Important

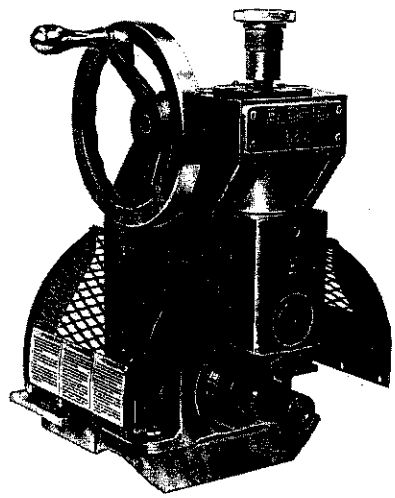
For Your Own Safety
Before Assembling and Operating This Unit, Read This Operator's Manual Carefully and Completely. Learn The Operation, Applications and Potential Hazards Peculiar To This Unit.

RIDGID

925 Type III

Roll Groover

Operator's Manual



RIDGID®

Pre-Tested
Work Saver® Tools

The Ridge Tool Company
400 Clark St., Elyria, Ohio 44036, U.S.A.

Form No. 925-M-490
931-925-011

Table of Contents

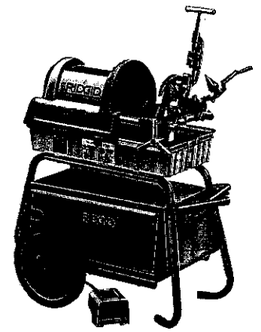
RIDGID No. 925 Type III Roll Groover

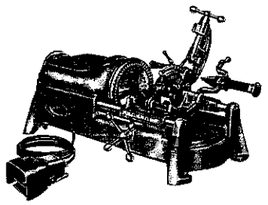
RIDGID

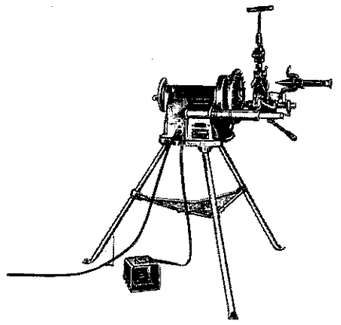
925 Type III

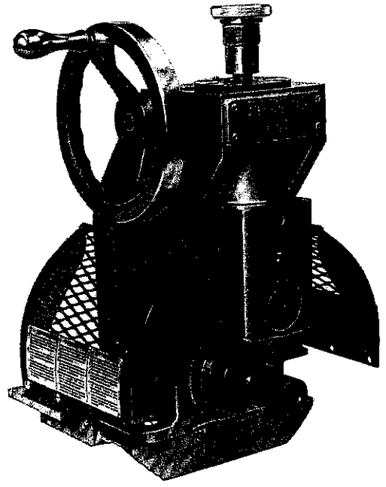
Roll Groover

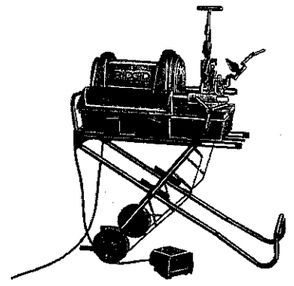
Roll Groover	
Record below and retain product model and serial numbers which are located on nameplate.	
Model No.	Serial No.











Description, Technical Information, Standard Equipment and Accessories

Description

The RIDGID No. 925 Roll Groover forms standard roll grooves in steel, stainless steel and aluminum pipe. The No. 925 is a heavy-duty roll groover designed for 2″ - 8″ schedule 40 steel pipe (up to 12″ for schedule 20 or lighter wall pipe); also can be adapted for copper 2½″ - 6″ K, L, M, DWV with a roll change. The grooves are formed by a grooving roll fed into a drive roll to the exact specifications required for mechanical coupling systems. The only adjustment necessary is for the depth of the groove. 8″ - 12″ roll grooving requires installation of a special grooving roll, drive roll, and spacer.

The No. 925 Roll Groover can be mounted on a RIDGID No. 300 Power (36 RPM Model only), No. 1224 Threading Machine, No. 1822 Threading Machine, and the No. 535 Threading Machine.

Technical Information

Roll Grooving Capacity ..... 2″ - 8″ Schedule 40
2″ - 12″ Schedule 20
(See Table II for wall thickness)
2½″ - 6″ copper types (K, L, M, DWV)

Depth Adjustment ..... Lock Nut and Stop Nut
Line to Line .010″
Dot to Line .005″

Handwheel Feed .... 200:1 Mechanical Advantage
(T-Handle spin off)

Power Drive Mounting ..... 5 Models
(Complete with No. 925 Roll Groover, mounting base and hardware).

925-1 Kit ..... 136 lbs.
Base mounts to No. 1206 Stand and No. 300 Power Drive mounts to base.

925-2 Kit ..... 116 lbs.
Base slides over carriage rails of No. 1822 Threading Machine.

925-3 Kit ..... 116 lbs.
Base slides into carriage rails of No. 300 Power Drive from the rear of the power drive.

925-4 Kit ..... 118 lbs.
Base locates on carriage rails of No. 1224 Threading Machine.

925-5 Kit ..... 116 lbs.
Base locates on carriage rails of No. 535 Threading Machine.

Standard Equipment

Grooving Rolls ..... 2″ - 6″ and 8″ - 12″

Driving Rolls ..... 2″ - 6″ integral and 8″ - 12″

Spacers ..... 2″ - 6″ and 8″ - 12″

Drive Bar ..... Connects No. 925 to power drive

Safety Guards ..... 2 Required

Hex Keys (3) ..... 1/8″, 3/16″, and 7/32″

Accessories

- **Copper Roll Grooving Kit for 925** ..... 2½″ - 6″
- **No. 965 Pipe Support Stand** ..... 4 rollers allow free pipe rotation: adjustable for 2″ - 12″ pipe; 26″ - 40″ height adjustment.

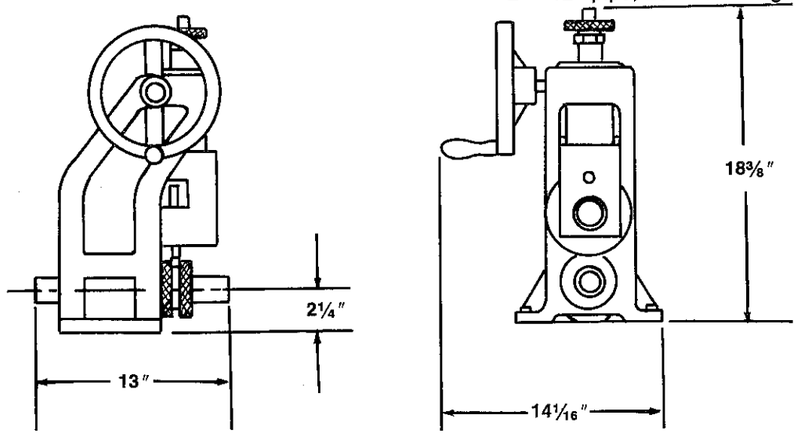


Figure 1. No. 925 Roll Groover Dimensions.

- **No. 300 Power Drive** ..... 36 RPM
- **No. 1206 Stand** ..... For No. 300 Power Drive
- **No. 1224 Threading Machine** ..... 36/12 RPM
- **No. 1822 Threading Machine** ..... 45/16 RPM
- **No. 535 Threading Machine** ..... 36 RPM

Alternate Mounting Adaptors
300 Rail Mount ..... Standard with 925-1
1822 Rail Mount ..... Standard with 925-2
300 Rear Mount ..... Standard with 925-3
1224 Rail Mount ..... Standard with 925-4
535 Rail Mount ..... Standard with 925-5

Safety Information

The operator's manual contains safety information and instructions for your protection against serious injuries including:

Loss of fingers, hands, arms or other body parts if clothing or gloves get caught in moving parts;

Electrical shock or burns from contact with wires, motor or other power drive parts;

Impact injuries, including broken bones if machine tips over or workpiece falls.

Eye injuries, including being blinded by thrown workpiece or workpiece chips.

General Safety

Read and follow the safety information and instructions in the operator's manual.

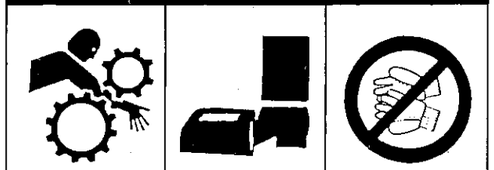
Read and follow the safety labels on the machine.

Know the location and functions of all controls before using machine.

Footswitch Safety

The footswitch is for your safety. It lets you shut-off the motor by removing your foot. If clothing should become caught in the machine, it will continue to wind up, pulling you into the machine. Because the machine has high torque, the clothing itself can bind around your arm or other body parts with enough force to crush or break bones.

⚠WARNING



Warning: Clothing/gloves can be caught in moving parts. Fingers, hands, arms or other body parts can be crushed or broken.

- Use footswitch.
- Do not wear gloves.
- Keep sleeves and jacket buttoned.
- Do not reach across machine because clothing can be drawn into moving parts.
- Operate machine from switch side only.
- Do not disconnect or block footswitch.
- Keep footswitch in working order.
- Make sure switch is in the "off" position before plugging in power cord.
- Make sure you can quickly remove your foot from the footswitch.

Figure 2. Footswitch Safety

Personal Safety

1. Wear snug fitting clothes, safety shoes, hard hat and safety glasses. Cover up or tie up long hair. Do not wear loose clothing, gloves, unbuttoned jackets, loose sleeve cuffs, neckties, rings, watches or other jewelry.
2. Wear hearing protectors, ear plugs or muffs if you use the machine daily or in a very noisy area.
3. Operate machine from the side with the REV/OFF/FOR switch.
4. Keep good footing and balance. Do not overreach.
5. Do not operate machine when you are tired.

Electrical Safety

1. Ground machine. Use approved three-conductor cord and three-prong grounding type plug in a grounded receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Do not connect the green (or green and yellow) wire to a live terminal. If your unit is for use on less than 150 volts, it has a 120V plug. If it is for use on 150 to 250 volts, it has a 230V plug.

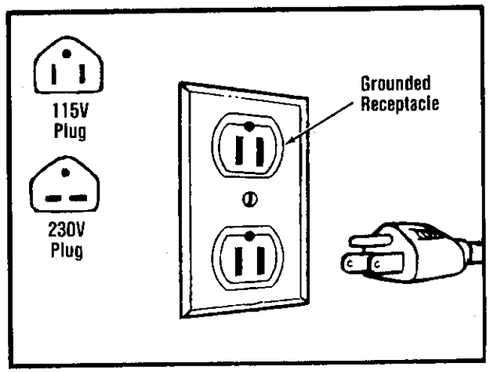


Figure 3. Machine Grounding Instructions

2. Connect machine to an AC power supply that matches the nameplate specifications. Do not use D.C. power.
3. Use only three-wire extension cords which have three-prong grounding plugs and three-pole receptacles which accept the machine's plug. Replace or repair damaged, frayed, broken or worn cords.
4. Refer to the following chart of recommended extension cord sizes. When using an extension cord, be certain that the conductor size is large enough to prevent excessive voltage drop which will cause loss of power.

Length of Cord	Wire Size Required	
	120V	230V
24 feet	14	16
50 feet	12	14
100 feet	10	12
150 feet	8	10
200 feet	6	8
300 feet	—	8
400 feet	—	6

Figure 4. Extension Cord Chart

5. When using an extension cord outdoors, use cords marked with the suffix "W-A" following the cord type designation. For example, SJTW-A indicates that the cord is acceptable for outdoor use.
6. Do not use machine in damp or wet locations. Do not expose to rain.

Figure 5. Electrical Hazard Sign

7. Unplug power cord when adjusting, servicing or changing accessories.

Work Area Safety

1. Keep children and visitors out of work area. If visitors must be in area keep them far away from the machine and extension cords.
2. Keep work area clean, uncluttered and well lighted.
3. Keep floors dry and free of slippery materials.
4. Clear machine and bench of all objects such as wrenches or tools before turning machine on.

Roll Groover Safety

1. Guards must be in place. Never operate Groover with guards removed. Fingers could get caught between Grooving and Drive Rolls.
2. Set up Groover on a flat, level surface. Be sure the machine, stand and Groover are stable and will not tip over.

3. Be sure Groover is properly secured to the power drive. Carefully follow the set up instructions pertaining to the Groover's specific use with either the RIDGID No. 300, 1224, 535, or 1822 machines.
4. With No. 300 Power Drives use only 36 RPM models.
5. Operate only from side with the main power control switch. When rear mounting the No. 925 on a 300 Power Drive, the Handwheel must be reinstalled on the control switch side.
6. On the No. 1822 Machine with a No. 1406 Stand the Support Legs must be in place to stabilize the unit.
7. Properly support pipe with a floor pipe support such as the No. 925 Pipe Stand.
8. Use recommended accessories. Use of other accessories may increase the risk of injury. Refer to the Operator's Manual for recommended accessories.
9. Do not use if machine switches are broken.

Machine Maintenance

1. Inspect grooving and Drive Rolls. Replace worn rolls.
2. Follow instructions for lubricating and changing accessories.
3. Inspect machine cord. Replace damaged, frayed, broken or worn machine cord.
4. Inspect extension cords. Repair or replace damaged, frayed, broken or worn cords.
5. Keep handles dry and clean. Keep free from oil and grease.
6. When not being used, store machine in a secured, locked area, out of reach of children and people unfamiliar with the threading machine.
7. Keep footswitch in working order.
8. Lock footswitch when not in use to avoid accidental starting.

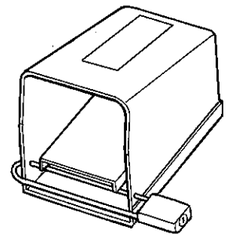


Figure 6. Locked Footswitch

Roll Groover Set Up Instructions

No. 925-5 to No. 535 Threading Machine

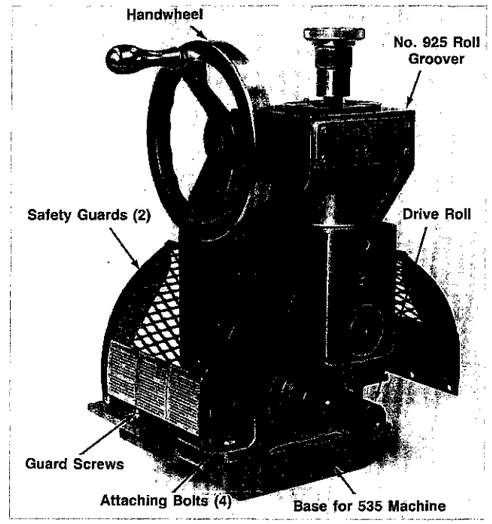


Figure 7-A. 925-5 Subassembly

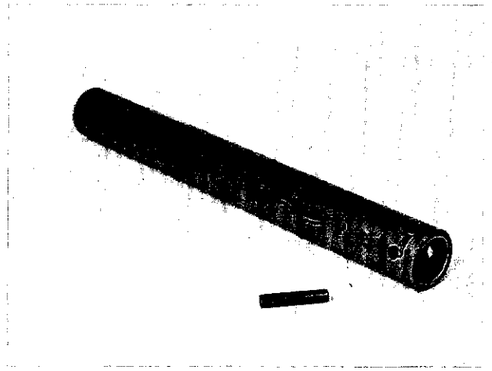


Figure 7-B. Drive Bar and Pin

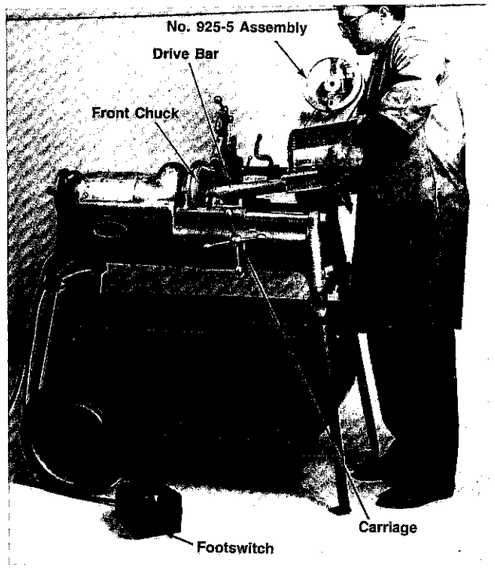


Figure 8. Installing No. 925-5

Subassembly

1. Position the 925 on the base as shown in Figure 7-A&B. Note position of handwheel, drive roll and operation side rail rest.
2. Install and tighten four attaching bolts.
3. Attach drive bar to roll groover with roll pin.
4. Attach safety guards (2) to base with three screw each. Assure safety guards are positioned.

Installing on No. 535 Machine

1. Position 925-5 so that drive bar is inserted in open chuck. Place No. 925-5 on far side of carriage rail and lower onto rear side rail and (Figure 8) tighten front chuck.

Warning: Drive bar must be centered in front chuck jaws.

2. Level drive roll of roll groover.
3. Reverse procedure to remove the 925-5 roll groove assembly.

Warning: Before operating roll groover make sure all bolts are tight and drive bar is securely held in front chuck.

No. 925-4 to No. 1224 Threading Machine

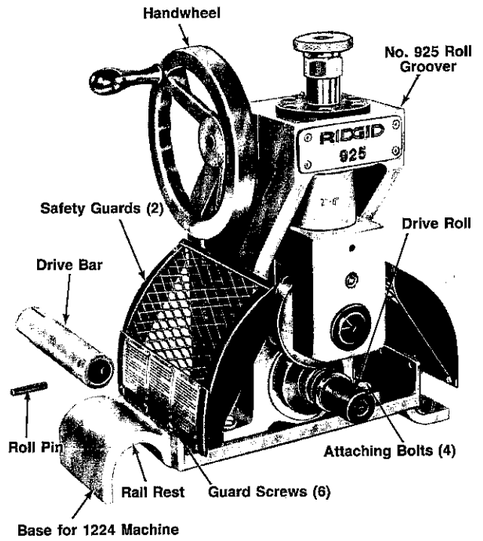


Figure 9. No. 925-4 Subassembly

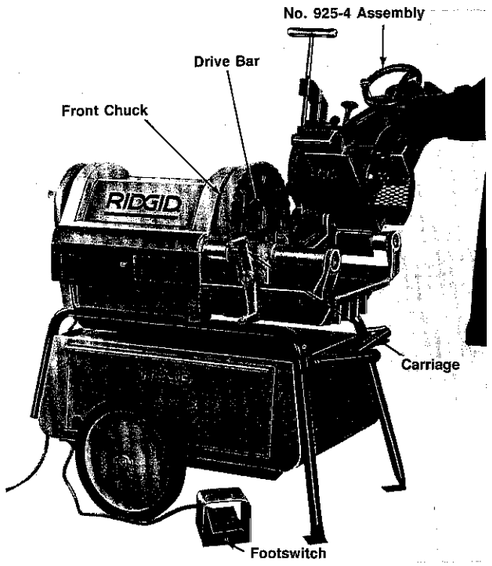


Figure 10. Installing No. 925-4

Subassembly

1. Position the 925 on the Base as shown in Figure 9. Note position of Handwheel, Drive Roll and operator side Rail Rest.
2. Install and tighten four attaching bolts.
3. Attach Safety Guards (2) to Base with three screws each. Assure Safety Guards are positioned toward Drive Roll.

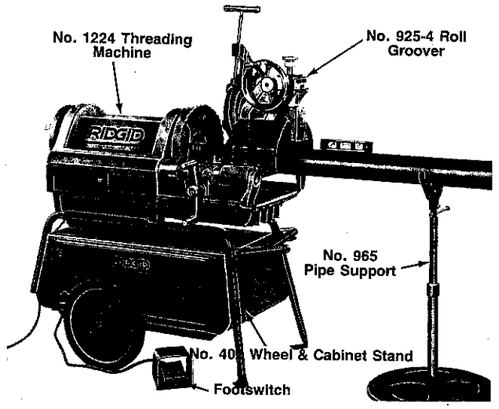


Figure 11. No. 1224 with No. 925-4 Roll Groover

Installing on No. 1224 Machine

1. Position Carriage towards Front Chuck and place Tools in their rest position.

Note: Tuck Reamer inside the Diehead.

2. Open Front Chuck and place Drive Bar in opening with hole for Roll Pin towards the Roll Groover.
3. Place No. 925-4 on the far side Carriage Rail and lower onto near side rail. (See Figure 10).
4. Attach Drive Bar to Roll Groover with Roll Pin and tighten Drive Bar in Front Chuck.

Warning: Drive Bar must be centered in Front Chuck Jaws.

5. Level Drive Roll of Roll Groover.
6. Reverse procedure to remove the No. 925-4 Roll Groove Assembly.

Warning: Before operating Roll Groover make sure all bolts are tight and the Drive Bar is securely held in the Front Chuck.

Roll Groover Set Up Instructions

No. 925-3 to No. 300 Power Drive

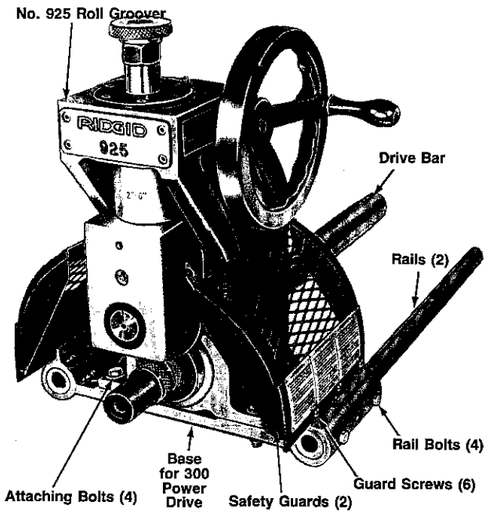


Figure 12. No. 925-3 Subassembly

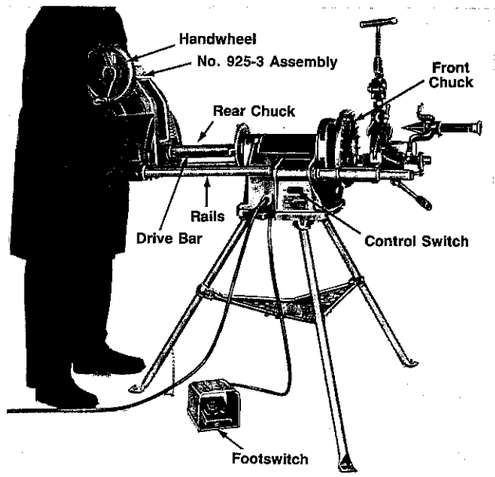


Figure 13. Installing No. 925-3

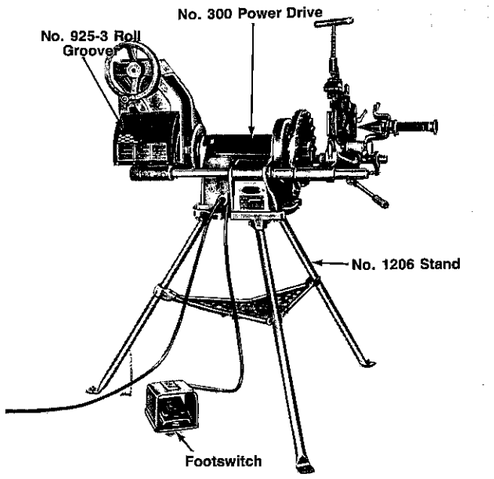


Figure 14. No. 300 with No. 925-3 Roll Groover

Subassembly

1. Position Rails in Base and tighten Rail Bolts.
2. Place the 925 on Base with Drive Roll and Rails pointing in same direction. Install and tighten four Attaching Bolts.
3. Install Drive Bar on Roll Groover and secure with Roll Pin.
4. Attach Safety Guards (2) to Base with three screws each. Assure Safety Guards are positioned toward Drive Roll.
5. Drive roll pin out of Handwheel and pull off.
6. Push Handwheel onto handwheel shaft on right side of Groover, as viewed from drive roll, and reinstall roll pin. See Fig. 12.

Installing on No. 300 Power Drive

1. Fully open Front and Rear Chucks of Power Drive.
2. Insert Drive Bar in Rear Chuck and align Rails with Power Drive Rail opening. Push No. 925-3 Assembly up to Rear Chuck.
3. Center Drive Bar in Rear Chuck and tighten Front Chuck on Drive Bar.

Warning: Drive Bar must be centered in Front Chuck Jaws. (Roll Groover may have to be lifted to assure proper centering.)

Warning: Handwheel must be located on the same side as Control Switch. If necessary, drive out Handwheel Roll Pin and relocate Handwheel.

4. Level Drive Roll of Roll Groover.
5. Reverse procedure to remove the No. 925-3 Roll Groove Assembly.

Warning: Before operating Roll Groover make sure all bolts are tight and the Drive Bar is securely held in the Front Chuck.

Roll Groover Set Up Instructions

No. 925-1 to No. 300 Power Drive

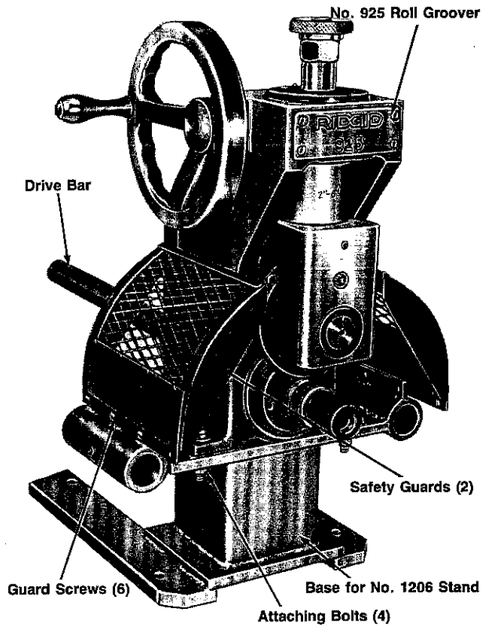


Figure 15. No. 925-1 Subassembly

Subassembly

1. Install Drive Bar on Roll Groover and secure with Roll Pin.
2. Position 925 on Base with Drive Bar toward open end of Base.
3. Install and tighten four Attaching Bolts.
4. Attach Safety Guards (2) to Base with three screws each. Assure Safety Guards are positioned toward Drive Roll.

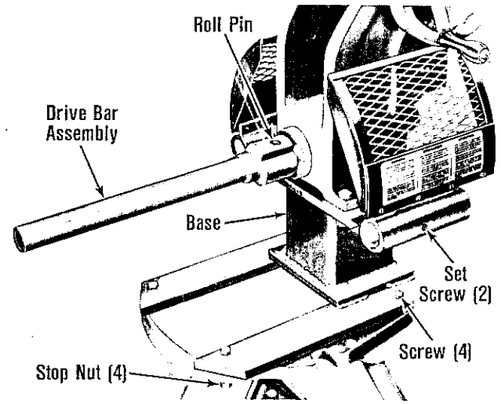


Figure 16. Installing No. 925-1

Installing on No. 1206 Stand

1. Attach Base to No. 1206 Stand with four Bolts. Torque to 40 Ft.-Lbs. (Fig. 16).
2. Extend No. 300 Power Drive Support Bars 11 inches forward from front face of Power Drive housing. Secure Support Bars with four Retaining Ring Assemblies (Figure 17).
3. Fully open Front and Rear Chucks of Power Drive.
4. Lift Power Drive and guide Support Bars into holes in Groover Base with Drive Bar feeding through Front and Rear Chucks.
5. Center Drive Bar in Rear Chuck and tighten Front Chuck on Drive Bar.

Warning: Drive Bar must be centered in Front Chuck Jaws.

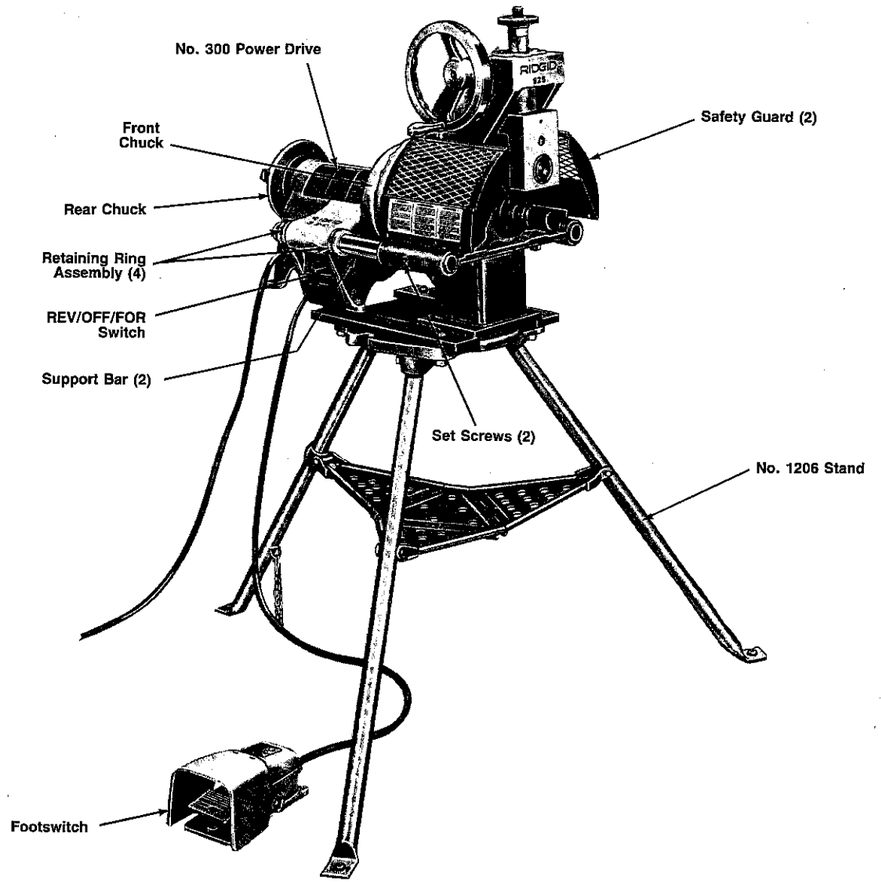


Figure 17. No. 300 with No. 925-1 Roll Groover

6. Tighten two Set Screws in Base against Power Drive Support Bars.
7. Level Drive Roll of Roll Groover.
8. Reverse procedure to remove the No. 925-1 Roll Groove Assembly.

Warning: Before operating Roll Groover make sure all bolts are tight and the Drive Bar is securely held in the Front Chuck.

Roll Groover Set Up Instructions

No. 925-2 to No. 1822 Threading Machine

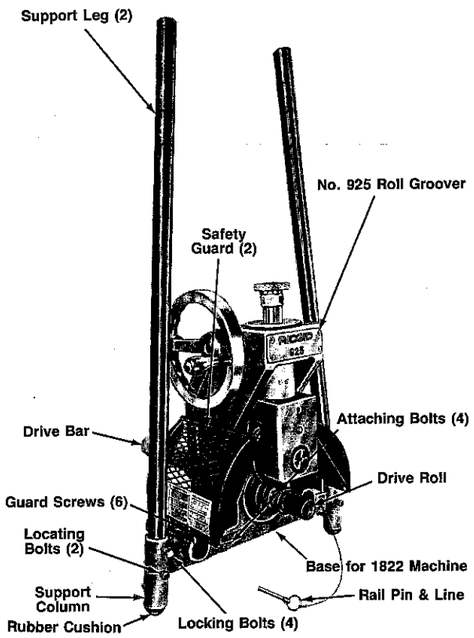


Figure 18. No. 925-2 Subassembly

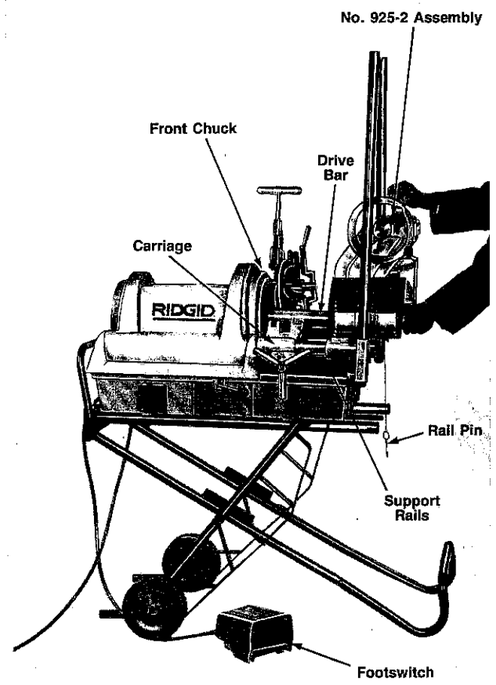


Figure 19. Installing No. 925-2

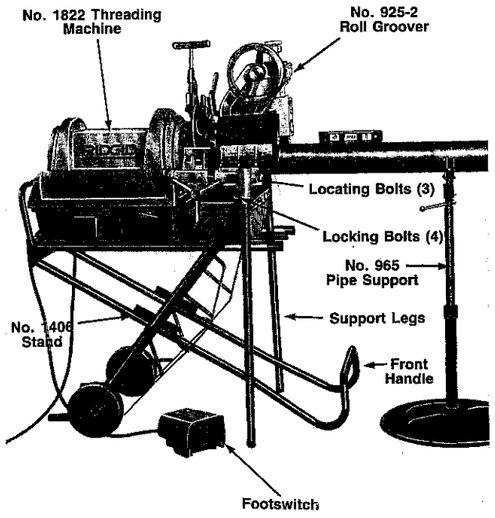


Figure 20. No. 1822 with No. 925-2 Roll Groover

Subassembly

1. Install Drive Bar on Roll Groover and secure with Roll Pin.
2. Position 925 on Base with Drive Roll toward Rail Pin and Line. Install and tighten four Attaching Bolts.
3. Attach Safety Guards (2) to Base with three screws each. Assure safety guards are positioned toward drive roll.
4. Place Support Legs in Support Columns (Rubber Cushion down) and secure with Location Bolts (⅜ x 1½). Install four Locking Bolts (⅜ x ¾).

Installing on No. 1822 Machine

1. Position Carriage towards Front Chuck and place tools in their rest position.

Note: Tuck Reamer inside the Diehead.

2. With Front Chuck open slide Base on to Support Rails and feed Drive Bar into Front Chuck.
3. Place Rail Pin in Support Rail hole.
4. Loosen Locking Bolts. Hold support leg and remove Locating Bolt. Then slide Support Leg for each leg down to floor; Lift Front Handle and reinstall Locating Bolts to level Machine.

Warning: With the No. 1406 Stand Support Legs must be in place to stabilize the unit.

Note: Support Legs will also level the unit with No's. 1402 and 1404 Stands.

5. Tighten Locating and Locking Bolts.
6. Reverse procedure to remove the No. 925-2 Roll Groove Assembly.

Warning: Before operating Roll Groover make sure all bolts are tight.

Operating the No. 925 Roll Groover

Warning: Operator should be thoroughly familiar with preceeding Safety Information before attempting to operate this equipment.

1. Properly install the Roll Groover to Power Drive or Threading machine as described in previous sections.
2. Install the correct Spacer, Groove Roll and Drive Roll for size of pipe to be grooved. See Table of Contents; Conversion Equipment.

   Groove Roll 2″-6″ or 8″-12″
   Drive Roll 2″-6″ Integral or 8″-12″ Adaptor
   Spacer 2″-6″ or 8″-12″

Warning: Roll Grooving with No. 925-3 from rear of No. 300 Power Drive requires Handwheel positioning to side of No. 300 with REV/OFF/FOR Switch. Check Roll Groover Nameplate.

1. For 925 Type III drive out Roll Pin and install Handwheel on other side of Shaft (Figures 15 and 25).
2. For 925 Types I and II Handwheel Shaft must be removed and reinstalled on other side of Roll Groover. See Table of Contents; Handwheel Shaft Reversal.

Pipe Preparation

1. Pipe ends must be cut square. Do not use cutting torch.
2. Pipe out-of-roundness must not exceed the total O.D. tolerance listed in Groove Specifications, Table I.

Note: Determine out-of-roundness by measuring maximum and minimum O.D. at 90 degrees apart.

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

Note: Do Not cut flats on gasket seat area.

Roll Grooving with No. 925

Pipe Setup

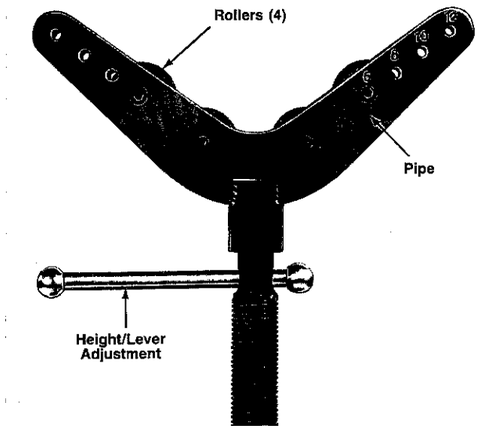


Figure 21. Adjusting No. 965 Pipe Support Stand

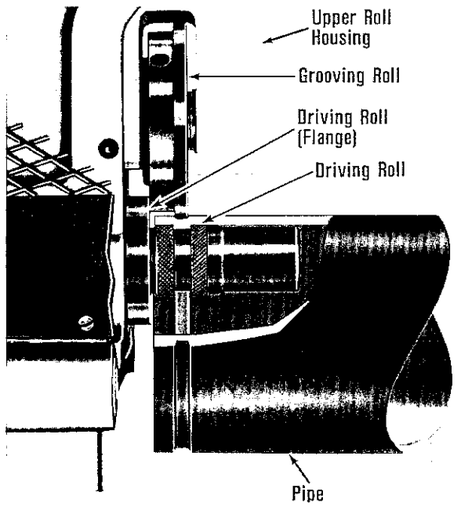


Figure 22. Installing Pipe on Drive Roll

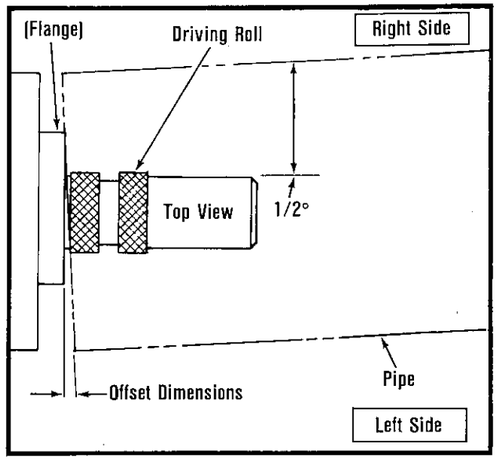


Figure 23. Pipe and Pipe Stand Offset

1. Place Rollers of No. 965 Pipe Support Stand in hole locations corresponding to pipe size to be roll grooved (Figure 21).

Note: Locate No. 965 Pipe Support ¾ of pipe length from Roll Groover. Long lengths may require two stands.

2. Retract Grooving Roll by turning Handwheel counter clockwise and install pipe on Drive Roll and No. 965 Pipe Stand.
3. Square pipe and Pipe Stand to Roll Groover making sure pipe is flush against Drive Roll Flange (Figure 22).
4. Level pipe by adjusting Pipe Stand.
5. Slightly offset (approximately ½ degree) pipe and Pipe Stand away from Roll Groover Handwheel (Figure 23).

Warning: A slight offset is required to keep pipe engaged on Drive Roll. Make sure back side of pipe contacts Drive Roll Flange.

Adjusting Roll Groove Depth

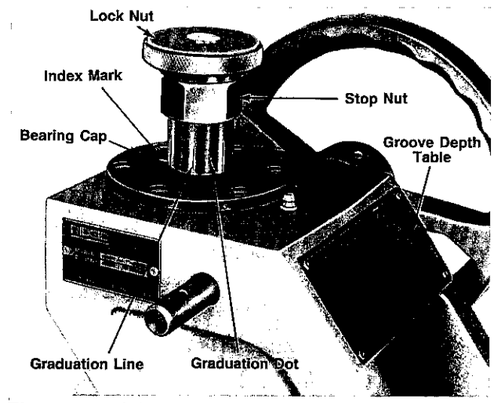


Figure 24. Adjusting Roll Groove Depth

1. With pipe properly offset and level turn Handwheel clockwise to tighten pipe between Groove Roll and Drive Roll.
2. Snug Stop Nut to Bearing Cap and back off Stop Nut to dimension indicated in Groove Depth Table.

Note: Index Mark on Bearing Cap is a reference and each Line to Line or Dot to Dot rotation of the Stop Nut is .010 inches. A Line to Dot or Dot Line rotation is .005 inches.

Note: Groove Depth may need to be increased or decreased slightly after trial grooves to match Groove Diameter shown in Table I.

Forming the Roll Groove

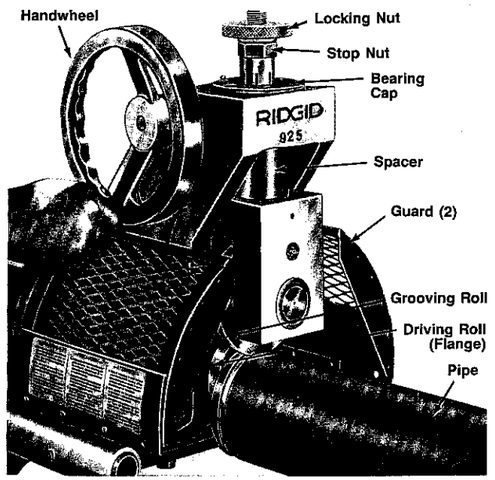


Figure 25. Forming the Roll Groove

Caution: Pipe thickness must not exceed the diameter shown in Table III.

1. Place REV/OFF/FOR switch in the FOR position (No. 1822 Machine in CLOSE).
2. Step on Footswitch and apply slight Handwheel pressure to set the groove.

Warning: If pipe begins to "WALK OFF" the Drive Roll, stop machine, level pipe and check the ½ degree offset dimension (Figure 23).

3. To prevent "walking," keep pressure on pipe with right hand.
4. With pipe tracking properly and backside of pipe against Drive Roll Flange, step on Footswitch and turn Handwheel clockwise until Stop Nut bottoms on Bearing Cap.

Caution: DO NOT overfeed Handwheel. As Handwheel feed tightens, pause for one pipe revolution before additional Handwheel feed.

5. After Stop Nut bottoms on Bearing Cap allow two complete pipe revolutions to even out groove depth.
6. Release Footswitch, turn Handwheel counter clockwise to release pipe and check Groove Diameter as shown in Table I.

Note: Two measurements 90 degrees apart should equal the C dimension in Table I.

7. To decrease Groove Diameter back off Stop Nut. To increase Groove Diameter tighten down on Stop Nut.

Note: Once Groove Depth is determined and the Lock Nut is tightened additional grooves will have the same depth.

8. Periodically check Groove Depth with a mechanical coupling (Figure 26). The coupling should fully seat in the groove without binding or excessive play.

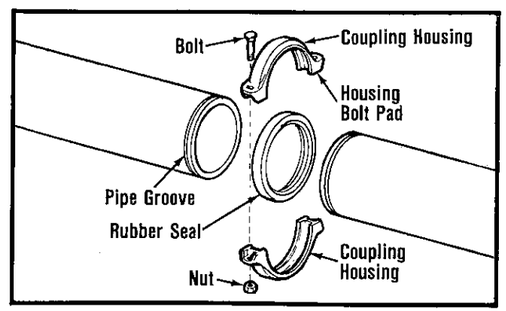


Figure 26. Typical Mechanical Coupling

Roll Grooving Tips with No. 925

1. If pipe tends to "WALK OFF" Drive Roll, increase Offset dimension (Figure 23).
2. If Drive Roll Flange shaves pipe end, decrease Offset dimension (Figure 23).
3. If pipe end flare is excessive, lower pipe end to level with Roll Groover.
4. If pipe wobbles and/or "WALKS OFF" Drive Roll raise pipe end to level with Roll Groover.
5. Short lengths of pipe (under three feet) may require slight pressure to maintain the ½ degree Offset dimension.
6. If Power Drive is run in REV switch position, the ½ degree Offset dimension (Figure 23) is reversed (i.e. pipe contacts drive roll flange on operator's side, offset is opposite operator).

Conversion Equipment

Removing or Installing Spacer (Figure 27)

1. The proper Spacer (2″-6″ or 8″-12″) is required to stop the spring loaded Groove Roll from raising above the Drive Roll Flange.

Caution: Spacer labeling must match Groove Roll labeling.

2. Back off Lock and Stop Nuts. Turn Handwheel clockwise to lower Groove Roll and provide clearance to install or remove Spacer.

Removing and Installing Groove Roll

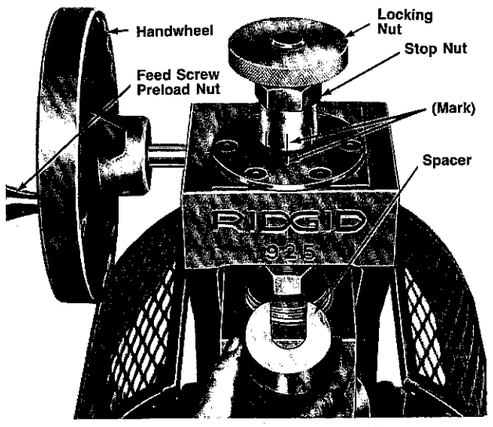


Figure 27. Installing 2″-6″ or 8″-12″ Spacer

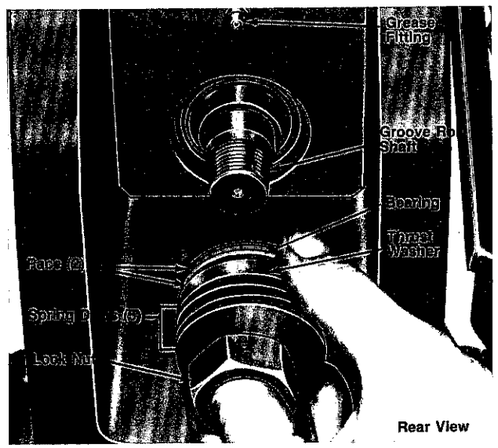


Figure 28. Groove Roll Shaft

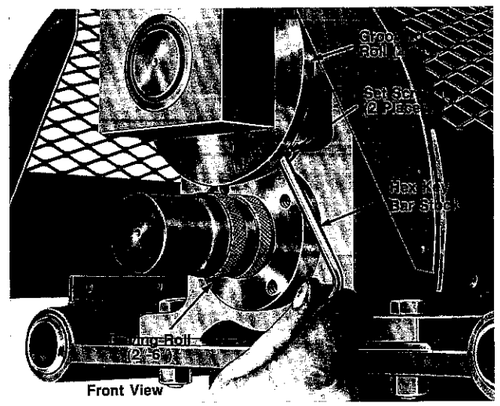


Figure 29. Groove Roll and Shaft Connection

1. The proper Groove Roll is required to maintain the Gasket Seat and Groove Width dimensions in Table I.
2. Loosen and remove Groove Roll Shaft Lock Nut with $1\frac{5}{16}$″ socket and remove Spring Discs, Thrust Washer, Races and Bearing (Figure 28).

Note: Groove Roll Shaft must be wedged to Drive Roll to loosen Lock Nut. Use small Bar Stock in Groove Roll Set Screw holes (See Figure 29).

3. Loosen Set Screws (2) from access holes (2) in Groove Roll with $\frac{3}{16}$″ Hex Key (Figure 29).

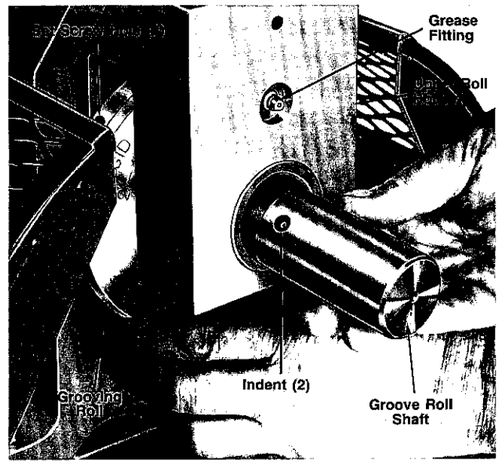


Figure 30. Installing Groove Roll

4. Remove Groove Roll Shaft and slide out Groove Roll (Figure 30).
5. Install proper Spacer, see previous section.
6. Position Groove Roll Head with Handwheel so that shaft can be inserted through selected Groove Roll.
7. Reinstall Shaft with selected Groove Roll in position.

Note: 8″-12″ Drive Roll must be installed before 8″-12″ Groove Roll. Also, 8″-12″ Drive Roll must be removed before installing 2″-6″ Groove Roll. (See next section)

8. Tighten Groove Roll Set Screws (2) making sure they seat in Indents (2) of Groove Roll Shaft (Figure 30). Torque to 40 Ft.-Lbs.

Note: End of Groove Roll Shaft is scored to indicate location of hidden Indents.

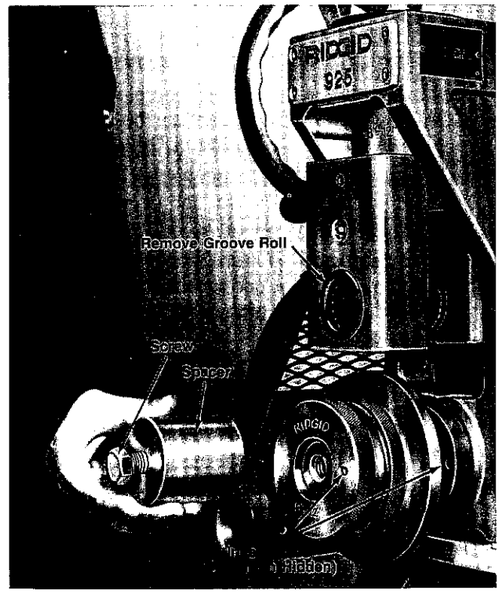
Caution: Failure to properly engage Set Screws may allow Groove Roll to slip causing serious damage.

9. Reinstall Races, Bearing, Thrust Washer and Spring Discs (5). Note order in Figure 28.

Caution: Spring Discs (5) are cupped and must be installed offset to each other to create the required spring tension.

10. Install Lock Nut on Groove Roll Shaft with internal nut taper facing Shaft. Torque to 100 Ft.-Lbs.

Note: Groove Roll Shaft must be wedged to Drive Roll to tighten Lock Nut. Use small Bar Stock in Groove Roll Set Screw holes (See Figure 29).



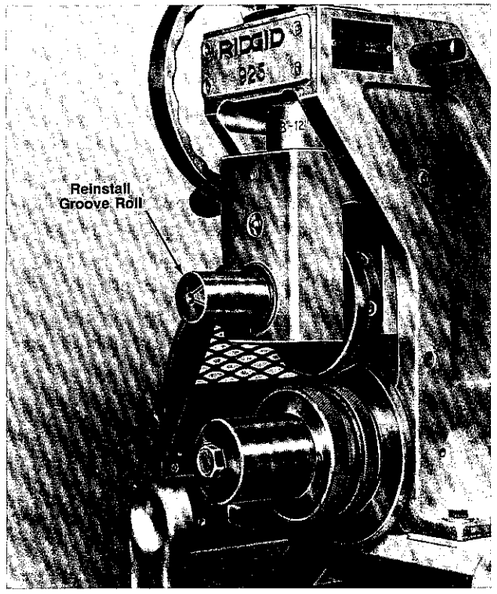


Figure 31. Installing 8″-12″ Drive Roll Adaptor

Removing or Installing 8"-12" Drive Roll

1. The 8"-12" Drive Roll mates to 8"-12" Groove Roll to produce the Gasket Seat and Groove Width dimensions in Table I.
2. Install Proper Spacer. See Removing or Installing spacer.
3. Position Groove Roll Head with handwheel so that 8"-12" Drive Roll will clear Groove Roll.
4. Slide 8"-12" Drive Roll over integral 2"-6" Drive Roll.

Note: The Groove Roll must be removed prior to installing the 8"-12" Drive Roll. See previous section.

5. Align Index Holes and lock hidden Dowel Pin to Flange of integral Drive Roll.
6. Install and tighten Drive Roll Spacer and Screw on end of integral Shaft.
7. Reverse procedure to remove.

Note: The Groove Roll must be removed prior to removing the 8"-12" Drive Roll. See previous section.

Handwheel Shaft Reversal

Warning: Handwheel of 925 Roll Groover must be positioned on side of Machine or Power Drive with the REV/OFF/FOR control switch (CLOSE switch on 1822 Machine). If necessary, reverse Handwheel position as described below.

1. Refer to Roll Groover Nameplate.
2. For 925 Type III drive out Roll Pin and reinstall Handwheel on other Shaft end.
3. For 925 Types I and II Handwheel Shaft must be removed to reinstall Handwheel on other side of 925 Roll Groover.
4. Drive out Roll Pin and remove Handwheel from Shaft.
5. Remove the Spring Clip holding Shaft in Housing with a screwdriver.
6. Pull and rotate Shaft to remove from Housing.
7. Rotate Shaft 180 degrees end to end and remove Spacer with Bearings from Shaft and reinstall, Bearings first, to other end of Shaft.
8. From same side of 925 insert Shaft and rotate into housing.
9. Reinstall Spring Clip in Housing and reattach Handwheel with Roll Pin.

Conversion Kit for Copper Tubing

See Kit

Special application for copper tubing (Types K, L, M, DWV) 2½"-6" diameter.

Note: To roll groove copper the replacement of the top groove roll is required, and the addition of a special driving roll that fits over the standard 2½"-6" drive shaft is required.

Copper Roll Grooving Kit for 925

Kit Includes
- Copper Guide Roll
- Drive Roll
- Copper Spacer
- Screw

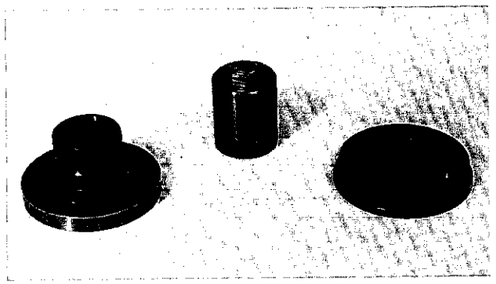


Figure 32. Copper Roll Kit

Removing and Installing Groove Roll

1. A proper groove roller for copper tubing (Types K, L, M, DWV) is required to maintain the gasket seat and groove width dimension in Table IV.
2. Loosen and remove groove roll shaft lock nut with 15/16" socket and remove spring discs, thrust washer, races, and bearings. (Figure 28).

Note: To loosen groove roll shaft lock nut; groove roll shaft must be wedged to loosen lock nut. Use small bar stock in groove roll set screw holes. (Figure 29).

3. Loosen set screws (2) from access holes (2) in groove roll with 3/16" Hex key (Figure 29).
4. Remove groove roll shaft and slide out groove roll (Figure 30).
5. Position groove roll head with handwheel so that shaft can be inserted through selected groove roll.
6. Reinstall shaft with copper groove roll in position.
7. Tighten groove roll set screws (2) making sure they seat in indents (2) of groove roll shaft. Torque to 40 ft/lbs.

Note: End of groove roll shaft is scored to indicate location of hidden indents.

Caution: Failure to properly engage set screws may allow groove roll to slip causing serious damage.

8. Reinstall races, bearing, thrust, washer and spring discs (5). Note order in (Figure 28).

Caution: Spring discs (5) are cupped and must be installed offset to each other to create the required spring tension.

9. Install lock nut on groove roll shaft with internal nut taper facing shaft. Torque to 100 ft/lbs.

Note: To tighten groove roll shaft lock nut; groove roll shaft must be wedged to tighten lock nut. Use small bar stock in groove roll set screw holes (Figure 29).

Drive Roll Installation for Copper 2½"-6"

1. The 2½"-6" drive roll mates to 2½"-6" groove roll to produce the basket seat and groove width in Table II.
2. Position groove roll head with handwheel so that 2½"-6" drive roll will clear groove roll.
3. Slide 2½"-6" copper drive roll over the integral 2"-6" drive roll. (Figure 31).
4. Align index holes and lock hidden dowel pin to flange of integral drive roll.
5. Install and tighten drive roll spacer and screw on end of integral shaft.
6. Reverse procedure to remove.

Copper Tubing Preparation

1. Copper tubing ends must be cut square.
2. Tubing out-of-roundness must not exceed the total O.D. tolerance listed in groove specifications, Table IV.

Note: Determine out-of-roundness by measuring maximum and minimum O.D. at 90° apart.

Note: Make sure that copper drive and groove wheels are installed before attempting to roll groove copper.

Roll Grooving Copper with No. 925

Note: To roll groove copper the replacement of the top groove roll is required, and the addition of a special driving roll that fits over the standard 2"-6" drive shaft is required.

1. Place rollers of No. 965 pipe support stand in hole locations corresponding to tubing size to be roll grooved.

Note: Locate No. 965 pipe support ¾ of copper tubing length from roll groover. Long lengths may require two stands.

2. Retract grooving roll by turning handwheel counter clockwise and install copper tubing on drive roll and No. 965 pipe stand.
3. Square copper tubing and pipe stand to roll groover making sure tubing is flush against drive roll flange (Figure 22).
4. Level copper tubing by adjusting pipe stand. Copper and machine should both be level.

Adjusting Roll Groove Depth

1. With copper tubing squarely against drive roll slowly turn handwheel clockwise to tighten tubing between groove roll and drive roll.
2. Snug stop nut to bearing cap and back off stop nut to dimension indicated in groove depth Table IV.

Note: Index mark on bearing cap is a reference, and each **line to line** or **dot to dot** rotation of the stop nut is .010". A line to dot or dot-line rotation is .005".

Groove depth may need to be increased or decreased slightly after trial grooves to match groove diameter shown in Table IV.

Forming the Roll Groove

Caution: Tubing thickness must not exceed the diameter shown in Table II.

1. Place Rev/Off/For switch in the forward position (No. 8122 machine in close).
2. Step on footswitch and apply slight handwheel pressure to set the groove.
3. To prevent "walk-off" and keep copper tubing square against drive roll face, the operator should apply pressure with his right-hand. This pressure should be perpendicular to the tubing. (See Figure 23).
4. With copper tubing tracking properly and backside of tubing against drive roll flange, step on footswitch and turn handwheel clockwise until stop nut bottoms on bearing cap.

Caution: Do not overfeed handwheel. As handwheel feed tightens, pause for one revolution of the tubing before additional handwheel feed.

5. After stop nut bottoms on bearing cap, allow two complete revolutions to even out groove depth.
6. Release footswitch, turn handwheel counter clockwise to release tubing and check groove diameter. As in Table II.

Note: Two measurements 90° apart should equal the C dimension in Table II.

7. To decrease groove depth back off stop nut. To increase groove diameter tighten down a stop nut.

Note: Once groove depth is determined and the lock nut tightened additional grooves will have same depth.

8. Periodically check groove depth with a coupling (Figure 26). The coupling should fully seat in the groove without binding or excessive play.

Note: Short lengths of copper tubing may require slight pressure from the operator's right hand to prevent "walk-off".

Table I. Standard Roll Groove Specifications

Note: All Dimensions are in inches.

NOM. PIPE SIZE	PIPE DIAMETER O.D.	TOL.	T MIN. WALL THK.	A GASKET SEAT +.015 −.030	B GROOVE WIDTH +.030 −.015	C GROOVE DIAMETER O.D.	TOL.	D NOM. GROOVE DEPTH	D MIN. GROOVE DEPTH
2	2.375	+.024 −.016	.065	.625	.344	2.250	+.000 −.015	.063	.046
2½	2.875	+.029 −.016	.083	.625	.344	2.720	+.000 −.015	.078	.046
3 OD	3.000	+.030 −.018	.083	.625	.344	2.845	+.000 −.015	.078	.046
3	3.500	+.030 −.018	.083	.625	.344	3.344	+.000 −.015	.078	.054
3½	4.000	+.030 −.018	.083	.625	.344	3.834	+.000 −.015	.083	.054
4	4.500	+.035 −.020	.083	.625	.344	4.334	+.000 −.015	.083	.054
4½	5.000	+.040 −.020	.095	.625	.344	4.834	+.000 −.015	.083	.054
5	5.563	+.050 −.022	.109	.625	.344	5.395	+.000 −.015	.084	.054
6 OD	6.000	+.050 −.022	.109	.625	.344	5.830	+.000 −.015	.085	.054
6	6.625	+.050 −.024	.109	.625	.344	6.455	+.000 −.015	.085	.054
8 OD	8.000	+.050 −.024	.109	.750	.469	7.816	+.000 −.020	.092	.062
8	8.625	+.050 −.024	.109	.750	.469	8.441	+.000 −.020	.092	.062
10	10.750	+.060 −.025	.134	.750	.469	10.562	+.000 −.025	.094	.062
12	12.750	+.060 −.025	.165	.750	.469	12.531	+.000 −.025	.109	.078

NOTES:

1. These grooves are specified for all Aeroquip 100 Series Gruvagrip Couplings with Type C Gaskets and Victaulic Couplings and Gasket Styles 77, 78, 75, HP-70, 741, 72 and 72 BFV.
2. Gasket Seat (A) must be smooth and free from scores and seams.
3. Pipe end squareness: Maximum allowable tolerance from square cut pipe ends is .030″ for pipe sizes 2″ thru 3½″; .045″ for sizes 4″ thru 6″; and, .060″ for 8″ and larger pipe measured from true square line.
4. Pipe out-of-roundness; the difference between the maximum & minimum O.D. measured at 90 degrees, must not exceed total O.D. tolerances listed above.

Table II. Pipe Maximum and Minimum Wall Thickness

Pipe Size	STEEL PIPE OR TUBE		STAINLESS STEEL PIPE OR TUBE		ALUMINUM PIPE	
	Wall Thickness		Wall Thickness		Wall Thickness	
	Min.	Max.	Min.	Max.	Min.	Max.
	Schedule 40 Maximum					
2	.065	.154	.065	.154	.065	.154
2½	.083	.220	.083	.188	.083	.280
3 OD	.083	.220	.083	.188	.083	.280
3	.083	.220	.083	.188	.083	.280
4 OD	.083	.226	.083	.188	.083	.280
4	.083	.237	.083	.188	.083	.280
4½	.095	.247	.095	.188	.095	.280
5	.109	.258	.109	.188	.109	.280
6 OD	.109	.267	.109	.188	.109	.280
6	.109	.280	.109	.188	.109	.280
8	.109	.322	.109	.165	.109	.250
	Schedule 20 Maximum					
10	.134	.250	.134	.165	.134	.250
12	.165	.250	.165	.180	.165	.250

Table III. Troubleshooting

Malfunction	Probable Cause	Corrective Action
1. Rolled Groove to narrow or too wide.	a. Grooving Roll drifts axially.	a. Tighten Lock Nut (Fig. 26). Torque to 100 Ft.-Lbs.
	b. Grooving Roll loose on shaft.	b. Tighten Grooving Roll Set Screws. Torque to 40 Ft.-Lbs.
	c. Incorrect size of Grooving and Driving Rolls.	c. Install correct size of Grooving and Driving Rolls.
	d. Mismatched Grooving and Driving Rolls.	d. Match Grooving and Driving Rolls.
	e. Grooving Roll and/or Driving Roll worn.	e. Replace worn Roll.
2. Rolled Groove not perpendicular to pipe axis.	a. Pipe length not straight.	a. Use straight pipe.
	b. Pipe end not square with pipe axis.	b. Cut pipe end square.
3. Pipe will not track while grooving.	a. Pipe not level.	a. Adjust Stand to level pipe.
	b. Pipe axis not offset ½ degree from Driving Roll axis.	b. Offset pipe ½ degree (See Fig. 21).
	c. Groover not level.	c. Level Groover.
	d. Grooving Roll drifting axially.	d. Tighten Lock Nut (Fig. 26).
	e. Grooving Roll loose on Upper Roll Shaft.	e. Tighten Grooving Roll Set Screws. Torque to 40 Ft.-Lbs.
4. Pipe flared at grooved end.	a. Pipe not level.	a. Adjust stand to level pipe.
5. Pipe drifts back and forth on Driving Roll axis while grooving.	a. Pipe length not straight.	a. Use straight pipe.
	b. Pipe end not square with pipe axis.	b. Cut pipe end square.

Table III. Troubleshooting (cont.)

Malfunction	Probable Cause	Corrective Action
6. Pipe rocks from side to side on Driving Roll while grooving.	a. Pipe stands too close to end of pipe.	a. Move pipe stand in ¼ distance from end of pipe.
	b. Pipe end flattened or damaged.	b. Cut off damaged pipe end.
	c. Hard spots in pipe material or weld seams harder than pipe.	c. Hand feed Grooving Roll into pipe faster.
	d. Grooving Roll hand feed rate too slow.	d. Hand feed Grooving Roll into pipe faster.
	e. Feed Screw preload Nut loose.	e. Tighten Feed Screw preload Nut (Fig. 25).
	f. Power Drive speed exceeds 36 RPM.	f. Reduce speed to 36 RPM.
	g. Pipe support Stand Rollers not in correct location for pipe size.	g. Position Pipe Stand Rollers for pipe size being used.
7. Groover will not roll groove in pipe.	a. Pipe wall maximum thickness exceeded.	a. Check pipe capacity chart.
	b. Pipe material too hard.	b. Replace pipe.
	c. Grooving depth Stop Nut incorrectly set.	c. Readjust Stop Nut (Fig. 22).
	d. Power Drive does not supply required minimum torque.	d. Use RIDGID No. 300, 36 RPM Power Drive.
8. Groover will not roll groove to required diameter.	a. Maximum pipe diameter tolerance exceeded.	a. Use correct diameter pipe.
	b. Mismatched Grooving and Driving Rolls.	b. Use correct set of Rolls.
	c. Grooving depth Stop Nut incorrectly set.	c. Readjust Stop Nut (Fig. 22).
9. Pipe slips on Driving Roll.	a. Grooving Roll hand feed rate too slow.	a. Hand feed Grooving Roll into pipe faster.
	b. Driving Roll knurling plugged with metal or worn flat.	b. Replace Driving Roll.
10. Groover will not rotate pipe while grooving.	a. Power Drive does not supply minimum required torque.	a. Use RIDGID No. 300, 36 RPM Power Drive, 1224 Machine or 1822 Machine.
	b. Drive Bar uncoupled.	b. Check Drive Bar Roll Pin and tighten chuck (Fig. 14).
11. Pipe raises or tends to tip Groover over backwards.	a. Pipe Support Stand too close to Groover.	a. Move pipe stand ¼ distance in from outer end of pipe.

Table IV. Copper Roll Groove Specifications

1	2		3	4	5	6	7	8
Nom. Size Inches	Tubing Outside Diameter O.D.		A Gasket Seal A ±0.03	B Groove Width +.03 −.000	C Groove Dia. +.00 −.02	D Groove Depth Ref.	T Min. Allow. Wall Thick.	Max. Allow. Floor Dia.
	Basic	Tolerance						
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

Maintenance Instructions

Warning: Always unplug Power Cord before servicing Machine.

Note: If any maintenance is required other than that listed below, take machine to an authorized RIDGID Warranty Repair Center or return to factory.

Lubrication

Handwheel Mechanism Bearings. Operate Handwheel, to distribute grease, when lubricating through Grease Fitting on top of Drive Housing.

Drive Shaft & Upper Roll Shaft Bearings. Operate machine and lubricate through Grease Fittings located on lower side of Drive Housing and front and rear of Upper Roll Housing.

RIDGID

Pre-Tested Work Saver® Tools

RIDGID Lifetime Warranty

The RIDGID REPUTATION is the result of consistent product quality and years of pride in workmanship. Rigorous checks and controls from raw materials to packaged products insure product confidence widely accepted as the mark of the professional trades. Therefore, RIDGID covers its products with a LIFETIME WARRANTY against defects in material or workmanship; excluding electric motors which are warranted for a period of one year from date of sale. Pipe or drain cleaning tools, rods and cables, are not covered by this warranty and are considered expendable material. To take advantage of this warranty, the complete product must be delivered prepaid to THE RIDGE TOOL COMPANY or any RIDGID AUTHORIZED SERVICE CENTER. Pipe wrenches and other hand tools should be returned to place of purchase. Obviously, failures due to misuse, abuse, or normal wear and tear are not covered by this warranty. NO OTHER WARRANTY, WRITTEN, OR ORAL, APPLIES. No employee, agent, dealer, or other person is authorized to give any warranty on behalf of The Ridge Tool Company. Warranted products will be repaired or replaced, at our option, at no charge to you and returned to you via prepaid transportation. Such replacement or repair is the exclusive remedy available from Ridge. Ridge is not liable for damage of any sort, including incidental and consequential damages. Some U.S.A. states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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