RG2300 Combo Roll Grooving Tool

IGS™
OGS

⚠ WARNING

Failure to follow instructions and warnings could result in death, serious personal injury, property damage, and/or product damage.

- Before operating or servicing any grooving tools, read all instructions in this manual and all warning labels on the tool.
- Wear safety glasses, hardhat, foot protection, and hearing protection while working around this tool.
- Save this operating and maintenance manual in a place accessible to all operators of the tool.

If you need additional copies of any literature, or if you have questions concerning the safe and proper operation of this tool, contact Victaulic, P.O. Box 31, Easton, PA 18044-0031, Phone: 1-800-PICK-VIC, E-Mail: pickvic@victaulic.com.

Original Instructions

Victaulic

TABLE OF CONTENTS

HAZARD IDENTIFICATION

Definitions for identifying the various hazard levels are provided below.

This safety alert symbol indicates important safety messages. When you see this symbol, be alert to the possibility of personal injury. Carefully read and fully understand the message that follows.

⚠ DANGER

- **The use of the word "DANGER" identifies an immediate hazard with a likelihood of death or serious personal injury if instructions, including recommended precautions, are not followed.**

⚠ WARNING

- **The use of the word "WARNING" identifies the presence of hazards or unsafe practices that could result in death or serious personal injury if instructions, including recommended precautions, are not followed.**

⚠ CAUTION

- **The use of the word "CAUTION" identifies possible hazards or unsafe practices that could result in personal injury and product or property damage if instructions, including recommended precautions, are not followed.**

NOTICE

- **The use of the word "NOTICE" identifies special instructions that are important but not related to hazards.**

OPERATOR SAFETY INSTRUCTIONS

The RG2300 Combo Roll Grooving Tool is designed for the sole purpose of roll grooving pipe. The owner of this tool is responsible for ensuring that each operator reads this manual and fully understands the operation of this grooving tool PRIOR to working with the tool. These instructions describe safe operation of the tool, including setup and maintenance. Each operator shall become familiar with the tool's operations, applications, and limitations. Particular attention shall be given to reading and understanding the dangers, warnings, and cautions described throughout this manual. **NOTE:** Failure to follow these instructions may result in a voided warranty of the tool and any grooved joint produce by that tool.

Operators shall follow all appropriate Occupational Safety and Health Administration (OSHA) guidelines and training, and/or other nationally-recognized standards, as well as jobsite-specific requirements. Use of this tool requires dexterity, mechanical skills, and sound safety habits. Although this tool is designed and manufactured for safe, dependable operation, it is difficult to anticipate all combinations of circumstances that could result in an accident. The operator is cautioned to always practice "safety first" during each phase of use, including setup and maintenance.

Store this manual in a clean, dry area where it is always readily available. Additional copies are available upon request through your Victaulic® Sales Representative, or a PDF version can be downloaded at victaulic.com.

⚠ DANGER

1. **Avoid using the tool in potentially dangerous environments.** DO NOT expose the tool to rain, and DO NOT use the tool in damp or wet locations. DO NOT use the tool on sloped or uneven surfaces. Keep the work area well lit. Allow sufficient space to operate the tool properly.
2. **Ground the power drive to protect the operator from electric shock.** Verify that the power drive is connected to an internally-grounded electrical source.
3. **Disconnect the power cord from the electrical source before servicing the tool.** Only authorized personnel shall perform maintenance on the tool. Always disconnect the power cord from the electrical source before servicing or adjusting the tool. Follow all lockout/tagout procedures.
4. **Prevent accidental startups.** Place the power switch in the “OFF” position before connecting the tool to an electrical source.

⚠ WARNING

1. **Follow all applicable local and national safety regulations.**
2. **Prevent back injury.** Always follow OSHA guidelines, and/or other nationally-recognized standards, for safe lifting techniques when handling tool components.
3. **Wear proper apparel.** DO NOT wear loose clothing, jewelry, or anything that can become entangled in moving parts.
4. **Wear protective items when working with tools.** Always wear safety glasses, hardhat, foot protection, and hearing protection (sound levels up to 104 decibels can be produced during the grooving process).
5. **Keep hands and tools away from grooving rolls during the grooving operation.** Grooving rolls can crush or cut fingers and hands. Use pipe that is a sufficient length.
6. **DO NOT reach inside pipe ends during tool operation.** Pipe edges can be sharp and can snag gloves, hands, and shirt sleeves.
7. **Operate the tool opposite the direction of pipe rotation.** The tool shall be operated with a safety foot switch that is located for easy operator access. Never reach across moving parts. DO NOT use the tool if it does not contain a safety foot switch (contact Victaulic).
8. **DO NOT over-reach.** Maintain proper balance at all times. Verify that the safety foot switch is easily accessible to the operator.
9. **DO NOT make any modifications to the tool.** DO NOT remove any safety guarding or any components that would affect tool safety or performance.

⚠ CAUTION

1. **The RG2300 Combo Roll Grooving Tool is designed ONLY for roll grooving pipe sizes, materials, and wall thicknesses specified in this manual.**
2. **Inspect the equipment.** Before using the tool, check moveable parts for obstructions. Verify that tool components are installed and adjusted in accordance with the "Tool Setup" section. Verify that properly matched roll sets are installed and lubricated.
3. **Stay alert.** DO NOT operate the tool if impaired by drugs (medicinal or recreational), medication, alcohol, or fatigue.
4. **Keep visitors, trainees, and observers away from the work area.** All visitors shall be kept a safe distance from equipment at all times, and shall be offered the opportunity to review this manual.
5. **Keep work areas clean.** Keep the work area around the tool clear of any obstructions that could limit movement of the operator. Clean up any spills on the floor to prevent slips or falls.
6. **Secure the work, machine, and accessories.** Verify that the tool is stable. Refer to the “Tool Setup” section.

⚠ CAUTION

7. **Support the work.** Support long pipe lengths with a pipe stand, in accordance with the "Long Pipe Lengths" section.
8. **DO NOT force the tool.** DO NOT force the tool or accessories to perform any functions beyond the capabilities described in these instructions. DO NOT overload the tool.
9. **Maintain tool with care.** Keep the tool clean at all times to ensure proper and safe performance. Follow the instructions for matching and lubricating tool components.
10. **Use only Victaulic replacement parts and accessories**. Use of any other parts may result in a voided warranty, improper operation, and hazardous situations. Refer to the "Parts Ordering Information" and "Accessories" sections.
11. **DO NOT remove any labels from the tool.** Replace any damaged or worn labels.

INTRODUCTION

NOTICE

- **Drawings and/or pictures in this manual may be exaggerated for clarity.**
- **The tool, along with this operating and maintenance instructions manual, contains trademarks, copyrights, and/or patented features that are the exclusive property of Victaulic.**

The Victaulic RG2300 Combo Roll Grooving Tool is a portable tool that can be used in conjunction with a power drive for roll grooving pipe to receive Victaulic grooved pipe products.

TOOL RATINGS CHART

Pipe Material	Pipe Size – inches/DN												
	1 DN25	1 ¼ DN32	1 ½ DN40	2 DN50	2 ½ DN65	3 DN80	3 ½ DN90	4 DN100	5 DN125	6 DN150	8 DN200	10 DN250	12 DN300
Carbon Steel (IGS)	Sch 10 – 40	N/A											
Carbon Steel	Schedule 5 – 40										Sch 5 – 20	Schedule 5 – 10	
Stainless Steel	Schedule 40S								N/A				
Lt. Wall SS	N/A			Schedule 5S – 10S									
PVC	N/A			Sch 40	Schedule 40 – 80						Sch 40	N/A	
Aluminum	N/A			Schedule 5 – 40							Sch 5 – 20	N/A	
Copper	N/A			Types K, L, M, DWV								N/A	

⚠ WARNING

- **This tool shall be used ONLY for grooving pipe with specifications that fall within the designated parameters.**
- **Always verify that the upper and lower grooving rolls are a matched set.**

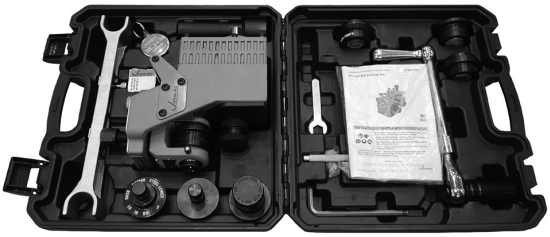
Failure to follow these instructions could damage the tool and cause product failure, resulting in death or serious personal injury and property damage.

RECEIVING THE TOOL

RG2300 Combo Roll Grooving Tools are packed individually in a box designed for repeated shipping. Save the original packaging for return shipment of tools.

Upon receipt of the tool, verify that all necessary parts are included. If any parts are missing, contact Victaulic.

CONTAINER CONTENTS



	FP Tool
Qty.	**Description**
1	RG2300 Combo Roll Grooving Tool
1	Adjustable Ratchet with Swivel Handle
1	27-mm Deep Socket
1	Roll Set for 1-inch/DN25 Pipe, IGS
1	Roll Set for 1 ¼ – 1 ½-inch/DN32 – DN40 Pipe, CS/SS OGS
1	Roll Set for 2 – 6-inch/DN50 – DN150 Pipe, CS/SS OGS
1	Roll Set for 8 – 12-inch/DN200 – DN300 Pipe, CS/SS OGS
1	Power Drive Adapter
1	Support Arm Bracket
1	Hex Key (8 mm)
1	Wrench (17 mm)
1	OGS Go/No-Go Grooved Pipe Diameter Tape
1	IGS Groove Confirmation Cable
10	Shear Pin
1	Shear Pin Punch
2	Operating and Maintenance Instructions Manual

CONTAINER CONTENTS (CONTINUED)

	CS/SS OGS Tool
Qty.	**Description**
1	RG2300 Combo Roll Grooving Tool
1	Adjustable Ratchet with Swivel Handle
1	27-mm Deep Socket
1	Roll Set for 1 – 1 ½-inch/DN25 – DN40 Pipe, CS/SS OGS
1	Roll Set for 2 – 6-inch/DN50 – DN150 Pipe, CS/SS OGS
1	Roll Set for 8 – 12-inch/DN200 – DN300 Pipe, CS/SS OGS
1	Power Drive Adapter
1	Support Arm Bracket
1	Hex Key (8 mm)
1	Wrench (17 mm)
1	OGS Go/No-Go Grooved Pipe Diameter Tape
10	Shear Pin
1	Shear Pin Punch
2	Operating and Maintenance Instructions Manual

	Lt Wall Stainless Tool
Qty.	**Description**
1	RG2300 Combo Roll Grooving Tool
1	Adjustable Ratchet with Swivel Handle
1	27-mm Deep Socket
1	Roll Set for 2 – 6-inch/DN50 – DN150 Light Wall Stainless Steel Pipe, OGS
1	Roll Set for 8 – 12-inch/DN200 – DN300 Light Wall Stainless Steel Pipe, OGS
1	Power Drive Adapter
1	Support Arm Bracket
1	Hex Key (8 mm)
1	Wrench (17 mm)
1	OGS Go/No-Go Grooved Pipe Diameter Tape
10	Shear Pin
1	Shear Pin Punch
2	Operating and Maintenance Instructions Manual

CONTAINER CONTENTS (CONTINUED)

	Copper Tool
Qty.	**Description**
1	RG2300 Combo Roll Grooving Tool
1	Adjustable Ratchet with Swivel Handle
1	27-mm Deep Socket
1	Roll Set for 2 – 6-inch Copper Pipe, OGS
1	Roll Set for 8-inch Copper Pipe, OGS
1	Power Drive Adapter
1	Support Arm Bracket
1	Hex Key (8 mm)
1	Wrench (17 mm)
1	Copper Groove Confirmation Cable (Copper Tools Only)
10	Shear Pin
1	Shear Pin Punch
2	Operating and Maintenance Instructions Manual

POWER REQUIREMENTS

⚠ DANGER

- **ONLY QUALIFIED ELECTRICIANS SHOULD CONNECT INCOMING POWER.**
- **To reduce the risk of electric shock, check the electrical source for proper grounding.**
- **Always disconnect the power cord from the electrical source before servicing or adjusting the tool. Follow all lockout/tagout procedures.**
- **DO NOT alter plugs in any way.**

Failure to follow these instructions could result in death or serious personal injury.

POWER DRIVE REQUIREMENTS

Several power drive options are available for use with the RG2300, as shown in the table below. Consult the power drive manufacturer's instructions for proper operation.

Compatible Power Drives
Ridgid* 300
REMS†
Ridgid* 300 Compact

* Ridgid is a registered trademark of Ridgid Tool Company
† REMS is a registered trademark of REMS GmbH & Co KG

NOTE: Different power drives need to fit the corresponding support arm.

Contact Victaulic before attaching a power drive system not listed above. Alternate drive systems require different mounting hardware.

Power shall be supplied to the power drive through a safety foot switch to ensure safe operation. Verify that the power drive is grounded properly in accordance with Article 250 of the National Electrical Code. Always refer to the operating manual for the power drive for additional information.

If an extension cord is required, refer to the "Extension Cord Requirements" section for cord sizes.

EXTENSION CORD REQUIREMENTS

When pre-wired outlets are not available and an extension cord must be used, it is important to use the proper cord size (i.e. Conductor Size American Wire Gauge). Cord size selection is based upon tool rating (amps) and cord length (feet). Use of a cord size (gauge) thinner than required will cause significant voltage drop at the power drive or tool motor while the tool is operating. Voltage drops may cause damage to the power drive or tool motor and can result in improper tool operation. **NOTE:** It is acceptable to use a cord size that is thicker than required.
Listed in the chart below are recommended cord sizes (gauges) for cord lengths up to and including 100 feet/31 meters. Use of extension cords beyond 100 feet/31 meters in length shall be avoided.

Power Drive Rating volts/amps	Cord Lengths		
	25 feet 8 meters	50 feet 15 meters	100 feet 31 meters
110 12	12 gauge	12 gauge	10 gauge
220 6	14 gauge	12 gauge	10 gauge

TOOL NOMENCLATURE

NOTICE

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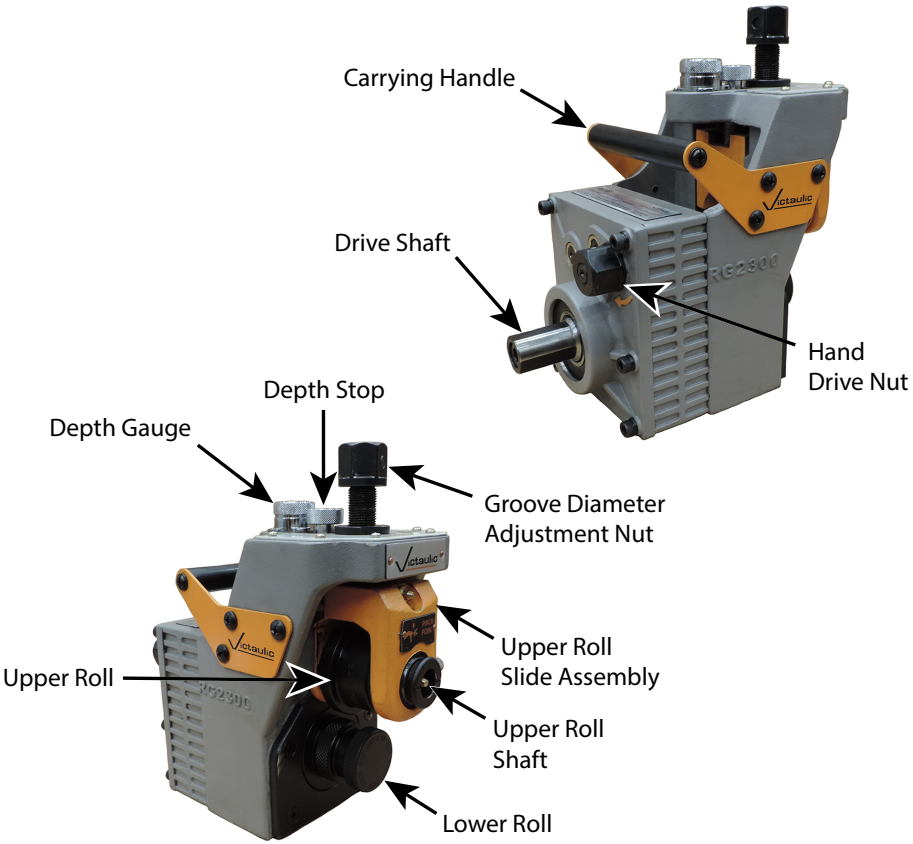
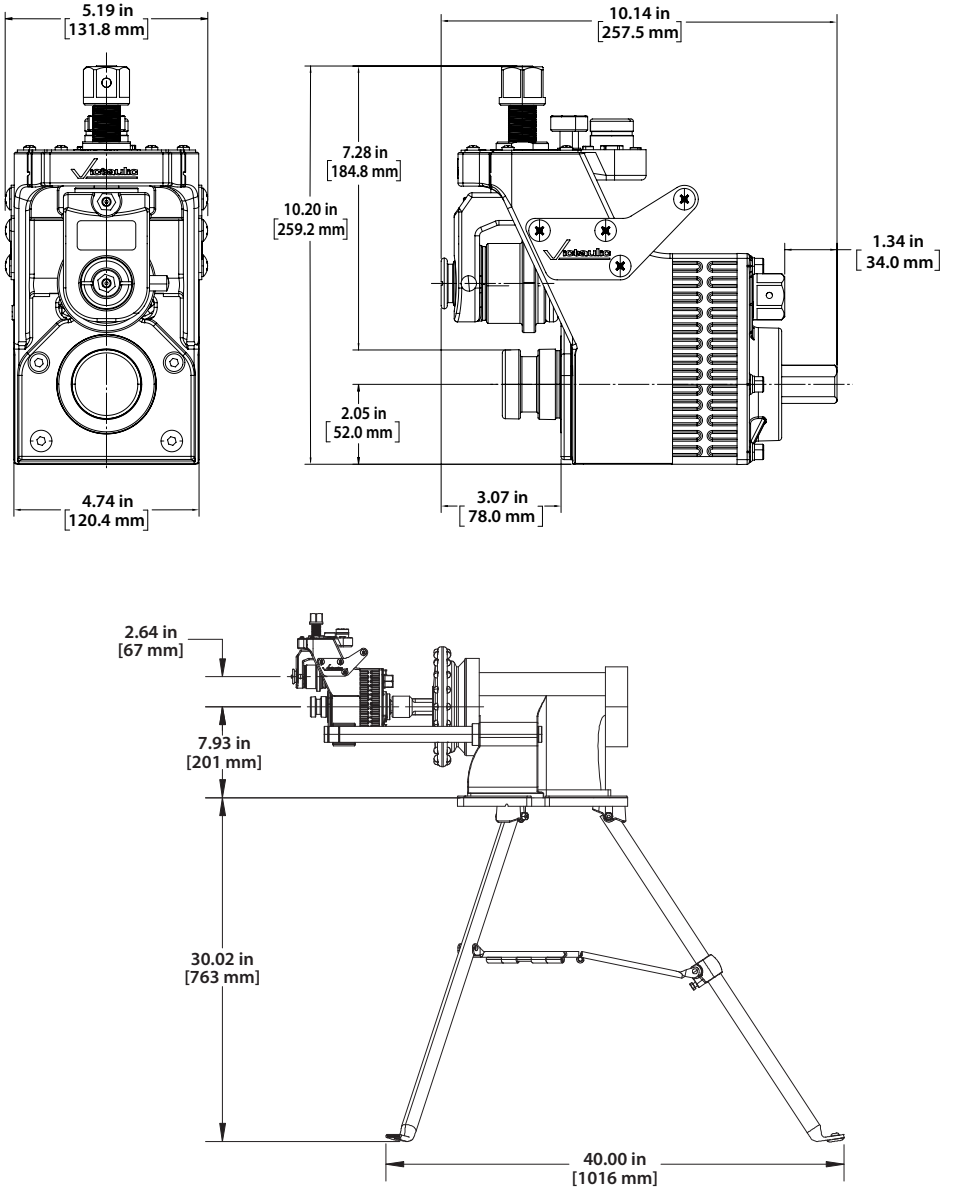


TOOL DIMENSIONS AND SPECIFICATIONS



TOOL DIMENSIONS AND SPECIFICATIONS - CONTINUED

Tool	P/N	Weight
RG2300 Imperial Fire Protection Tool 1-inch/DN25 pipe IGS & 1 1/4-inch - 12-inch/DN32 - DN300 Pipe OGS Combo Roll Grooving Tool*	R0102300ZR T23000010VR20IF	55.91LBS/25.4KGS (G.W.)
RG2300 Metric Fire Protection Tool 1-inch/DN25 pipe IGS & 1 1/4-inch - 12-inch/DN32 - DN300 Pipe OGS Combo Roll Grooving Tool*	R010230NZR T23000010VR20MF	55.91LBS/24.1KGS (G.W.)
RG2300 Imperial CS/SS OGS Tool 1-inch - 12-inch/DN25 - DN300 Pipe OGS Combo Roll Grooving Tool*	R010230AZR T23000010VRO0I0	53.05LBS/24.1KGS (G.W.)
RG2300 Metric CS/SS OGS Tool 1-inch - 12-inch/DN25 - DN300 Pipe OGS Combo Roll Grooving Tool*	R010230MZR T23000010VRO0M0	53.05LBS/24.1KGS (G.W.)
RG2300 Imperial Light Wall Stainless Steel Tool 2-inch - 12-inch/DN50 - DN300 Pipe OGS Combo Roll Grooving Tool*	R010230XZR T23000020TRO0I0	48.92LBS/22.2KGS (G.W.)
RG2300 Metric Light Wall Stainless Steel Tool 2-inch - 12-inch/DN50 - DN300 Pipe OGS Combo Roll Grooving Tool*	R010230YZR T23000020TRO0M0	48.92LBS/22.2KGS (G.W.)
RG2300 Imperial Copper Tool 2-inch - 8-inch/DN50 - DN300 Pipe OGS Combo Roll Grooving Tool*	R010230RZR T23000020CRO0I0	48.46LBS/22.0KGS (G.W.)

* Tool weight includes tool assembly in case.

Tool sound pressure for manual use is below 70 dB(A). Tool sound pressure for powered use is 93 dB(A), while tool sound power is 99 dB(A). Sound measurements are taken with a Ridgid** Model 300 power drive.

NOTE: Noise measurements are dependent on the power drive and will vary based on configuration. Always check the power drive manufacturer's documentation for details.

** Ridgid is a registered trademark of Ridgid Tool Company

PRE-OPERATION CHECKS AND ADJUSTMENTS

Every Victaulic combo roll grooving tool is checked, adjusted, and tested at the factory prior to shipment. However, before operating the tool, the following checks and adjustments shall be made to ensure proper tool operation. In addition, the tool shall be inspected for any damage that may have occurred during shipping and handling.

⚠ DANGER

- **Before making any tool adjustments, disconnect the power cord from the electrical source.**

Accidental startup of the tool could result in death or serious personal injury.

GROOVING ROLLS

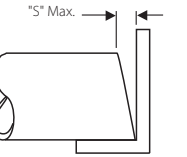
Verify that the proper roll set is installed on the tool for the pipe size and material to be grooved. Roll sets are marked with the pipe size and are color-coded for the pipe material. If the proper rolls are not installed on the tool, refer to the “Roll Changing” section.

PIPE PREPARATION

For proper tool operation and production of grooves that are within Victaulic specifications:

1. Victaulic recommends square-cut pipe. Beveled-end pipe may be used, provided that the wall thickness is standard wall (ANSI B36.10) or less and that the bevel meets ANSI B16.25 (37½°) or ASTM A-53 (30°). **NOTE:** Roll grooving beveled-end pipe may result in unacceptable flare, leaks, or joint failure. If in doubt, recut it to square.

The maximum allowable tolerance from square-cut pipe ends is:
1/32 inch/0.8 mm for 1¼ – 3-inch/DN32 – DN80 sizes
1/16 inch/1.6 mm for 4-inch/DN100 and larger sizes
This is measured from the true square line.



2. Any internal and external weld beads or seams shall be ground flush to the pipe surface 2 inches/51 mm back from the pipe ends.

3. The inside diameter of the pipe end shall be cleaned to remove coarse scale, dirt, and other foreign material that might interfere with or damage grooving rolls.

4. The front edge of the pipe end shall be straight and uniform with no concave/convex surface features that will cause improper grooving roll tracking and result in difficulties during coupling assembly.

⚠ CAUTION

- **For maximum grooving roll life, remove foreign material and loose rust from the interior and exterior surfaces of the pipe ends. Rust is an abrasive material that will wear the surface of grooving rolls.**

Foreign material may interfere with or damage grooving rolls, resulting in distorted grooves and grooves that are out of Victaulic specifications.

PIPE LENGTHS SUITABLE FOR GROOVING

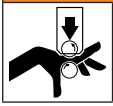
The RG2300 used on a power drive is capable of grooving short pipe lengths without the use of a pipe stand. Refer to the "Short Pipe Lengths" section on this page.

Pipe that exceeds the maximum lengths listed in Table 1 on this page (and up to 20 feet/6 meters in length) requires the use of a pipe stand. Refer to the "Long Pipe Lengths" section.

Pipe lengths from 20 feet/6 meters up to double-random lengths (approximately 40 feet/12 meters) shall be supported with two pipe stands.

SHORT PIPE LENGTHS

⚠ WARNING



- **Grooving rolls can crush or cut fingers and hands.**

Never groove pipe that is shorter than the recommended lengths listed in this manual.

Table 1 identifies the minimum pipe lengths that can be grooved safely by using Victaulic Combo Roll Grooving Tools. In addition, this table identifies the maximum pipe lengths that can be roll grooved without the use of a pipe stand. Refer to the "Grooving Operation" section for instructions on how to groove short pipe lengths.

NOTICE

- **Grooved pipe nipples, shorter than those listed in Table 1, are available from Victaulic.**

TABLE 1: PIPE LENGTHS SUITABLE FOR GROOVING

Nominal Pipe Size inches/DN	Actual Pipe Outside Diameter inches/mm	Minimum Length that can be Grooved Safely with Victaulic Tool inches/mm	Maximum Length that can be Grooved Without Use of Pipe Stand inches/mm
1 – 4 DN32 – DN100	1.315 – 4.500 33.7 – 114.3	8 205	36 915
4½ – 5	5.000 – 5.563 127.0 – 141.3	8 205	32 815
	6.000 152.4	10 255	30 765
	6.500 165.1	10 255	28 715
6 DN150	6.625 168.3	10 255	28 715
8 DN200	8.625 219.1	10 255	24 610
10 DN250	10.750 273.0	10 255	20 510
12 DN300	12.750 323.9	12 305	18 460

If pipe is required that is shorter than the minimum length listed in Table 1, shorten the next-to-last piece so that the last piece is as long (or longer) than the minimum length specified.

EXAMPLE: A 20-foot, 4-inch/6.2-m length of 6-inch/DN150 diameter carbon steel pipe is required to finish a section and only 20-foot/6.1-m lengths are available. Instead of roll grooving a 20-foot/6.1-m length of carbon steel pipe and a 4-inch/102-mm length of carbon steel pipe, follow these steps:

1. Refer to Table 1 above, and note that for 6-inch/DN150 diameter carbon steel pipe, the minimum length that can be roll grooved is 10 inches/255 mm.

2. Roll groove a 19-foot, 6-inch/5.9-m length of pipe and a 10-inch/255-mm length of pipe. Refer to the "Long Pipe Lengths" section.

LONG PIPE LENGTHS

Pipe longer than the lengths listed in the previous chart shall be supported and kept in line with a well-secured roller-type stand, positioned at a point slightly beyond one-half the pipe length from the tool.

The roller-type stand shall be firmly positioned so that the pipe will be level, or not more than ½ a degree below level with the pipe end resting on the tool's lower roll. See Figure 1, below.

The pipe support shall be moved approximately ½ a degree to the right, facing the tool at the outer edge of the pipe. This angle is necessary for the pipe to track properly, and will hold the pipe securely against the flange stop on the lower roll while grooving. See Figure 2, below.

If a burr or flare forms at the pipe end, either the angle is too great and shall be reduced, or the pipe is above horizontal and shall be lowered to a level position.

If the angle is not sufficient, the pipe will tend to draw away from the flange stop.

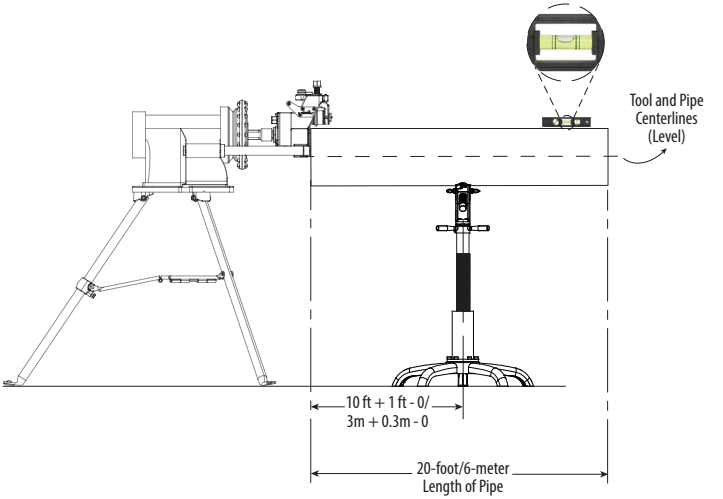


FIGURE 1

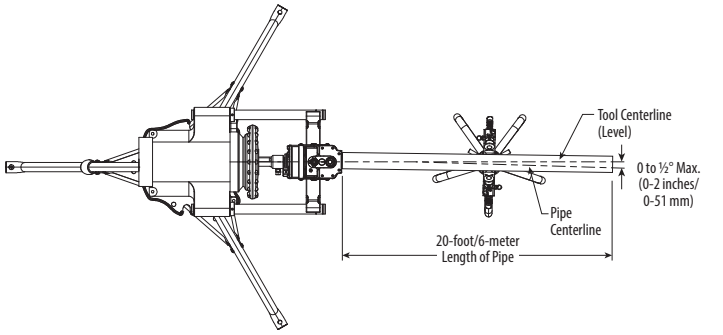


FIGURE 2

Illustrations are exaggerated for clarity

TOOL SETUP

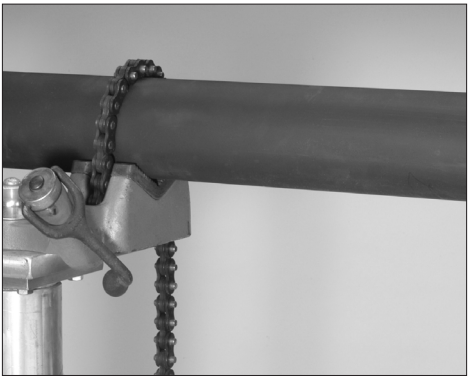
RG2300 Combo Roll Grooving Tools can be used to groove pipe that is supported by several different methods. Refer to the setup instructions listed in this section for different grooving options.

PIPE VISE SETUP

1. When grooving pipe that is supported with a pipe vise, select a location for the tool and pipe vise by taking into consideration the following factors:

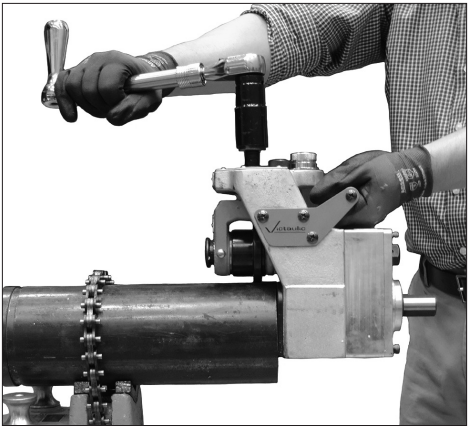
- **a.** Adequate space to handle pipe lengths
- **b.** A firm and level surface for the pipe vise
- **c.** Anchoring requirements for the pipe vise

2. Mount a chain-type pipe vise onto a stand or workbench. The pipe vise shall be mounted flush with, or slightly overhanging, the edge of the stand or workbench. When the tool is mounted on the pipe, the tool shall be able to rotate freely around the pipe without being obstructed by the stand or workbench.



3. Secure a length of pipe in the pipe vise. Pipe position and pipe vise anchoring shall be capable of handling the weight of the tool (32 pounds/ 14.5 kilograms), plus the manual effort required to operate the tool (approximately 75 ft-lbs/101.7 N•m of torque).

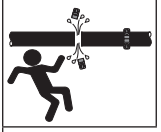
Position the pipe to overhang the pipe vise by approximately 8 inches/203.2 mm, so that the tool can rotate freely.



4. Mount the tool on the pipe, then turn the groove diameter adjustment nut clockwise to lower the upper roll until the tool rests snugly on the pipe.

GROOVE-IN-PLACE SETUP

⚠ WARNING



- **Depressurize and drain the piping system before attempting to adjust or disassemble any Victaulic piping products.**
- **Pipe hangers shall be capable of handling the weight of the tool and the manual effort required to operate the tool.**

Failure to follow these instructions could result in death or serious personal injury and property damage.

Previously installed pipe may be grooved with the RG2300 Combo Roll Grooving Tool, provided that the pipe is supported securely and that the system is completely depressurized and drained. Pipe hangers shall be capable of handling the weight of the tool (32 pounds/14.5 kilograms), plus the manual effort required to operate the tool (approximately 75 ft-lbs/101.7 N•m of torque).

1. Verify that there is adequate clearance around the pipe to permit proper tool rotation during the grooving process. Refer to the "Tool Dimensions and Specifications" section.

2. Mount the tool on the pipe, then turn the groove diameter adjustment nut clockwise to lower the upper roll until the tool rests snugly on the pipe.

POWER DRIVE SETUP

⚠ DANGER

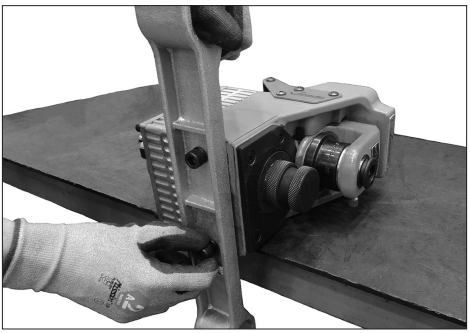
- **DO NOT connect electrical power until instructed otherwise.**

Failure to follow this instruction could result in death or serious personal injury.

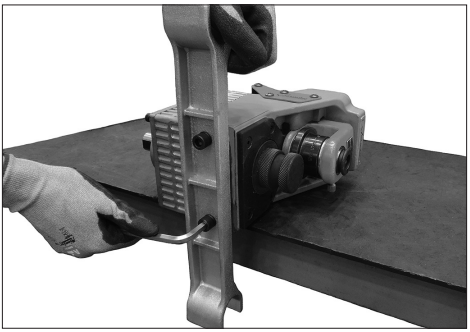
The RG2300 Combo Roll Grooving Tool can be attached to a power drive using the provided drive shaft adapter. If necessary, contact Victaulic for more information on the optional power drive height adjustment bracket.

1. Remove all components from the packaging, and verify that all necessary items are included. Refer to the "Receiving the Tool" section.

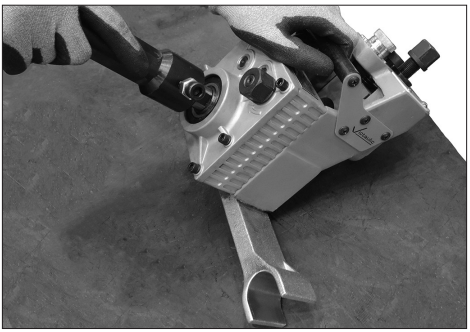
2. Select a location for the power drive and tool by taking into consideration the following factors:
- **a.** The required power supply (refer to the power drive manufacturer's instructions)
- **b.** Adequate space to handle pipe lengths
- **c.** A firm and level surface for the power drive
- **d.** Adequate clearance around the tool for adjustment and maintenance



3. Align the two bolts of the support arm with the two holes on the bottom of the tool body. Hand tighten the bolts, as shown to the left.

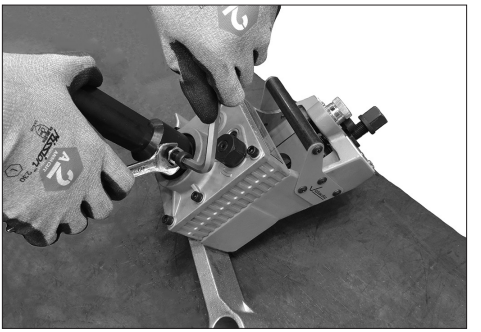


4. Using the provided 8 mm hex key, tighten the two bolts. DO NOT overtighten.

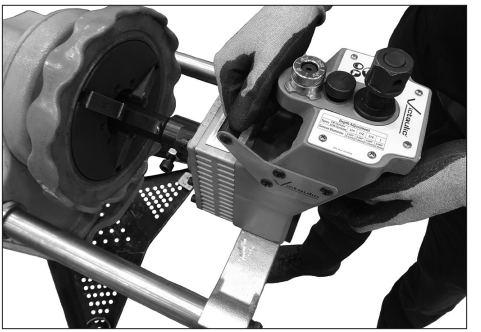


5. Slide power drive adapter over the drive shaft until adapter meets tool body.

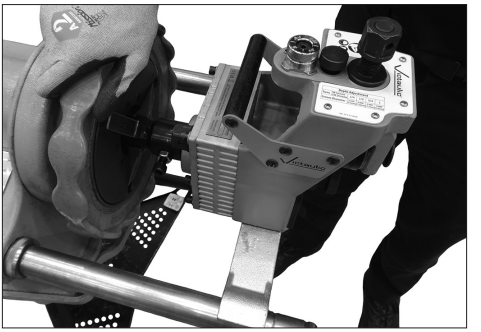
6. Using the provided 8 mm hex key, tighten the bolt until hand-tight. DO NOT overtighten.



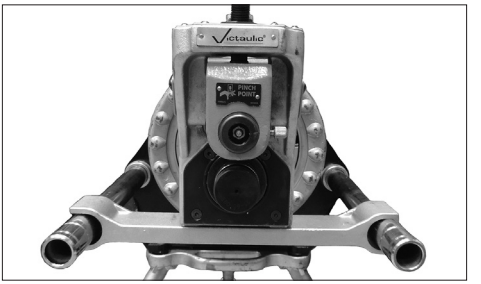
7. Use the provided 8 mm hex key to hold the bolt in place, then use the provided 17 mm wrench to tighten the nut until hand-tight. DO NOT overtighten.



8. Align the support arm of the tool with the power drive support arms, and insert the tool until the adapter meets the power drive.



9. Align flats on power drive adapter with power drive jaws. Tighten power drive chuck per manufacturers instructions.

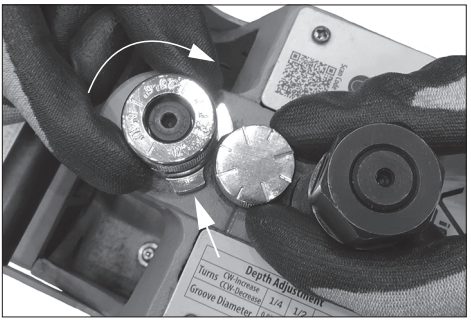


10. Verify that the tool is stable and is centered on the power drive support arms.

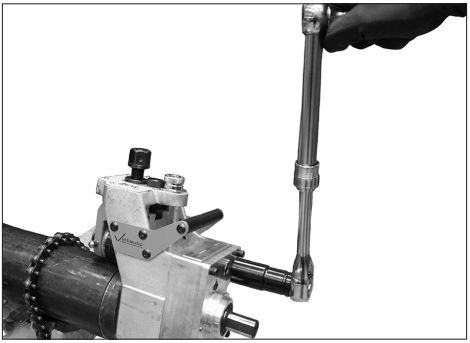
GROOVING OPERATION

Before proceeding, verify that all instructions in the previous sections of this manual have been followed.

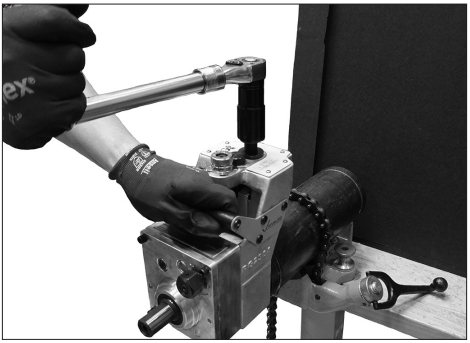
MANUAL GROOVING

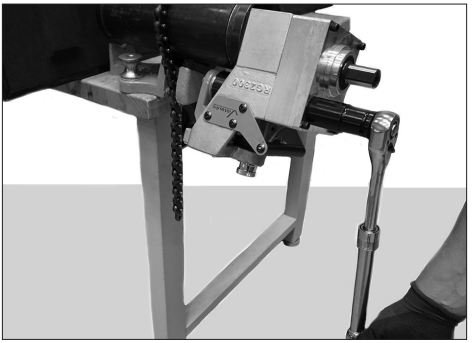


1. With the tool mounted to the pipe, select the appropriate size on the depth gauge and rotate the depth stop until it contacts the depth gauge tab. Once depth set is achieved, rotate the depth gauge back to closest clearance area.



2. Using the provided handle, turn the hand drive nut to begin grooving.





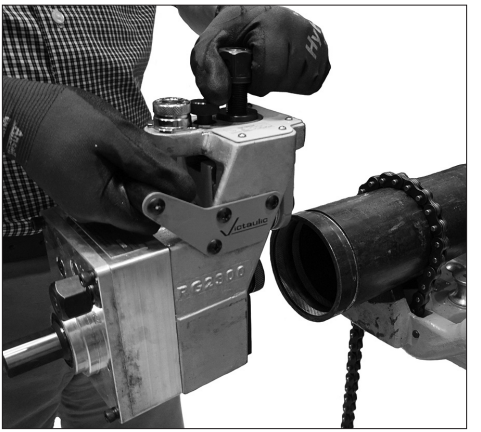
3. Alternate turning the groove diameter adjustment nut with turning the hand drive nut. DO NOT turn the groove diameter adjustment nut more than 1/4 turn per rotation of tool around pipe. **NOTE:** For 4" Schedule 40, 6" Schedule 40, and 8" Schedule 20 pipes, DO NOT turn the groove diameter adjustment nut more than 1/8 turn per rotation of tool around pipe.

⚠ CAUTION

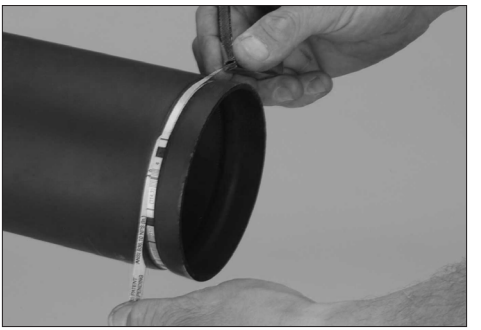
- **DO NOT turn the groove diameter adjustment nut more than 1/4 turn per rotation of tool around pipe.**
- **For 4" Schedule 40, 6" Schedule 40, and 8" Schedule 20 pipes, DO NOT turn the groove diameter adjustment nut more than 1/8 turn per rotation of tool around pipe.**

Failure to follow this instruction could overload the tool, resulting in reduced tool life or tool damage. Also voids warranty on the tool.

Continue the grooving operation until the depth stop contacts the tool head. Allow the tool to complete one to two additional rotations to ensure groove completion.



4. While supporting the tool, loosen the groove diameter adjustment nut and remove the tool from the pipe.

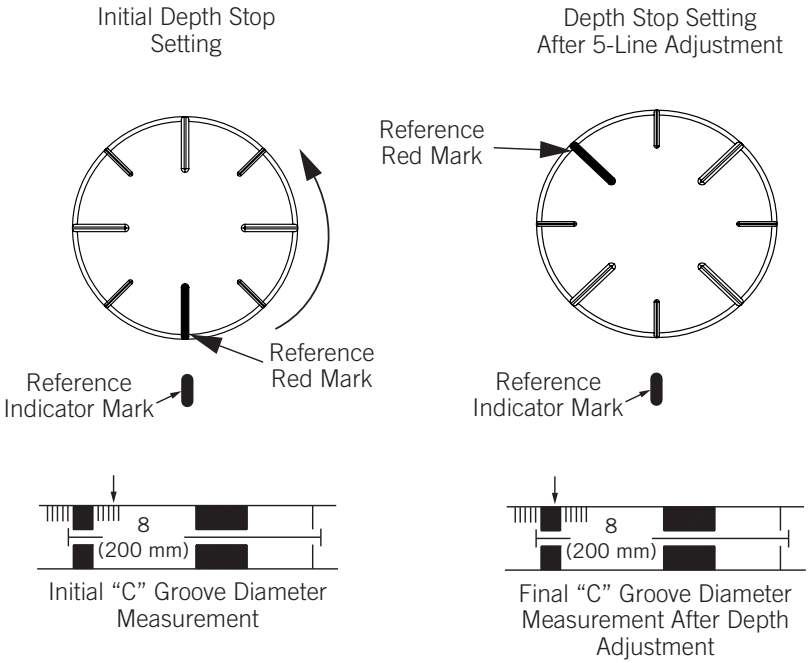


5. Carefully check the groove diameter of the pipe (“C” dimension) with the provided Go/No-Go Groove Diameter Tape. If a vernier caliper or narrow-land micrometer is used, the groove shall be checked at two locations, 90° apart. The average reading shall equal the required groove diameter specification. Reference the applicable groove specification links on page 33.

6. If the “C” groove diameter is too large (too shallow), turn the depth stop counterclockwise to the distance of the desired adjustment to the “C” groove diameter value. Reference the examples on the following page.

7. If the “C” groove diameter is too small (too deep), turn the depth stop clockwise to the distance of the desired adjustment to the “C” groove diameter value. Reference the examples on the following page.

If the groove diameter ("C" dimension) is not within Victaulic specifications, repeat steps 1-5 of the "Manual Grooving Operation" section until the groove diameter is within specification.



Initial "C" Groove Diameter Measurement

Final "C" Groove Diameter Measurement After Depth Adjustment

EXAMPLE: After initial depth stop setting, the Victaulic Go/No-Go Pipe Tape measures four lines outside the groove diameter band. The "Initial" example above shows that the groove is too shallow. Turn the depth stop five increment marks (4+1) counterclockwise. Perform groove at new depth setting and confirm final diameter with Go/No-Go Pipe Tape. The arrow should fall within the groove diameter band, as shown in the "Final" example above. If it does not, repeat the above adjustment procedure.

NOTE: For a groove that is too deep, the procedure remains the same with turns of the depth stop in the clockwise direction. A new piece of pipe must be used to confirm correction of a deep groove.

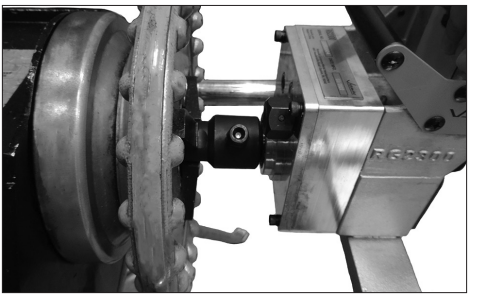
⚠ CAUTION

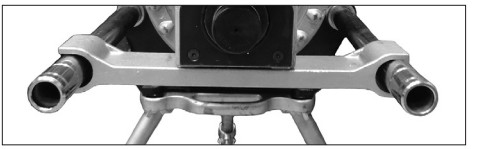
- **The "C" groove diameter shall conform to Victaulic specifications to ensure proper joint performance.**

Failure to follow this instruction could cause joint leakage or failure, resulting in personal injury and property damage.

POWERED GROOVING

1. With the tool mounted to the pipe, select the appropriate size on the depth gauge and rotate the depth stop until it contacts the depth gauge tab. Once depth set is achieved, rotate the depth gauge back to closest clearance area.





2. Verify that the tool is properly secured to the power drive, as explained in the “Power Drive Setup” section.

3. Plug the power drive cord into the provided safety foot switch. Refer to the power drive manufacturer’s operating manual for additional information.

Place the safety foot switch on the same side of the tool as the power drive switch, with adequate clearance for ease of use and to avoid a tripping hazard.

⚠ WARNING

- **The power drive shall be operated with a safety foot switch. If the power drive is not supplied with a safety foot switch, contact Victaulic.**

Operating the tool without a safety foot switch could result in serious personal injury.

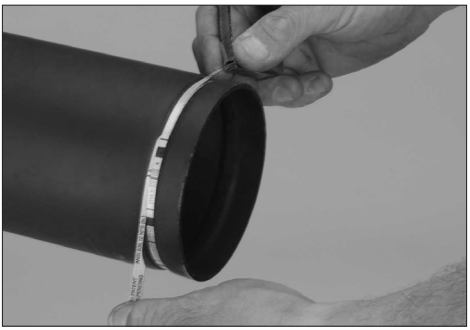
4. Turn the switch on the side of the power drive to FWD (forward).

5. Turn the groove diameter adjustment nut while pressing the safety foot switch. DO NOT turn the groove diameter adjustment nut more than 1/4 turn at a time for each full pipe rotation. **NOTE:** For 4" Schedule 40, 6" Schedule 40, and 8" Schedule 20 pipes, DO NOT turn the groove diameter adjustment nut more than 1/8 turn at a time for each full pipe rotation.

⚠ CAUTION

- **DO NOT turn the groove diameter adjustment nut more than 1/4 turn per rotation of tool around pipe.**
- **For 4" Schedule 40, 6" Schedule 40, and 8" Schedule 20 pipes, DO NOT turn the groove diameter adjustment nut more than 1/8 turn per rotation of tool around pipe.**

Failure to follow this instruction could overload the tool, resulting in reduced tool life or tool damage. Also voids warranty on the tool.



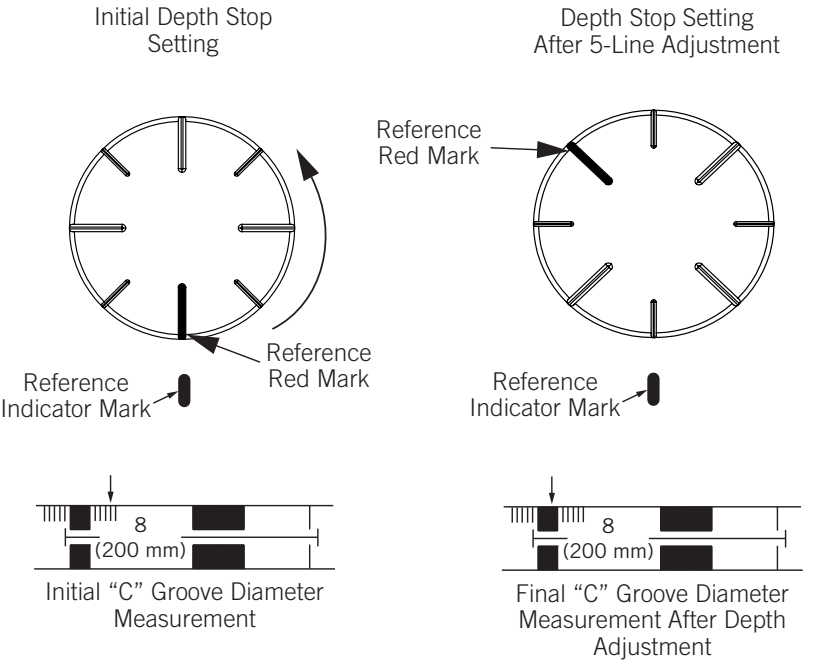
6. While supporting the pipe, loosen the groove diameter adjustment nut and remove the pipe from the tool.

7. Carefully check the groove diameter of the pipe (“C” dimension) with the provided Go/No-Go Groove Diameter Tape. If a vernier caliper or narrow-land micrometer is used, the groove shall be checked at two locations, 90° apart. The average reading shall equal the required groove diameter specification. Reference the applicable roll groove specification links on page 33.

8. If the “C” groove diameter is too large (too shallow), turn the depth stop counterclockwise to the distance of the desired adjustment to the “C” groove diameter value. Reference the examples on the following page.

9. If the “C” groove diameter is too small (too deep), turn the depth stop clockwise to the distance of the desired adjustment to the “C” groove diameter value. Reference the examples on the following page.

If the groove diameter ("C" dimension) is not within Victaulic specifications, repeat steps 1-5 of the "Powered Grooving Operation" section until the groove diameter is within specification.



Initial "C" Groove Diameter Measurement

Final "C" Groove Diameter Measurement After Depth Adjustment

EXAMPLE: After initial depth stop setting, the Victaulic Go/No-Go Pipe Tape measures four lines outside the groove diameter band. The "Initial" example above shows that the groove is too shallow. Turn the depth stop five increment marks (4+1) counterclockwise. Perform groove at new depth setting and confirm final diameter with Go/No-Go Pipe Tape. The arrow should fall within the groove diameter band, as shown in the "Final" example above. If it does not, repeat the above adjustment procedure.

NOTE: For a groove that is too deep, the procedure remains the same with turns of the depth stop in the clockwise direction. A new piece of pipe must be used to confirm correction of a deep groove.

⚠ CAUTION

- **The "C" groove diameter shall conform to Victaulic specifications to ensure proper joint performance.**

Failure to follow this instruction could cause joint leakage or failure, resulting in personal injury and property damage.

ROLL SET CLEANING

NOTICE

- **Pipe coatings, particularly galvanization, can become impacted in the knurling of the lower roll. This can cause reduced traction with the pipe, resulting in undesirable grooving results.**
- **It may become necessary to clean the lower roll on a regular basis with a brass or stainless steel bristle (manual) wire brush and compressed air. Pay particular attention to any buildup during the grooving process that may impact the ability to effectively clean the knurling.**
- **If large quantities of stainless steel pipe are to be roll grooved, Victaulic recommends the purchase of a dedicated roll set for that purpose. For occasional use, the following procedures shall be followed to ensure the rolls are clean.**

⚠ WARNING

- **Wear safety glasses when using compressed air to clean the rolls.**
- **DO NOT clean rolls while installed on the tool.**

Failure to follow this instruction may result in serious personal injury.

- For cleaning the lower roll, use a brass or stainless steel bristle (manual) wire brush and compressed air.
- For cleaning the upper roll, use a brass or stainless steel bristle (manual) wire brush to remove any residual pipe coating or debris.
- For smaller roll sets, use an o-ring pick to clean any areas that cannot be reached with a brass or stainless steel bristle (manual) wire brush.
- Install the roll set and groove a scrap piece of pipe. Inspect the ID and OD to confirm lower and upper rolls have been cleaned sufficiently. There shall not be any debris embedded in the groove. Repeat previous steps, if necessary.

ROLL CHANGING

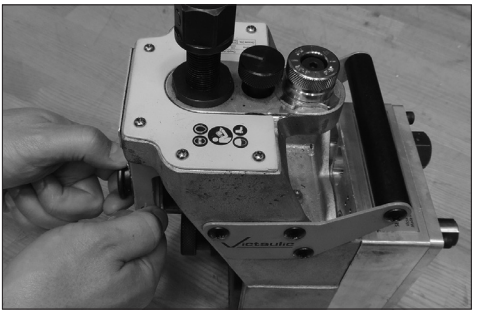
The RG2300 Combo Roll Grooving Tool is designed with rolls to accommodate several pipe sizes, eliminating the need for frequent roll changes.

⚠ DANGER

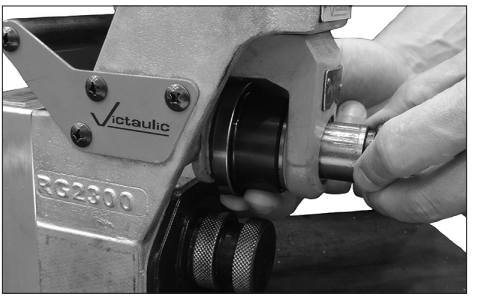
- **Before changing rolls on a tool installed on a power drive, turn the switch on the power drive to the "OFF" position, or disconnect the power cord from the electrical source.**

Failure to follow this instruction could result in death or serious personal injury.

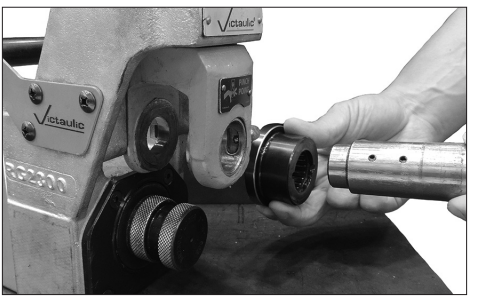
UPPER ROLL CHANGING



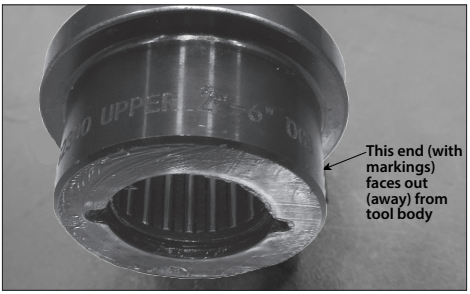
1. Loosen retaining screw on side of upper roll slide.



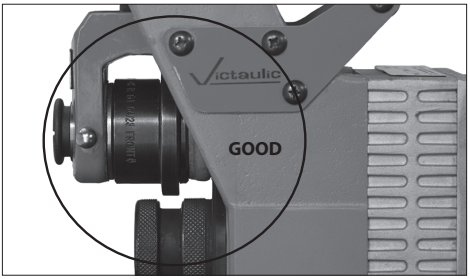
2a. Remove upper roll shaft by pulling straight out from slide.

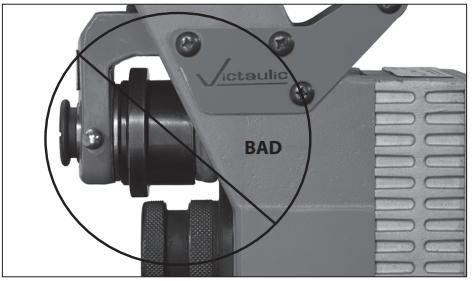


2b. Remove upper roll from slide.

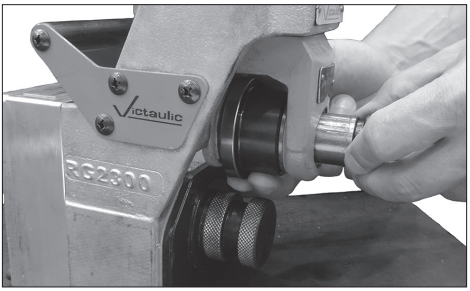


3. Verify the appropriate roll size by checking the marking on the edge of the upper roll.

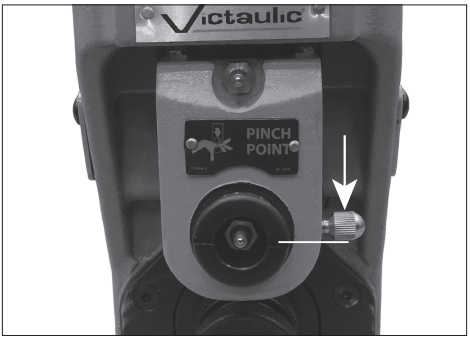




4. Place the appropriate size upper roll into the slide. Note the orientation of the upper roll. The longer end of the upper roll, which contains the size markings, shall face out (away) from the tool, as shown above.



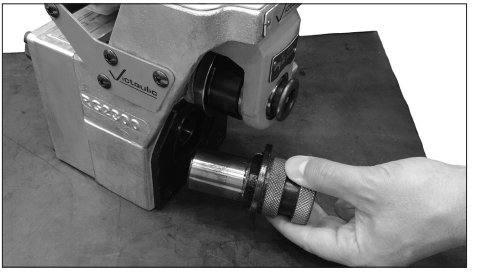
5. Replace the upper roll shaft into the upper roll slide.



6. Align slot on upper roll shaft with retaining screw, then hand tighten.

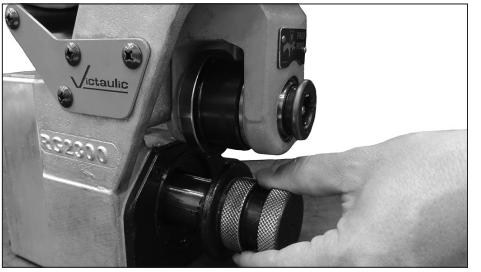
LOWER ROLL CHANGING

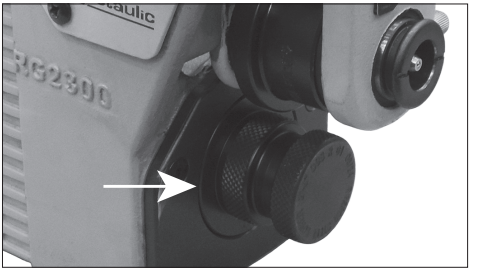
1. Using the 8 mm hex key provided, loosen and remove lower roll retaining screw at back of drive shaft. Brace drive nut when loosening the lower roll retaining screw.



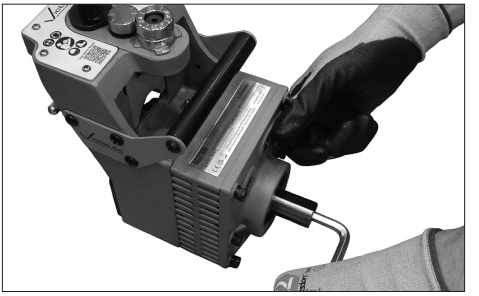
2. Grasp the tool with one hand, then use the other hand to pull the lower roll straight out from the tool.

3. Verify the appropriate roll size by checking the markings on the front of the lower roll.





4. Grasp the tool with one hand, then use the other hand to insert the appropriate size lower roll into the tool. Continue inserting the lower roll until it is seated against the tool body, as shown above.



5. Using the 8 mm hex key provided, tighten the lower roll retaining screw at the back of the drive shaft to hand-tight. Brace drive nut when tightening the lower roll retaining screw.

MAINTENANCE

⚠ DANGER

- **Before performing any maintenance on a tool installed on a power drive, disconnect the power cord from the electrical source.**

Failure to follow this instruction could result in death or serious personal injury.

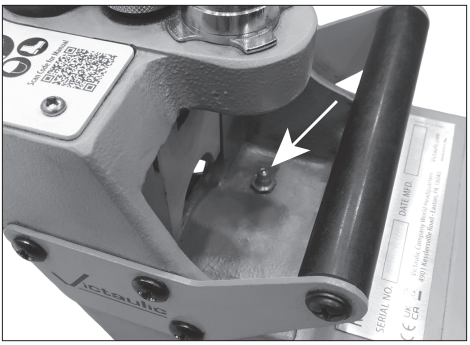
This section provides information about keeping tools in proper operating condition. Replacement parts shall be ordered from Victaulic to ensure proper and safe operation of the tool.

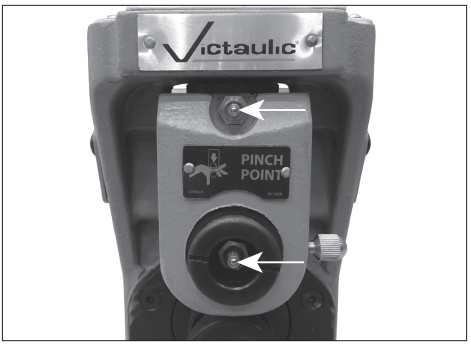
LUBRICATION

⚠ CAUTION

- **All roll sets must be greased before first use.**

Operating a tool with non-lubricated roll sets can result in catastrophic component failure.

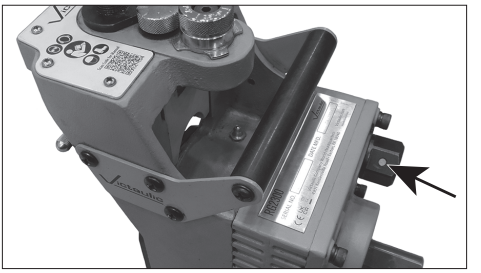


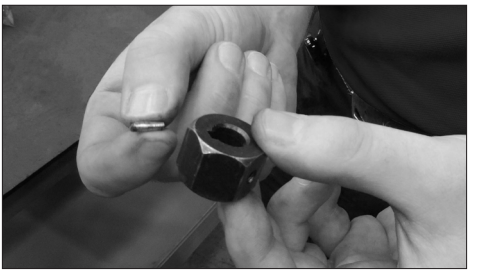


1. After every 8 hours of operation, lubricate the three grease fittings on the tool with a No. 2EP lithium-based grease.

2. Once per week, apply a light oil to the threads where the groove diameter adjustment screw passes through the tool housing.

SHEAR PIN REPLACEMENT





1. If the tool will not travel around the pipe, the shear pin in the hand drive nut shall be replaced. Remove the shear pin using the shear pin punch and replace with an intact shear pin. If all provided shear pins have been used, contact Victaulic to order replacements.

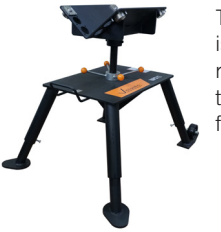
PARTS ORDERING INFORMATION

When ordering parts, the following information is required for Victaulic to process the order and send the correct part(s). Parts can be ordered by calling 1-800-PICK VIC.

1. Tool Model Number
2. Tool Serial Number
3. Quantity, Item Number, Part Number, and Description
4. Where to send the part(s) – Company Name and Address
5. To whose attention to send the part(s) – Person's Name
6. Purchase Order Number
7. Billing Address

ACCESSORIES

VAPS112 VICTAULIC ADJUSTABLE PIPE STAND



The Victaulic VAPS112 is a portable, adjustable, roller-type pipe stand that contains four legs for additional stability.

Ball transfer rollers, adjustable for 2–12-inch/DN50 – DN300 pipe, and the "V" rest for ¾–1½-inch/DN20–DN40 pipe, accommodate linear and rotational movement. The turnstile design permits ease of grooving for both pipe ends. Contact Victaulic for details.

VAPS224 VICTAULIC ADJUSTABLE PIPE STAND

The Victaulic VAPS224 contains features that are similar to the VAPS112, but it is suitable for 2 – 24-inch/DN50 - DN600 pipe sizes. Contact Victaulic for details.

TROUBLESHOOTING

GENERAL AND "IN-PLACE" GROOVING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Tool does not travel around pipe when turning hand drive nut.	A shear pin on the manual drive nut is broken. Rust or dirt build-up is present on the roll set. Worn roll set.	Remove the damaged shear pin from the drive nut and replace with a new shear pin. Refer to the "Shear Pin Replacement" section. The amount of travel is too great for the groove diameter adjustment. To prevent further breakage, lessen the input force and amount of groove diameter adjustment Remove rust or dirt accumulation from the roll set with a stiff wire brush. Inspect the roll set for worn knurls. Replace the roll set if excessive wear is present.
"A" dimension is out of specification.	Tool is not fully pushed onto the pipe. Incorrect roll set used for grooving.	Cut off the pipe end. Re-groove the pipe with the tool pushed all the way onto the pipe end. Verify that the roll set is the appropriate size for the pipe to be grooved. Install the correct roll set for the pipe to be grooved.
Tool wobbles during cranking.	Variation in pipe wall thickness or inadequate feed rate.	Advance the feed at the rate specified in the appropriate "Grooving Operation" section.
Tool will not track (tool "walks" or falls off pipe).	Tool is not correctly positioned on the pipe. Pipe end is not cut square. Improper feed rate.	Reposition the tool so that the pipe is against the two pipe-end stops. Cut the pipe square. Refer to the "Pipe Preparation" section.. Advance the feed at the rate specified in the appropriate "Grooving Operation" section.
The tool will not groove the pipe.	Pipe is beyond the wall thickness capacity of the tool. Pipe material is excessively hard.	Refer to the "Roll Groove Specifications" section. Refer to the "Roll Groove Specifications" section .
Pipe grooves do not meet Victaulic specifications.	Pipe is beyond the wall thickness capacity of the tool.	Refer to the "Roll Groove Specifications" section.
The "A" Gasket Seat or "B" Groove Width dimensions do not meet Victaulic specifications.	Incorrect roll set selected for the pipe material.	Select the correct roll set by referring to the "Tool Rating Chart".

In the event of tool malfunction outside the scope of the troubleshooting section, contact Victaulic Engineering Services for assistance.

TROUBLESHOOTING (CONTINUED)

TOOLS INSTALLED ON A POWER DRIVE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pipe will not stay in the grooving rolls.	Incorrect pipe positioning of long pipe length.	Refer to the "Long Pipe Lengths" section.
	Roll set and pipe are not rotating clockwise.	Flip the switch on the power drive to the opposite rotation position.
Pipe stops rotating during grooving.	Rust or dirt build-up is present on the roll set.	Remove rust or dirt accumulation from the roll set with a stiff wire brush.
	Rust or dirt is excessively heavy inside the pipe end.	Remove heavy rust and dirt from inside the pipe end.
	Worn roll set.	Inspect the roll set for worn knurls. Replace the roll set if excessive wear is present.
	Power drive has stalled due to over-advancing the grooving roll.	Ensure that the pipe is supported. Release the pipe by turning the groove diameter adjustment nut counterclockwise, which will retract the roll arm and grooving roll to the fully open position. Refer to the "Grooving Operation" section for powered grooving to start the grooving process again.
	The circuit breaker has tripped or a fuse has blown out on the electrical circuit that supplies the power drive.	Reset the breaker, or replace the fuse.
While grooving, loud squeaks echo through the pipe.	Incorrect pipe support positioning on long pipe. Pipe is "over-tracking."	Reposition the pipe support. Refer to the "Long Pipe Lengths" section.
	Pipe is not cut square.	Cut the pipe end squarely.
During grooving, loud thumps or bangs occur approximately once every revolution of the pipe.	Pipe has a pronounced weld seam.	Grind the weld seam flush with the interior and exterior pipe surfaces, 2 inches (50 mm) back from the pipe end.
Pipe flare is excessive.	Pipe support is not adjusted properly for a long length of pipe.	Refer to the "Long Pipe Lengths" section.
	Tool is tilted backward while grooving a long length of pipe.	Refer to the "Long Pipe Lengths" section.
	Incorrect pipe support positioning of a long length of pipe. Pipe is "over-tracking."	Reposition the pipe support. Refer to the "Long Pipe Lengths" section.

In the event of tool malfunction outside the scope of the troubleshooting section, contact Victaulic Engineering Services for assistance.

IGS™ GROOVE SPECIFICATIONS

For the most up-to-date information regarding IGS roll groove specifications, reference the current revision of Victaulic publication 25.14, which can be viewed/downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:
https://www.victaulic.com/assets/uploads/literature/25.14.pdf

OGS GROOVE SPECIFICATIONS

For the most up-to-date information regarding OGS roll groove specifications, reference the current revision of Victaulic publication 25.01, which can be viewed/downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:
https://www.victaulic.com/assets/uploads/literature/25.01.pdf

ADDITIONAL RESOURCES

For additional information on 24-inch/DN600 and smaller Victaulic mechanical piping products for carbon steel, stainless steel, aluminum, and CPVC/PVC pipe, reference the current revision of the I-100 Field Installation Handbook, which can be viewed/downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:
https://www.victaulic.com/assets/uploads/literature/I-100.pdf

EC DECLARATION OF INCORPORATION

In Accordance with the Machinery Directive 2006/42/EC

Victaulic Company, headquartered at 4901 Kesslersville Road, Easton, PA 18040, USA, hereby declares that the machinery listed below complies with the essential safety requirements of the Machinery Directive, 2006/42/EC.

Product Model:	RG2300
Serial No. :	Refer to Machinery Nameplate
Product Description:	Portable roll grooving tool
Conformity Assessment:	2006/42/EC, Annex I
Technical Documentation:	The relevant technical documentation prepared in accordance with Annex VII (B) of the Machinery Directive 2006/42/EC, will be made available upon request to the governing authorities.
Compatible Power Drives:	When installed with the following power drive unit, having an appropriate EC Declaration of Conformity in accordance with Annex II (A) of the Directive 2006/42/EC, the RG2300 models listed above may be commissioned for the full intended purpose: Ridgid* 300
Authorized Representative:	Victaulic Company c/o Victaulic Europe BV Prijkelstraat 36 9810, Nazareth Belgium

Signed for and on behalf of Victaulic Company,

Len R. Swantek

Mr. Len R. Swantek
Director – Global Regulatory Compliance
Machinery Manufacturer Representative

Place of Issue: Easton, Pennsylvania, USA
Date of Issue: February 7, 2024

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UK DECLARATION OF INCORPORATION

In Accordance with The Supply of Machinery (Safety) Regulations 2008 No. 1597

Victaulic Company, headquartered at 4901 Kesslersville Road, Easton, PA 18040, USA, hereby declares that the machinery listed below complies with the essential safety requirements of The Supply of Machinery (Safety) Regulations 2008 No. 1597.

Product Models:	RG2300
Serial No. :	Refer to Machinery Nameplate
Product Description:	Portable Pipe Roll Grooving Tools
Conformity Assessment:	2008 No. 1597, Annex I
Technical Documentation:	The relevant technical documentation prepared in accordance with Annex VII (A) of The Supply of Machinery (Safety) Regulations 2008 No. 1597, will be made available upon request to the governing authorities.
Compatible Power Drives:	When installed with any of the following power drive units, each having an appropriate UK Declaration of Conformity in accordance with The Supply of Machinery (Safety) Regulations 2008 No. 1597, the RG2300 may be commissioned for its full intended purpose: Ridgid 300
Authorized Representative:	Victaulic Company c/o Victaulic Europe BVBA Units B1 & B2 Cockerell Close off Gunnels Wood Road Stevenage, Hertfordshire SG1 2NB, United Kingdom

Signed for and on behalf of Victaulic Company,

Len R. Swantek

Mr. Len R. Swantek
Director – Global Regulatory Compliance
Machinery Manufacturer Representative

Place of Issue: Easton, Pennsylvania, USA
Date of Issue: March 1, 2023

RG2300 Combo Roll Grooving Tool

TM-RG2300 18871 REV A UPDATED 09/2024 RM00RG2300