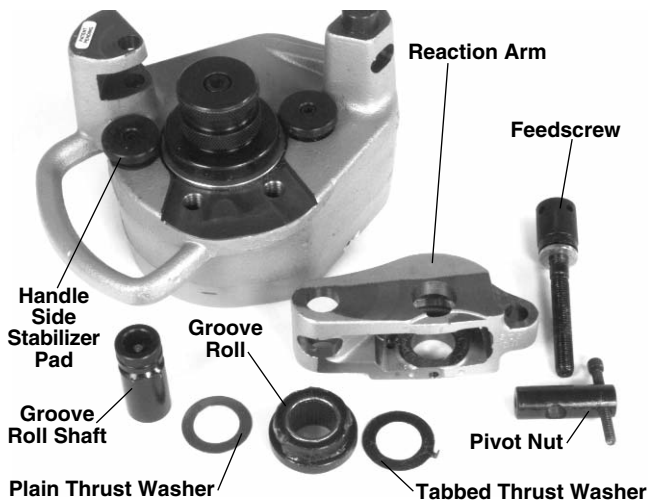


Figure 16 – Parts Call Out

Installing Copper Roll Set

1. Install copper stabilizer pad on handle side of 915 groover using the 3/16" hex key (Opposite side stabilizer

should be standard 2" – 6" Sch. 10 stabilizer pad.) (Figure 17).

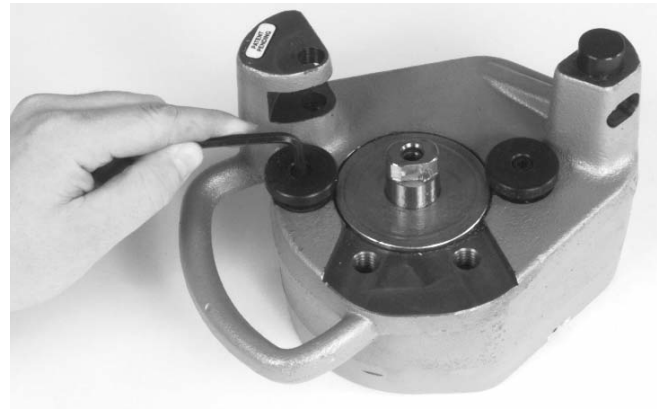


Figure 17 – Installing Copper Stabilizer Pad

2. Place the copper drive roll over driveshaft. Be sure that the drive roll flange contacts the bronze thrust washer.
3. Insert the hex screw into the drive roll and tighten with 5/16" hex key.
4. Using the copper reaction arm (painted black), place the plain thrust washer at the back of the reaction arm slot. Place the tabbed thrust washer in the front of the reaction arm slot with the tab inserted in the small hole to the right of the groove roll shaft (Figure 18).



Figure 18 – Inserting Tabbed Thrust Washer

5. Slide the groove roll between the thrust washers in the reaction arm. Be sure that the groove roll is properly oriented with the identification stamping in the "up" position.
6. Look through the groove roll shaft hole and align the groove roll and thrust washers with the hole. Insert groove roll shaft.

7. Install the set screw into the reaction arm and tighten with 1/8" hex key to retain the groove shaft.
8. Install the pivot pin into the copper reaction arm making sure the flat is in the "up" position so that it will accept the thrust washer and the head of the feedscrew (Figure 19).

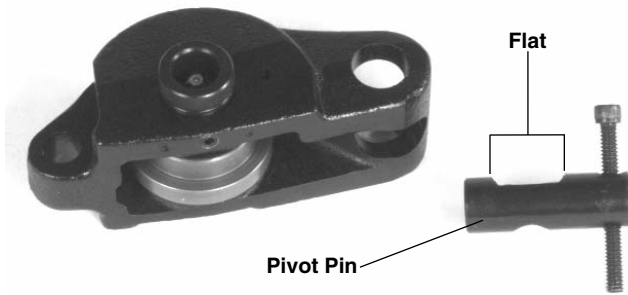


Figure 19 – Pivot Pin Position

9. Insert the copper reaction arm into the slot in the main housing and install the shoulder screw. Tighten with 1/4" hex key.
10. Thread the feedscrew clockwise into the pivot nut.

Accessories

▲ WARNING

Only the following RIDGID products have been designed to function with the 915 Roll Groover. Other accessories designed for use with other tools may become hazardous when used on this Roll Groover. To prevent serious injury, use only the accessories listed below.

Accessories for 915 Roll Groover

- Roll Set for 1 1/4" – 1 1/2" Sch. 10/40 Steel pipe
- Roll Set for 4" – 6" Sch. 40 Steel pipe
- Roll Set for 8" – 12" Sch. 10 Steel pipe
- Roll Set for 2" – 8" Copper Tube Types K, L, M, DWV
- Carrying Case for 915 Groover and Roll Sets

NOTE! A Roll Set consists of a Groove Roll and a Drive Roll. See Ridge Tool catalog for pipe stands and vises.

Maintenance Instructions

Lubrication with Lithium Base Grease

- Add grease to the fitting on the back cover until a small amount is seen at bronze thrust washer at front of unit.
- Add grease to fitting in the groove roll shaft until a small amount is seen at the side of groove roll.
- Lubricate the feedscrew and thrust washer.

Groove or Drive Rolls Maintenance

- Keep groove rolls clean. Use a wire brush to remove debris.
- Keep feedscrew clean.
- Inspect groove and drive rolls and replace if worn or damaged.

Tool Storage

▲ WARNING Store the tool in a locked area that is out of reach of children and people unfamiliar with roll groover equipment. This tool can cause serious injury in the hands of untrained users.

Service and Repair

▲ WARNING

Service and repair work on this Roll Groover must be performed by qualified repair personnel. Tool should be taken to a RIDGID Independent Authorized Service Center or returned to the factory. All repairs made by Ridge service facilities are warranted against defects in material and workmanship.

When servicing the Groover, only identical replacement parts should be used. Failure to follow these instructions may create a risk of serious injury.

If you have any questions regarding the service or repair of this machine, call or write to:

Ridge Tool Company
 Technical Service Department
 400 Clark Street
 Elyria, Ohio 44035-6001
 Tel: (800) 519-3456
 E-Mail: rtctechservices@emerson.com

For name and address of your nearest Independent Authorized Service Center, contact the Ridge Tool Company at (800) 519-3456 or <http://www.RIDGID.com>

Table I. Standard Roll Groove Specifications¹

NOTE! All Dimensions are in Inches.

NOM. PIPE SIZE	PIPE DIAMETER		T MIN. WALL THK.	A GASKET SEAT +.015/-0.030	B GROOVE WIDTH +.030/-0.015	C GROOVE DIAMETER		D NOM. GROOVE DEPTH (Ref.) ²
	O.D.	TOL.				O.D.	TOL.	
1¼	1.660	+0.016 -0.016	.065	.625	.281	1.535	+0.000 -0.015	.063
1½	1.900	+0.016 -0.016	.065	.625	.281	1.775	+0.000 -0.015	.063
2	2.375	+0.024 -0.016	.065	.625	.344	2.250	+0.000 -0.015	.063
2½	2.875	+0.030 -0.018	.083	.625	.344	2.720	+0.000 -0.015	.078
3	3.50	+0.030 -0.018	.083	.625	.344	3.344	+0.000 -0.015	.078
3½	4.00	+0.030 -0.018	.083	.625	.344	3.834	+0.000 -0.015	.083
4	4.50	+0.035 -0.020	.083	.625	.344	4.334	+0.000 -0.015	.083
5	5.563	+0.056 -0.022	.109	.625	.344	5.395	+0.000 -0.015	.084
6	6.625	+0.050 -0.024	.109	.625	.344	6.455	+0.000 -0.015	.085
8	8.625	+0.050 -0.024	.109	.750	.469	8.441	+0.000 -0.020	.092
10	10.75	+0.060 -0.025	.134	.750	.469	10.562	+0.000 -0.025	.094
12	12.75	+0.060 -0.025	.156	.750	.469	12.531	+0.000 -0.025	.110

1. As per AWWA C606-87.

2. Nominal Groove Depth is provided as a reference dimension. Do not use groove depth to determine groove acceptability.

Table II. Pipe Maximum and Minimum Wall Thickness

NOTE! All Dimensions are in Inches.

Pipe Size	CARBON STEEL OR ALUMINUM PIPE OR TUBE		STAINLESS STEEL PIPE OR TUBE		PVC PIPE	
	Wall Thickness		Wall Thickness		Wall Thickness	
	Min.	Max.	Min.	Max.	Min.	Max.
1¼"	.065	.140	.065	.140	.140	.140
1½"	.065	.145	.065	.145	.145	.200
2"	.065	.154	.065	.154	.154	.154
2½"	.083	.203	.083	.188	.203	.276
3"	.083	.216	.083	.188	.216	.300
3½"	.083	.226	.083	.188	.226	.226
4"	.083	.237	.083	.188	.237	.237
5"	.109	.258	.109	.188	.258	.258
6"	.109	.280	.109	.188	.280	.280
8"	.109	.148	.109	.188	—	—
10"	.134	.165	.134	.188	—	—
12"	.156	.180	.156	.188	—	—

Table III. Copper Roll Groove Specifications

1	2		3	4	5	6	7	8
Nom. Size Inches	Tubing Outside Diameter O.D.		A Gasket Seat A ±0.03	B Groove Width +.03 -0.000	C Groove Dia. +.00 -0.02	D Groove Depth Ref. ¹	T Min. Allow. Wall Thick.	Max. Allow. Flare Dia.
	Basic	Tolerance						
2"	2.125	±0.002	0.610	0.300	2.029	0.048	0.064	2.220
2½"	2.625	±0.002	0.610	0.300	2.525	0.050	0.065	2.720
3"	3.125	±0.002	0.610	0.300	3.025	0.050	DWV	3.220
4"	4.125	±0.002	0.610	0.300	4.019	0.053	DWV	4.220
5"	5.125	±0.002	0.610	0.300	5.019	0.053	DWV	5.220
6"	6.125	±0.002	0.610	0.300	5.999	0.063	DWV	6.220
8"	8.125	+0.002/-0.004	0.610	0.300	7.959	0.083	DWV	8.220

1. Nominal Groove Depth is provided as a reference dimension. Do not use groove depth to determine groove acceptability.