VE270FSD and VE271FSD

PIPE ROLL GROOVING TOOLS

WARNING

⚠ WARNING

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

- **Before operating or servicing any pipe preparation 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

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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 VE270/271FSD is designed for the sole purpose of roll grooving pipe. These instructions must be read and understood by each operator PRIOR to working with the grooving tools. These instructions describe safe operation of the tool, including set up and maintenance. Each operator must become familiar with the tool's operations, applications, and limitations. Particular care should be given to reading and understanding the dangers, warnings, and cautions described throughout these operating instructions.

Use of these tools requires dexterity and mechanical skills, as well as sound safety habits. Although these tools are designed and manufactured for safe, dependable operation, it is difficult to anticipate all combinations of circumstances that could result in an accident. The following instructions are recommended for safe operation of these tools. The operator is cautioned to always practice "safety first" during each phase of use, including set up and maintenance. It is the responsibility of the lessee or user of these tools to ensure that all operators read this manual and fully understand the operation of these tools.

Store this manual in a clean, dry area where it is always readily available. Additional copies of this manual are available upon request through Victaulic.

⚠ 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. **Prevent back injury.** DO NOT attempt to lift tool components without the use of mechanical lifting equipment.
2. **Wear proper apparel.** Do not wear loose clothing, jewelry, or anything that can become entangled in moving parts.
3. **Wear protective items when working with tools.** Always wear safety glasses, hard hat, foot protection, and hearing protection.
4. **Keep hands and tools away from grooving rolls and stabilizer wheel during the grooving operation.** Grooving rolls can crush or cut fingers and hands.
5. **Do not reach inside pipe ends during tool operation.** Pipe edges can be sharp and can snag gloves, hands, and shirt sleeves.
6. **Operate the tool from the control station side only.** The tool must be operated with the safety foot switch that is located for easy operator access. Never reach across moving parts. If the tool does not contain a safety foot switch, do not use the tool, and contact Victaulic.
7. **Do not over-reach.** Maintain proper footing and balance at all times. Ensure that the safety foot switch is easily accessible for the operator.

⚠ CAUTION

1. **This 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 all moveable parts for any obstructions. Ensure that tool components are installed and adjusted in accordance with the "Tool Setup" section.
3. **Stay alert.** Do not operate the tool if you are drowsy from medication or fatigue.
4. **Keep visitors, trainees, and observers away from the immediate work area.** All visitors should be kept a safe distance from the equipment at all times.
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.
6. **Secure the work, machine, and accessories.** Ensure that the tool is stable. Refer to the "Tool Setup" section.

⚠ CAUTION

7. **Support the work.** Support long pipe/tubing lengths with a pipe stand, in accordance with the "Long Pipe/Tubing 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.**

VE270/271FSD Roll Grooving Tools are hydraulic-feed tools for roll grooving pipe to receive Victaulic grooved pipe products. The standard VE270FSD tool is supplied with rolls for grooving 2–12 inch/DN50 – DN300 carbon steel pipe. VE270/271FSD rolls are marked with the size and part number, and are color coded to identify the pipe material. For roll grooving to other specifications and materials, refer to the "Roll Groove Specifications" section on page 43. Grooving rolls for other specifications, sizes, and materials must be purchased separately.

⚠ CAUTION

- **These tools must be used ONLY for roll grooving pipe designated in the applicable "Roll Groove Specifications" section of this manual.**

Failure to follow this instruction could overload the tool, resulting in reduced tool life and/or damage to the tool.

RECEIVING THE TOOL

The VE270/271FSD tool is palletized individually and enclosed in a cardboard sleeve, which is designed for repeated shipping. Optional roll sets and pipe stabilizer/mounting hardware are shipped in a separate container. Save the original containers for return shipment of rental tools and accessories.

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

CONTAINER CONTENTS

Qty.	Description
1	VE270FSD Tool Head with Mounting Table and Motor/Drive, Four Legs, Safety Foot Switch with Cord, and Hydraulic Hand Pump/Pump Support Assembly
1	Lower Roll for 2 – 3 ½-inch/DN50 – DN90 Carbon Steel Pipe
1	Lower Roll for 4 – 6-inch/DN100– DN150 Carbon Steel Pipe.
1	Upper Roll for 2 – 6-inch/DN50 – DN150 Carbon Steel Pipe.
1	Roll Set for 8 – 12-inch/DN200 – DN300 Carbon Steel Pipe Mounted on the Tool (unless ordered otherwise)
2	TM-VE270FSD Operating and Maintenance Instructions Manual
2	RP-270FSD Repair Parts List
1	Guard Setting Pad
1	Lower Roll Removal Wedge
1	Pipe Diameter Tape
1	Can of Mechanical Assembly Spray
1	Roll Storage Bag

POWER REQUIREMENTS

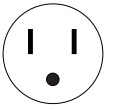
⚠ DANGER

- **To reduce the risk of electric shock, check the electrical source for proper grounding.**
- **Before performing any maintenance on the tool, disconnect the tool from the electrical source.**

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

POWER DRIVE REQUIREMENTS

The VE270FSD is equipped with a 120 VAC 50/60-Hz motor. Maximum current draw is 15 amps. The VE271FSD is equipped with a 220 VAC 50/60-Hz motor. Maximum current draw is 8 amps. In addition, tools are equipped with the corresponding grounded plug.



120 VAC

Power must be supplied to the motor/drive through a safety foot switch to ensure safe operation. Ensure that the motor/drive is grounded properly in accordance with Article 250 of the National Electrical Code.

If an extension cord is required, refer to the “Extension Cord Requirements” section that follows 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 while the tool is operating. Voltage drops may cause damage to the power drive and can result in improper tool operation. **NOTE:** It is acceptable to use a cord size that is thicker than required.

The required cord sizes for cord lengths up to and including 100 ft/31 m are listed in the table below. Use of extension cords longer than 100 ft/31 m must be avoided.

Model	Power Drive Rating volts/amps	Cord Lengths feet/meters		
		25 8	50 15	100 31
VE270	115 15	12 gauge	12 gauge	10 gauge
VE271	220 8	16 gauge	16 gauge	14 gauge

TOOL NOMENCLATURE

NOTICE

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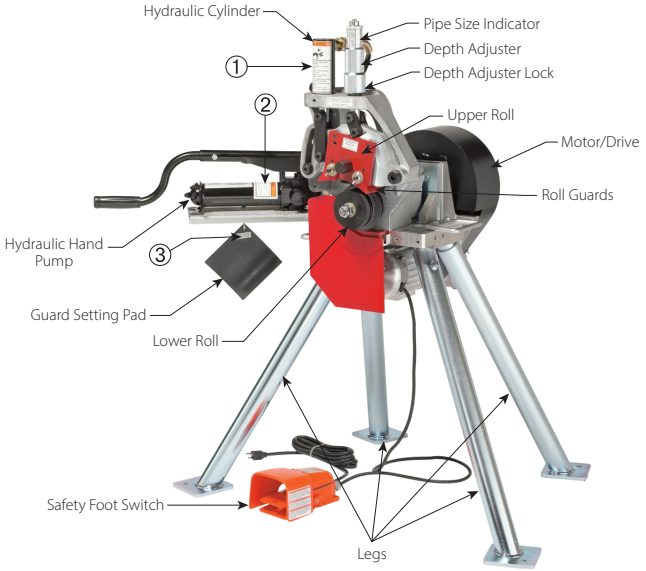


①

⚠ WARNING

Grooving rolls can crush or cut fingers and hands.

- Always disconnect the tool from the power source before making any tool adjustments.
- Make sure the guard is adjusted properly before grooving pipe.
- Loading/unloading pipe will place your hands close to the grooving rolls. Keep hands away from the grooving rolls and the roller on the pipe stabilizer during operation.
- Never reach inside the pipe ends or across the tool or pipe during operation.
- Never groove pipe that is shorter than the recommended lengths listed in the operating and maintenance manual.
- Never wear loose clothing, loose gloves, or anything that can become entangled in moving parts.

2244 Rev. D R007216LBL

②

⚠ 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 tools, read the entire operating and maintenance instructions manual and all labels on the tool.
- Wear safety glasses, hardhat, foot protection, and hearing protection.
- Operate the tool only with a safety foot switch. If the tool does not contain a safety foot switch, contact Victaulic.

Contact Victaulic with questions regarding the safe and proper operation of tools:

Web: victaulic.com **E-Mail:** pickvic@victaulic.com **Phone:** 1-800-PICK-VIC

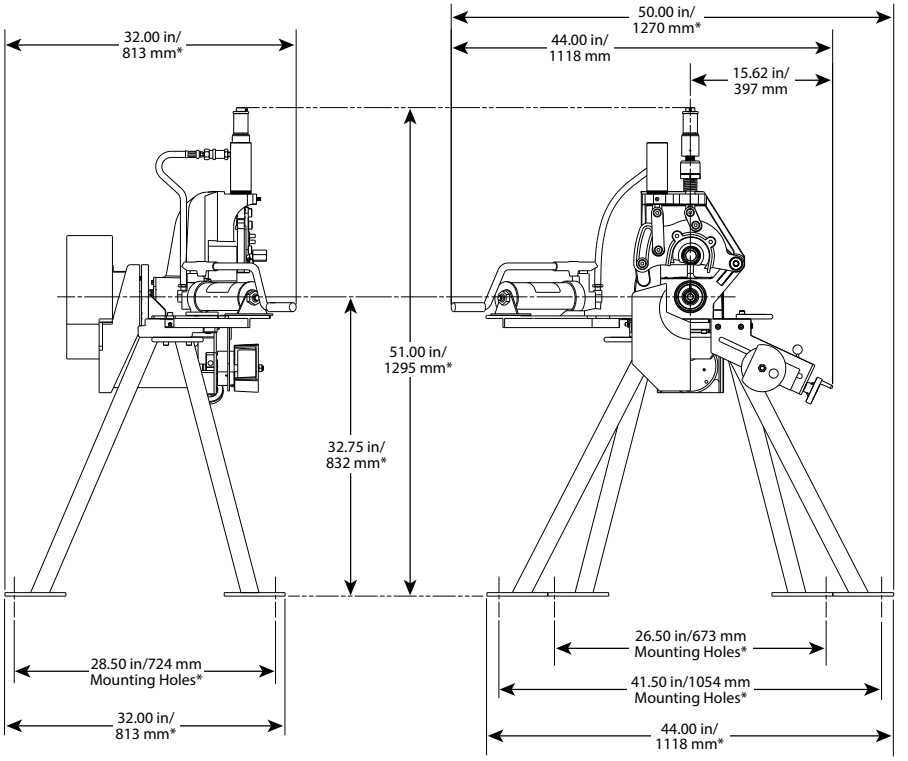
8567 Rev. E R031272LAB

③

ALWAYS KEEP THIS PAD WITH THE TOOL. USE IT TO SET THE GUARDS IN ACCORDANCE WITH THE TOOL OPERATION AND MAINTENANCE MANUAL.

4868 Rev. D R068272LAB

TOOL DIMENSIONS AND SPECIFICATIONS



**Dimension is approximate due to variables when fastening legs.*

Tool weight is 340 pounds/154 kilograms.

Tool sound pressure is 87.4 dB(A), while tool sound power is 95.4 dB(A). All measurements taken with an Allied Motion 5093 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.

TOOL SETUP

⚠ WARNING

- **DO NOT connect the tool to the electrical source until instructed otherwise.**
- **The tool MUST be leveled and anchored securely on a concrete floor or base.**
- **The tool MUST be lifted with a hoist. Tool weight is 340 pounds/154 kilograms.**

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

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

2. The VE270FSD Roll Grooving Tool must be located on a level concrete floor or base. After an appropriate location is chosen, the tool must be leveled front to back and anchored securely. **NOTE:** The tool's legs are adjustable to aid in leveling the tool. A non-level tool can severely affect grooving operation. When checking tool level, place the level on top of the hydraulic cylinder, as shown above.

3. Select a location for the tool and pipe stand by taking into consideration the following factors:

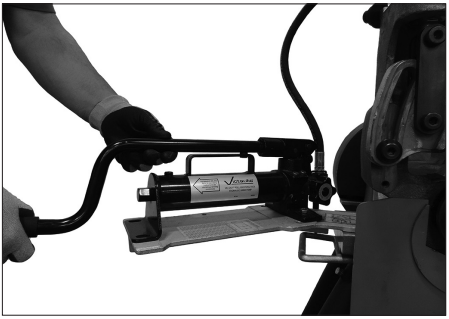
a. The required power supply (refer to the "Power Requirements" section)

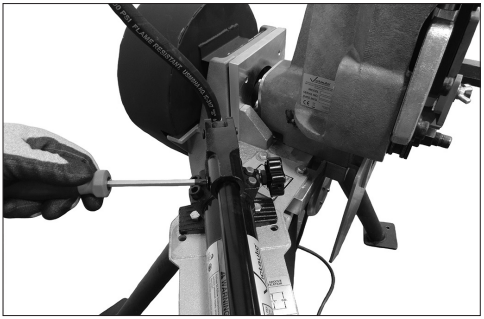
b. Ambient temperature requirements of 20° F to 104° F/-21°C to 26° C

c. A level concrete floor or base for the tool and pipe stand

d. Adequate space to handle pipe lengths

e. Adequate clearance around the tool and stabilizer assembly (if equipped) for adjustment and maintenance





4. Thread the hand pump handle into the lever arm of the hydraulic hand pump by turning it clockwise. Position the hand pump handle with the handle grip facing down. Lock the handle in this position with the set screw as shown above.

5. Connect the hydraulic line from the hydraulic hand pump to the hydraulic cylinder using the connectors provided.

PRE-OPERATION CHECKS AND ADJUSTMENTS

Every Victaulic 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

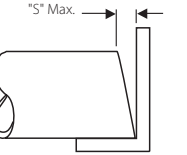
Verify that the proper roll set is installed on the tool for the pipe/tubing size and material to be grooved. Roll sets are marked with the pipe/tubing size and part number, and they are color coded for the pipe/tubing material. Refer to page 42. If the proper rolls are not installed on the tool, refer to the “Roll Changing” section.

PIPE/TUBING PREPARATION

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

1. Victaulic recommends square-cut pipe. **Square-cut pipe SHALL be used with Victaulic products containing FlushSeal™ and EndSeal™ gaskets.** 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.

The maximum allowable tolerance from square-cut pipe ends is:
1/32 inch/0.8 mm for ¾ – 3-inch/DN20 – 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 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/tubing 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/TUBING LENGTHS SUITABLE FOR GROOVING

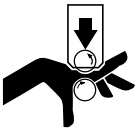
The VE270/271FSD tool is capable of grooving short pipe lengths without the use of a pipe stand. Refer to the “Short Pipe/Tubing Lengths” section on this page.

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

Pipe Size		Length inches/mm	
Nominal Pipe Size inches or DN	**Actual Outside Diameter inches/mm**	**Minimum**	**Maximum**
¾ DN20	1.050 26.9	8 203.2	36 914.4
1 DN25	1.315 33.7	8 203.2	36 914.4
1 ¼ DN32	1.660 42.4	8 203.2	36 914.4
1 ½ DN40	1.900 48.3	8 203.2	36 914.4
2 DN50	2.375 60.3	8 203.2	36 914.4
2 ½ DN65	2.875 73.0	8 203.2	36 914.4
3 DN80	3.500 88.9	8 203.2	36 914.4
3 ½ DN90	4.000 101.6	8 203.2	36 914.4
108.0 mm	4.250 108.0	8 205	36 915
4 DN100	4.500 114.3	8 205	36 915
4½ DN120	5.000 127.0	8 205	32 815
133.0 mm	5.250 133.0	8 205	32 815
139.7 mm	5.500 139.7	8 205	32 815
5 DN125	5.563 141.3	8 205	32 815
152.4 mm	6.000 152.4	10 255	30 765
159.0 mm	6.250 159.0	10 255	30 765
165.1 mm	6.500 165.1	10 255	30 765
6 DN150	6.625 168.3	10 255	28 715
203.2 mm	8.000 203.2	10 255	24 610
216.3 mm	8.516 216.3	10 255	24 610
8 DN200	8.625 219.1	10 255	24 610
254.0 mm	10.000 254.0	10 255	20 510
267.4 mm	10.528 267.4	10 255	20 510
10 DN250	10.750 273.0	10 255	20 510
304.8 mm	12.000 304.8	12 305	18 460
318.5 mm	12.539 318.5	12 305	18 460
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.

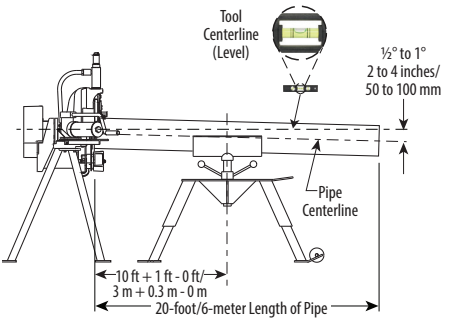
EXAMPLE: A 20-foot, 4-inch/6.2-m length of 6-inch/DN150 diameter carbon steel pipe is required to finish a section and only 20-foot/6.1-m lengths are available. Instead of roll grooving a 20-foot/6.1-m length of carbon steel pipe and a 4-inch/102-mm length of carbon steel pipe, follow these steps:

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/Tubing Lengths” section.

LONG PIPE/TUBING LENGTHS

When roll grooving pipe that exceeds the maximum length shown in Table 1, a roller-type pipe stand shall be used. The pipe stand shall be capable of handling the weight of the pipe, while allowing the pipe to rotate freely.



Pipe angle exaggerated for clarity

FIGURE 1: SUPPORT OF PIPE

1. Verify that the tool is level. Refer to the "Tool Setup" section for leveling requirements. Set the pipe stand height to produce a ½ to 1° pitch on the pipe away from the tool (refer to Figure 1). This will promote tracking and reduce pipe-end flare.

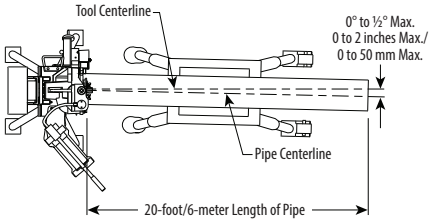
2. Keep pipe straight and square to the lower roll flange. The pipe may be adjusted up to ½° off-center if the initial setup is not providing sufficient tracking (refer to Figure 2). When flare is excessive, right-to-left tracking shall be kept to a minimum.

3. Installation of couplings on pipe that exceeds the maximum allowable flare may prevent pad-to-pad closure of the housings and may cause damage to the coupling gasket. Refer to page 43 for details.

4. If the tool is properly set up in a level position, but the back end of the pipe is higher than the end being grooved, the pipe may not track. As a result, excessive flare may occur on the pipe end. Refer to the "Tool Setup" section and to Figures 1 and 2 for tool setup and pipe positioning requirements.

5. Position the pipe stand at a distance slightly beyond half the pipe length from the tool. Refer to Figure 1.

6. Position the pipe stand approximately 0 to ½° to the left for the tracking angle. Refer to Figure 2.



Pipe angle exaggerated for clarity

FIGURE 2: TRACKING ANGLE

CHECKING AND ADJUSTING THE TOOL PRIOR TO GROOVING

Every Victaulic roll grooving tool is checked, adjusted, and tested at the factory prior to shipment. However, before attempting to operate the tool, the following checks and adjustments should be made to ensure proper tool operation.

⚠ WARNING

- **Always disconnect the turn off the main power supply to the tool before making any tool adjustments.**

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

GROOVING ROLLS

Ensure that the proper roll set is installed on the tool for the pipe/tubing size and material that will be grooved. Roll sets are marked with the pipe size, part number, and they are color coded for the pipe material. Refer to the “Roll Groove Specifications” section on page 43. If the proper rolls are not installed on the tool, refer to the “Roll Changing” section.

⚠ CAUTION

- **Ensure that the roll retaining bolts and nuts are tight.**

Loose roll retaining bolts and nuts could cause damage to the tool and rolls.

GROOVE DIAMETER STOP ADJUSTMENT

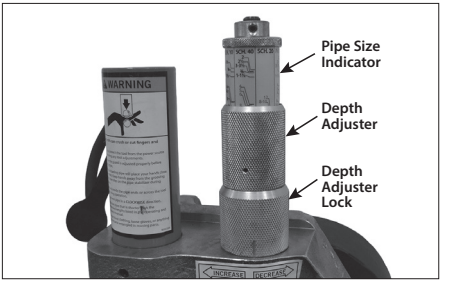
The groove diameter stop must be adjusted for each pipe size or change in wall thickness. The groove diameter, which is identified as the “C” dimension, is listed under the “Roll Groove Specifications” section. In addition, a label is affixed to the tool, which lists the “C” dimensions.

NOTICE

- **To perform the following adjustments, Victaulic recommends the use of several short, scrap sections of pipe that are the proper material, diameter, and thickness to be grooved. Ensure that the scrap sections meet the length requirements listed in Table 1.**

To achieve the proper diameter:

1. Determine the diameter and thickness of the pipe to be grooved.



2. Locate the proper diameter and thickness on the pipe size indicator. The pipe size indicator barrel can be rotated for easy viewing.

3a. Unlock the depth adjuster from the depth adjuster lock.

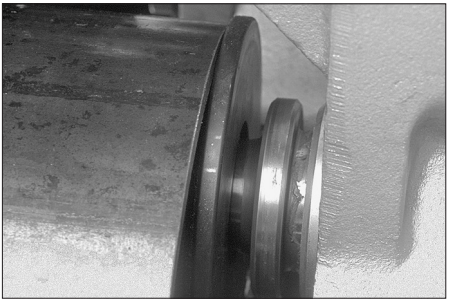
3b. Align the top edge of the depth adjuster with the lowest line position of the proper size and schedule markings.

3c. Hold the depth adjuster to prevent it from turning.

3d. Turn the depth adjuster lock counterclockwise to lock the depth adjuster in this position.

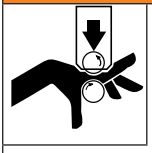
NOTICE

- **Rotating the depth adjusters while locked will cause premature thread wear of the depth adjusters and cylinder ram.**
- **The markings provide an approximate groove diameter adjustment and are not exact groove diameter settings. Variations in pipe OD and wall thickness make it impossible to calibrate the groove diameter stop exactly.**
- **Set the initial adjustment shallow (at bottom edge of mark), groove a sample piece of pipe, then make the final adjustment.**



4. Insert a length of pipe over the lower roll with the pipe end against the lower-roll backstop flange.

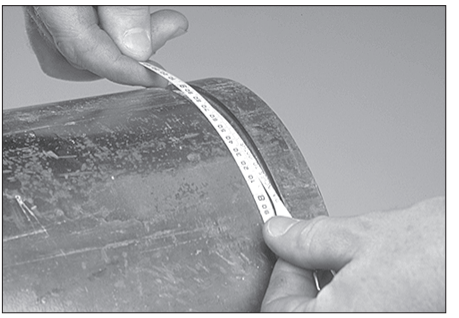
⚠ WARNING



Grooving rolls can crush or cut fingers and hands.

- **Always turn off the main power supply to the tool before making any tool adjustments.**
- **Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and the roller on the pipe stabilizer during operation.**
- **Never reach inside the pipe ends or across the tool or pipe during operation.**
- **Always groove pipe in a CLOCKWISE direction.**
- **Never groove pipe that is shorter than the recommended lengths listed in this manual.**
- **Never wear loose clothing, loose gloves, or anything that can become entangled in moving parts.**

5. Prepare a trial groove. Refer to the applicable “Grooving Operation” section.



6. Remove the pipe from the tool and check the groove diameter ("C" dimension) carefully. Refer to the "Roll Groove Specifications" section. A standard pipe tape, supplied with the tool, is the best method for checking the "C" dimension. In addition, a vernier caliper or narrow-land micrometer can be used to check this dimension at two locations (90° apart) within the groove. The average reading must be within the required groove diameter specification.

⚠ CAUTION

- **The "C" dimension (groove diameter) must conform to Victaulic specifications to ensure proper joint performance. Refer to I-100 field installation handbook for exact specifications.**

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

7a. If the groove diameter ("C" dimension) is not within Victaulic specifications, the diameter stop must be adjusted.

7b. Unlock the depth adjuster from the depth adjuster lock.

7c. To adjust for a smaller groove diameter, turn the depth adjuster counterclockwise (when viewed from above the tool). Turn the depth adjuster lock counterclockwise to lock the depth adjuster in this position.

7d. To adjust for a larger groove diameter, turn the depth adjuster clockwise (when viewed from above the tool). Turn the depth adjuster lock counterclockwise to lock the depth adjuster in this position.

NOTE: A quarter turn either way will change the groove diameter by 0.031 inch/.79 mm or 0.125 inch/3.2 mm per full turn.

NOTICE

- **Rotating the depth adjusters while locked will cause premature thread wear of the depth adjusters and cylinder ram.**

8. Prepare another trial groove, and check the groove diameter ("C" dimension), as described in previous steps. Repeat these steps, as necessary, until the groove diameter is within specification.

ADJUSTING THE ROLL GUARDS

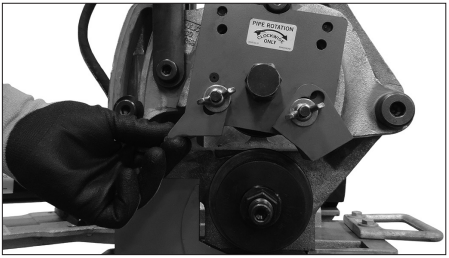
⚠ WARNING

- **Always unplug the power cord before making any roll guard adjustments.**

Accidental start up of tool may result in serious personal injury.

The VE270FSD guards must be adjusted every time rolls are changed, or when the pipe size or wall thickness changes.

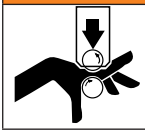
1. Ensure that the proper roll set is installed for the pipe size and material to be grooved. Rolls are marked with the pipe size and part number, and are color-coded according to the pipe material. Refer to the "Roll Groove Specifications" section on page 43.



2. Loosen the wing nuts and move the adjustable guards to the full up position. Do not attempt to remove the wing nuts. They are factory attached to inhibit removal. Tighten the wing nuts

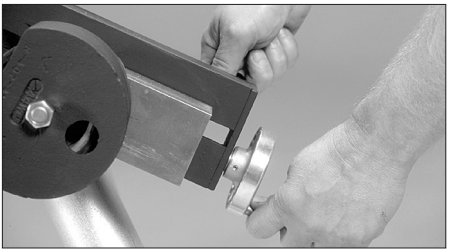
3. Set the groove diameter stop to the pipe size and schedule/thickness to be grooved by backing off the depth adjuster lock and aligning the depth adjuster with the proper pipe diameter and thickness marking. Lock the depth adjuster in position with the depth adjuster lock.

⚠ WARNING

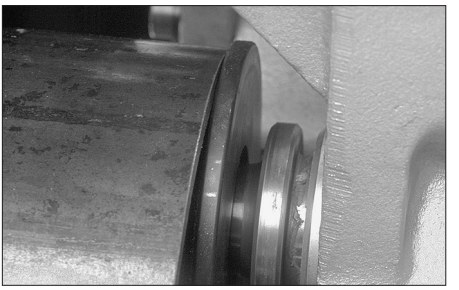


Grooving rolls can crush or cut fingers and hands.

- **Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and the roller on the pipe stabilizer.**

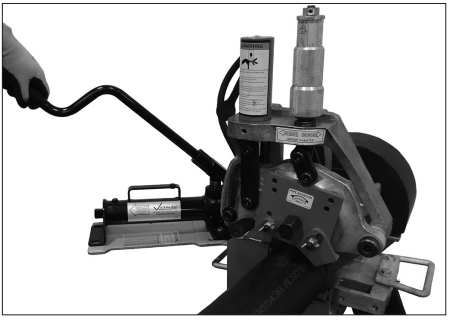


4. If the tool is equipped with the optional pipe stabilizer: Retract the pipe stabilizer, if necessary, to insert the pipe onto the lower roll by loosening the locking handle and retracting the stabilizer roller with the handwheel.



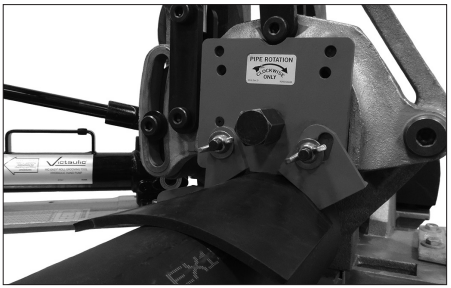
5. Insert a length of pipe that is the correct size and schedule over the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange. The pipe must rest directly on top of the roll and must not be skewed to one side or the other.

6. Close the valve on the hydraulic hand pump by turning it clockwise.



7. Pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with pipe.

8. Remove the guard setting pad from its storage hook under the hydraulic hand pump support. Hold the guard setting pad firmly down against the pipe while pushing it under the adjustable guards until it contacts the upper roll.



9. Loosen the wing nuts and adjust each guard to conform to and lightly pinch the pad against the pipe. Tighten the wing nuts to secure each guard in position. Remove the guard setting pad.

10. Remove the guard setting pad. Store the pad on the hook provided under the hydraulic hand pump support.

11. Open the valve on the hydraulic hand pump by turning it counterclockwise to allow the upper roll and arm to move to the full up position.

PIPE STABILIZER ADJUSTMENT

Applies only to tools equipped with the optional pipe stabilizer

⚠ WARNING

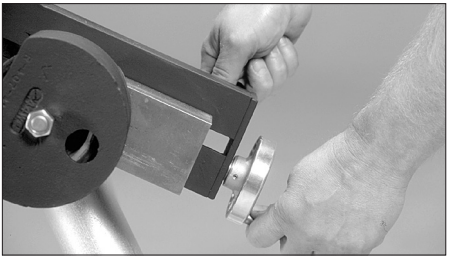
- **Always disconnect the tool from the electrical source before making any tool adjustments.**
- **DO NOT reach over pipe while making adjustments.**
- **DO NOT make adjustments while the tool/pipe is in operation/motion.**

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

The pipe stabilizer for the VE270FSD is designed to prevent sway of pipe lengths in 8 – 12-inch/DN200 – DN300 sizes. The pipe stabilizer is required when grooving light-wall stainless steel pipe and 8-inch/DN200 copper tubing.

When the pipe stabilizer is adjusted for a selected pipe size and wall thickness, it does not require further adjustment unless pipe of a different size or thickness will be grooved. Pipe of the same size and thickness can be moved in and out of the tool without retracting the stabilizer.

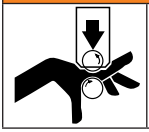
1. Ensure that the proper roll set is installed on the tool for the pipe size and material to be grooved. Rolls are marked with the pipe size, part number, and they are color-coded according to the pipe material. Refer to the “Roll Groove Specifications” section on page 43.



2a. Loosen the stabilizer locking handle.

2b. Using the stabilizer handwheel, retract the stabilizer roller to clear the pipe when it is inserted onto the lower roll.

⚠ WARNING

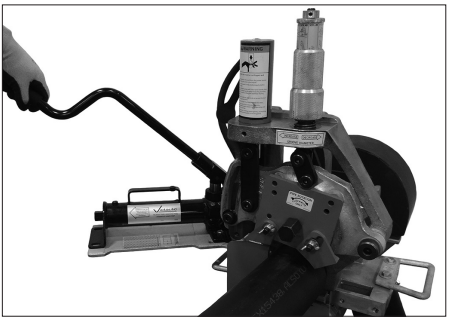


Grooving rolls can crush or cut fingers and hands.

- **Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and from the roller on the pipe stabilizer.**

3. Insert a length of pipe that is the correct size and schedule over the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange. The pipe must rest directly on top of the roll and must not be skewed to one side or the other.

4. Close the valve on the hydraulic hand pump by turning it clockwise.

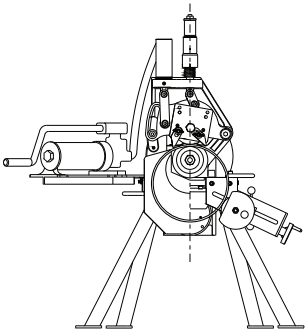


5. Pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with pipe

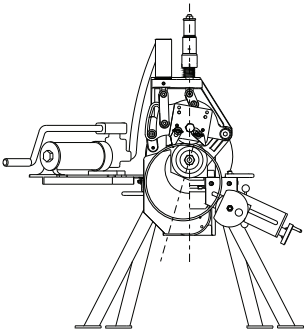
⚠ CAUTION

- **DO NOT adjust the stabilizer roller to push the pipe to the left and off center from the rolls. Increased pipe-end flare and shortened roll life will result if the pipe is pushed to the left and off center.**
- **DO NOT reach across the pipe to make pipe stabilizer adjustments.**
- **DO NOT adjust the pipe stabilizer while the pipe is in motion.**
- **Assembly of couplings on pipe that exceeds the maximum allowable flare dimension may prevent proper pad-to-pad assembly of coupling housings and gasket distortion/damage.**

Failure to prepare pipe in accordance with all instructions may cause joint failure, resulting in personal injury and/or property damage.



CORRECT



INCORRECT

6. Using the stabilizer handwheel, adjust the stabilizer roller inward to the correct position (shown in the drawing above). Tighten the locking handle.

7. Complete all adjustments and groove the pipe. Refer to the applicable “Grooving Operation” section. Observe the stabilizer roller while grooving. It should remain in contact with the pipe, and the pipe should rotate smoothly without swaying from side to side. If the pipe is not rotating smoothly or is swaying from side to side, discontinue grooving and adjust the stabilizer roller further. Continue the grooving operation and make further adjustments, as necessary. DO NOT adjust the stabilizer roller too far inward, since it will skew the pipe to the left and off center, resulting in excessive pipe-end flare.

GROOVING SHORT PIPE LENGTHS

⚠ CAUTION

- **This tool must be used ONLY for roll grooving pipe designated in the applicable "Roll Groove Specifications" section of this manual.**

Failure to follow this instruction could overload the tool, resulting in reduced tool life and/or damage to the tool.

NOTICE

- **Pipe coatings, particularly galvanization, can become impacted in the knurling of the lower roll and cause the pipe to slip during the grooving process.**
- **It may become necessary to clean the lower roll with a wire brush periodically. Pay particular attention to any buildup during the grooving process that may impact the ability to effectively clean the knurling.**

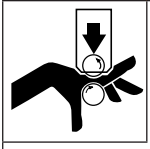
1. Before grooving, ensure that all instructions in the previous sections of this manual have been followed.

2. Connect the tool to an internally-grounded electrical source.

3. Depress the safety foot switch momentarily to ensure that the tool is operational. The lower roll should be rotating clockwise when viewed from the front of the tool. Remove foot from the switch.

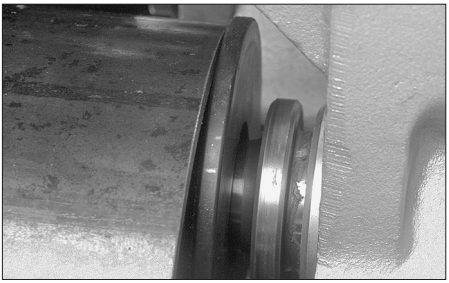
4. Open the valve on the hydraulic hand pump by turning it counterclockwise to allow the upper roll and arm to move to the fully up position.

⚠ WARNING



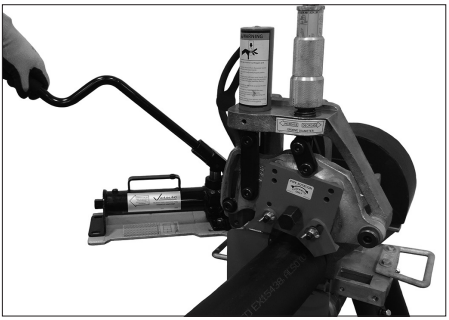
Grooving rolls can crush or cut fingers and hands.

- **Always turn off the main power supply to the tool before making any tool adjustments.**
- **Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and the roller on the pipe stabilizer during operation.**
- **Never reach inside the pipe ends or across the tool or pipe during operation.**
- **Always groove pipe in a CLOCKWISE direction.**
- **Never groove pipe that is shorter than the recommended lengths listed in this manual.**
- **Never wear loose clothing, jewelry, or anything that can become entangled in moving parts.**



5. Insert a length of pipe that is the correct size and thickness onto the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange completely.

6. Close the valve on the hydraulic hand pump by turning it clockwise.



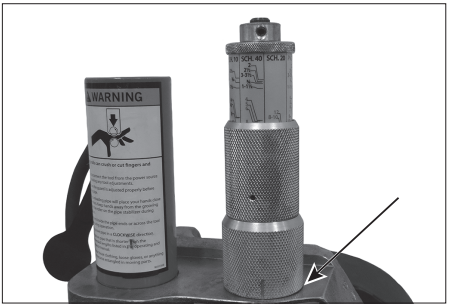
7a. The operator should be positioned on the safety foot switch/hydraulic hand pump side of the tool. While manually supporting the pipe, pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with the pipe.

7b. Remove hands from the pipe.

8. Depress and hold down the safety foot switch. The pipe will begin to rotate clockwise when viewed from the front of the tool. As the pipe rotates, begin forming the groove by pumping the handle of the hydraulic hand pump slowly.

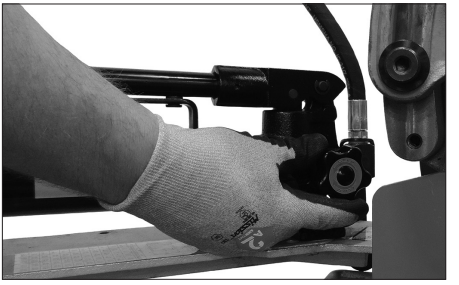
NOTICE

- **Do not pump the handle of the hydraulic hand pump too fast. The rate should be sufficient to groove the pipe and maintain audible, moderate-to-heavy load on the motor/drive.**



9a. Continue the grooving process until the depth adjuster lock comes into contact with the top of the tool body. Continue pipe rotation for two to three revolutions to ensure groove completion.

9b. Release the safety foot switch, and withdraw foot from the switch.



10. Prepare to support the pipe. Open the valve on the hydraulic hand pump by turning it counterclockwise to release the pipe. Remove the pipe from the tool.

11. When roll grooving is finished, disconnect the tool from the electrical source.

NOTICE

- **The groove diameter must be within specification for the diameter and wall thickness of pipe. The groove diameter should be checked and adjusted, as necessary, to ensure grooves remain within specification.**

GROOVING LONG PIPE LENGTHS

⚠ CAUTION

- **For long pipe lengths, ensure that the pipe stand is positioned properly to minimize pipe-end flare.**
- **DO NOT install couplings on pipe that exceeds the maximum allowable flare.**
- **This tool must be used ONLY for roll grooving pipe designated in the applicable "Roll Groove Specifications" section of this manual.**
- **Always refer to the applicable "Roll Groove Specifications" table for details.**

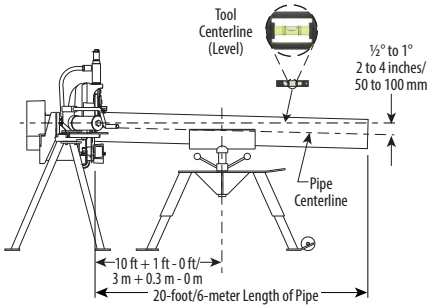
Failure to follow these instructions could cause product failure, resulting in property damage.

NOTICE

- **Pipe coatings, particularly galvanization, can become impacted in the knurling of the lower roll and cause the pipe to slip during the grooving process.**
- **It may become necessary to clean the lower roll with a wire brush periodically. Pay particular attention to any buildup during the grooving process that may impact the ability to effectively clean the knurling.**

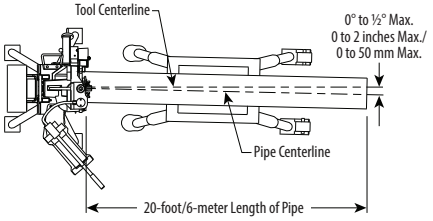
When roll grooving pipe that exceeds the maximum length shown in Table 1 on page 12, a roller-type pipe stand must be used. The roller-type pipe stand must be capable of handling the weight of the pipe, while allowing the pipe to rotate freely.

1. Ensure that the tool is level. Refer to the "Tool Setup" section for leveling requirements.



Pipe angle exaggerated for clarity

2. Place the pipe stand at a distance slightly beyond half the pipe length from the tool. Refer to the drawing.



Pipe angle exaggerated for clarity

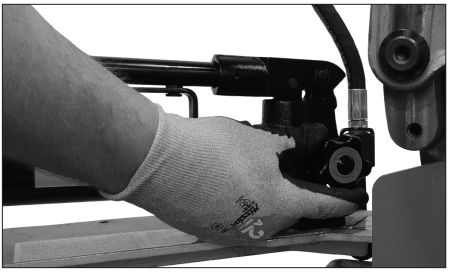
3. Position the pipe stand approximately 0 - ½ a degree to the left for the tracking angle. Refer to the drawing. **NOTE:** When pipe flare is excessive, right-to-left tracking must be kept to a minimum. It may be necessary to use less than ½ a degree for the tracking angle.

4. If the tool is properly set up in a level position, but the back end of the pipe is higher than the end being grooved, the pipe may not track. In addition, excessive flare may occur on the pipe end. Refer to the "Tool Setup" section and the drawings above for tool setup and pipe positioning requirements.

5. Before grooving, ensure that all instructions in the previous sections of this manual have been followed.

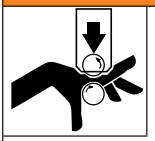
6. Connect the tool to an internally-grounded electrical source.

7. Depress the safety foot switch momentarily to ensure that the tool is operational. The lower roll should be rotating clockwise when viewed from the front of the tool. Remove foot from the switch.



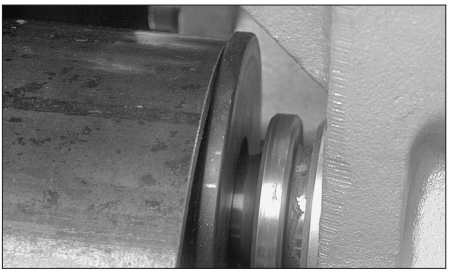
8. Open the valve on the hydraulic hand pump by turning it counterclockwise to allow the upper roll and arm to move to the fully up position.

⚠ WARNING



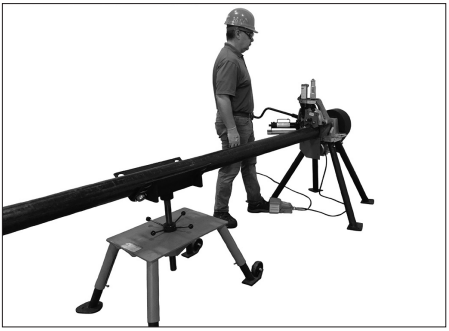
Grooving rolls can crush or cut fingers and hands.

- **Always turn off the main power supply to the tool before making any tool adjustments.**
- **Loading/unloading pipe will place your hands close to the rollers. Keep hands away from the grooving rolls and from the roller on the pipe stabilizer during operation.**
- **Never reach inside the pipe ends or across the tool or pipe during operation.**
- **Always groove pipe in a CLOCKWISE direction.**
- **Never groove pipe that is shorter than the recommended lengths listed in this manual.**
- **Never wear loose clothing, jewelry, or anything that can become entangled in moving parts.**



9. Insert a length of pipe that is the correct size and thickness onto the lower roll. Ensure that the pipe end contacts the lower-roll backstop flange completely. Remove hands from the pipe.

10. Close the valve on the hydraulic hand pump by turning it clockwise.

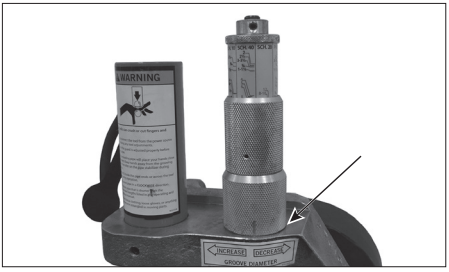


11a. The operator should be positioned on the safety foot switch/hydraulic hand pump side of the tool, as shown above. Pump the handle of the hydraulic hand pump to bring the upper roll down into firm contact with the pipe.

11b. Depress and hold down the safety foot switch. The pipe will begin to rotate clockwise when viewed from the front of the tool. As the pipe rotates, begin forming the groove by pumping the handle of the hydraulic hand pump slowly.

NOTICE

- **Do not pump the handle of the hydraulic hand pump too fast. The rate should be sufficient to groove the pipe and maintain audible, moderate-to-heavy load on the motor/drive.**



12a. Continue the grooving process until the depth adjuster lock comes into contact with the top of the tool body. Continue pipe rotation for 1 to 3 revolutions to ensure groove completion.

12b. Release the safety foot switch, and withdraw foot from the switch.

13. Open the valve on the hydraulic hand pump by turning it counterclockwise to release the pipe. Remove the pipe from the tool.

14. When roll grooving is finished, disconnect the tool from the electrical source.

NOTICE

- **The groove diameter must be within specification for the diameter and wall thickness of pipe. The groove diameter should be checked and adjusted, as necessary, to ensure that grooves remain within specification.**

ROLL CHANGING

VE270FSD Roll Grooving Tools are designed with rolls to accommodate several pipe sizes and materials, which eliminates the need for frequent roll changes.

When a different pipe size or material is required for grooving, the upper and lower rolls must be changed. For proper roll selection, refer to the "Roll Groove Specifications" section on page 43.

LOWER ROLL REMOVAL FOR ¾-INCH/DN20 AND 1 – 1 ½-INCH/DN25 – DN40 SIZES

⚠ WARNING

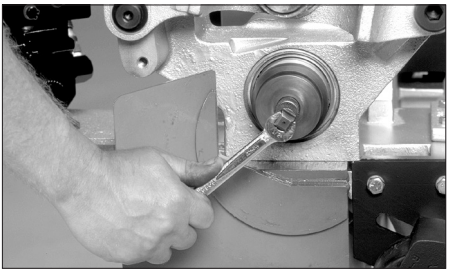
- **Always disconnect the tool from the electrical source before changing rolls.**

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

NOTICE

- **The ¾-inch/DN20 and 1 – 1 ½-inch/DN25 – DN40 lower roll assembly is held in position with left-hand threads and must be loosened by turning clockwise.**

1. Open the valve on the hydraulic hand pump by turning it counterclockwise to allow the upper roll and arm to move to the full up position.



2. With a wrench engaged on the square end of the lower roll assembly, loosen and remove the lower roll assembly by turning **clockwise**. Store the lower roll assembly in the roll storage bag provided with the tool.

LOWER ROLL REMOVAL FOR 2-INCH/DN50 AND LARGER SIZES

⚠ WARNING

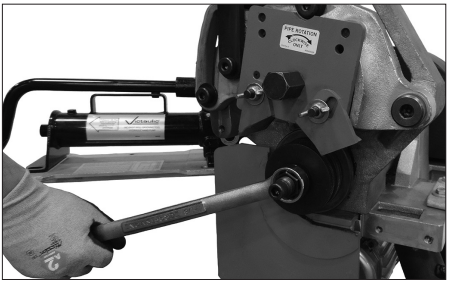
- **Always disconnect the tool from the electrical source before changing rolls.**

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

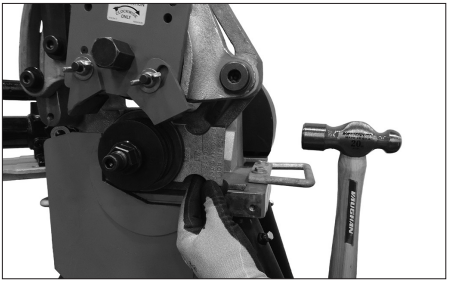
⚠ WARNING

- **Use only the aluminum wedge with a soft-faced hammer for removing the lower roll. Never strike the lower roll directly for any reason.**
- **Always wear eye protection when using the aluminum wedge.**

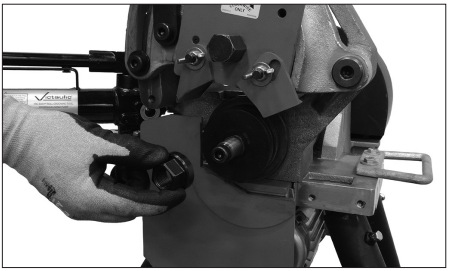
Failure to follow these instructions could result in serious personal injury.

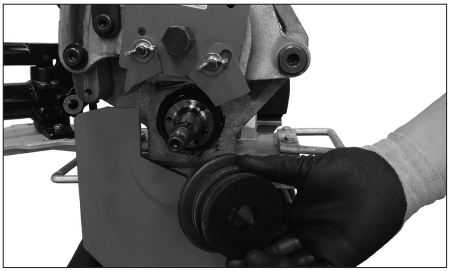


1. Use a wrench to loosen the lower roll from the tapered arbor by turning counterclockwise. Do not fully remove the nut.



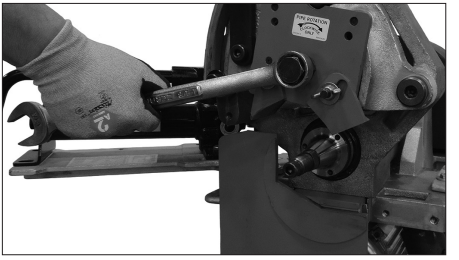
2. Place the aluminum wedge, supplied with the tool, behind the lower roll and strike the wedge with a soft-faced hammer to break the lower roll loose from the taper.

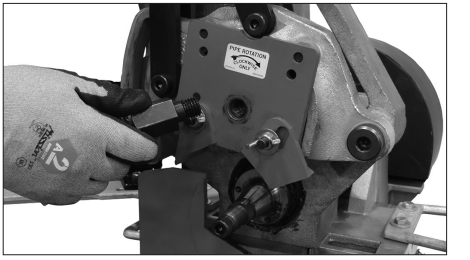




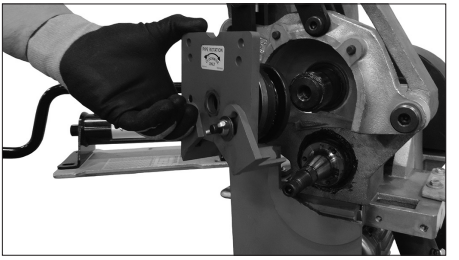
3. Remove the nut and lower roll from the arbor as shown above.

UPPER ROLL REMOVAL FOR ALL SIZES





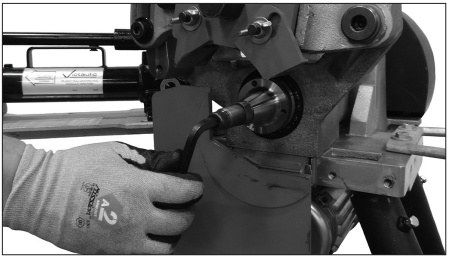
1. Using a wrench, loosen and remove the upper roll bolt as shown above. Place the upper roll bolt in a safe location.



2. Remove the upper roll assembly by pulling it straight out of the tool. Store the upper roll assembly in the roll storage bag provided with the tool.

ARBOR REMOVAL FOR 2-INCH/DN50 AND LARGER SIZES

1. Remove the lower roll from the tool by referring to the “Lower Roll Removal for 2-inch/DN50 and Larger Sizes” section.



2. With a hex wrench inserted into the hex portion of the stud, loosen the stud by turning **counterclockwise**. The arbor should move outward as the stud is loosened.

3. When the stud has stopped moving the arbor outward, pull the arbor assembly out of the tool's main shaft. Store the arbor assembly in a safe location.

NOTICE

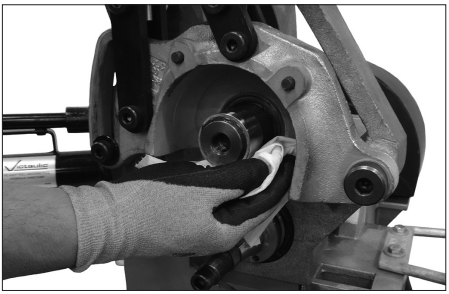
- **The arbor could become difficult to remove from the main shaft if insufficient lubrication was applied. The arbor features three ¼ – 20 UNC tapped holes so that jack bolts can be used to push out the arbor.**

⚠ CAUTION

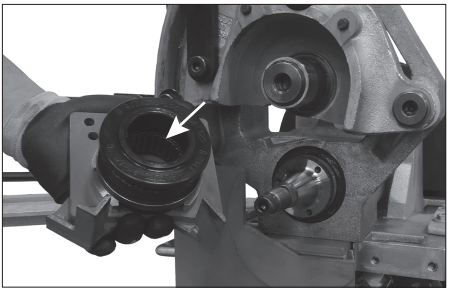
- **Never operate the tool with jack bolts installed in the arbor.**

Failure to follow this instruction could result in personal injury and tool damage.

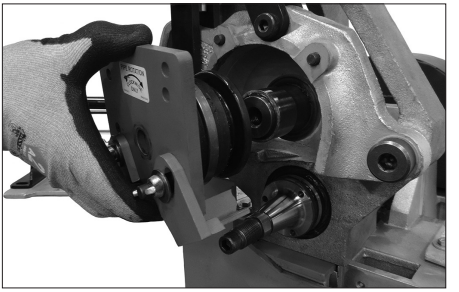
UPPER ROLL INSTALLATION FOR ALL SIZES



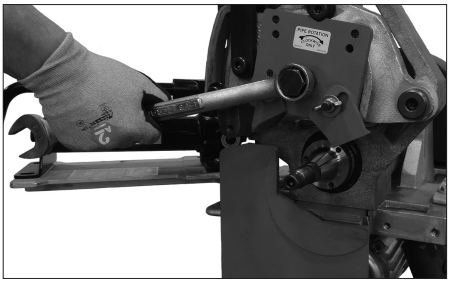
1. Prior to installation, clean all shaft surfaces and roll bores to remove any dirt and scale.



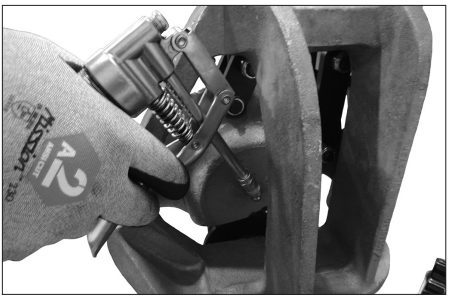
2. Inspect the roller bearing inside the upper roll for proper lubrication and movement. Inspect the roll guards for wear and freedom of movement. Repair or replace any damaged components, if necessary.



3. Slide the upper roll assembly carefully onto the upper shaft with the red plate facing out. Loosen the roll guards, if necessary, to ease installation. Ensure that the red plate engages the two pins on the arm and that it contacts the front of the upper shaft.



4. Insert the upper roll bolt, and tighten it securely with a wrench as shown above.

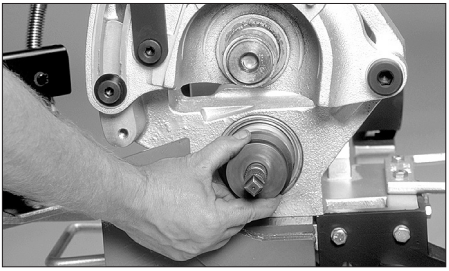


5. Lubricate upper roll bearing. Refer to the "Maintenance" section for the recommended lubricant.

LOWER ROLL ASSEMBLY INSTALLATION FOR ¾-INCH/DN20 AND 1 – 1 ½-INCH/DN25 – DN40 SIZES

1. Clean the bore of the main shaft and the lower roll assembly with a soft cloth.

2. Apply a light coating of mechanical assembly spray (supplied with the tool and available from Victaulic) to the lower roll assembly.

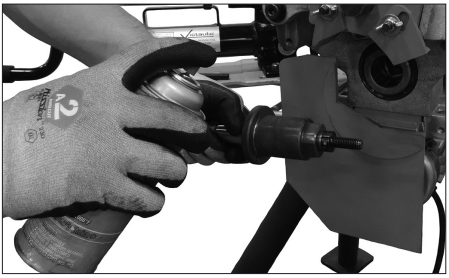


3a. Insert the lower roll assembly carefully into the main shaft, making sure it is seated fully. It may be necessary to rotate the lower roll assembly to align its square back end with the main shaft.

3b. With a wrench engaged on the square end of the lower roll assembly, tighten the lower roll assembly by turning **counterclockwise**.

ARBOR INSTALLATION PROCEDURE FOR 2-INCH/DN50 AND LARGER SIZES

1. Clean the bore of the main shaft and the arbor with a soft cloth.



2. Apply a light coating of mechanical assembly spray (supplied with the tool and available from Victaulic) to the arbor assembly.

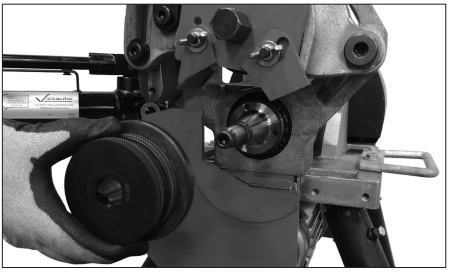
3a. Insert the arbor carefully into the main shaft, making sure it is seated fully. It may be necessary to rotate the arbor to align its square back end with the main shaft.

3b. With a hex wrench inserted into the hex portion of the stud, tighten the stud by turning **clockwise**. The arbor should move inward as the stud is tightened.

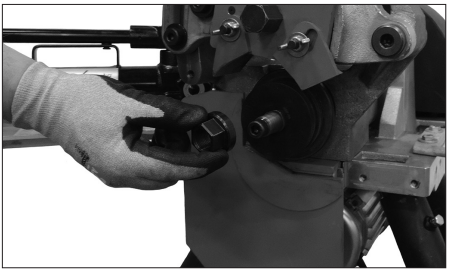
LOWER ROLL INSTALLATION FOR 2-INCH/DN50 AND LARGER SIZES

NOTICE

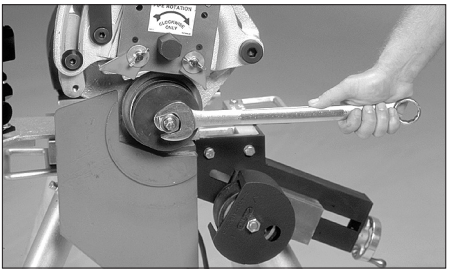
- **The arbor must be installed prior to installing 2-inch/DN50 and larger size lower rolls. Refer to the "Arbor Installation Procedure for 2-inch/DN50 and Larger Sizes" section.**



1. Install the lower roll onto the arbor. Re-position the roll guards, if necessary, to ease installation. **FOR KEYED-TYPE ARBORS:** Ensure that the lower roll fits fully onto arbor with the keys aligned with the keyway. **FOR KEYLESS-TYPE ARBORS:** Align the square drive of the lower roll with the square drive of the arbor.



2. Install the large nut onto the threaded arbor stud. Fasten the large nut securely with a wrench to set the lower roll in position. DO NOT over-tighten the large nut.



3. FOR KEYED-TYPE ARBORS ONLY: Install the thin jam nut onto the threaded arbor stud. Tighten the thin jam nut securely against the large nut.

4. Roll set installation is now complete. Before grooving, ensure that all instructions in the previous sections of this manual have been followed (i.e. adjusting the roll guards, adjusting the groove diameter stop).

MAINTENANCE

⚠ DANGER

- **Always turn off the main power supply to the tool before making any tool adjustments or before performing any maintenance.**

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

NOTICE

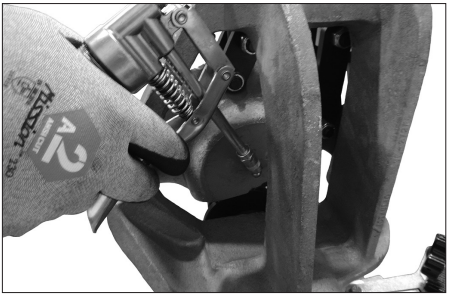
- **Pipe coatings, particularly galvanization, can become impacted in the knurling of the lower roll and cause the pipe to slip during the grooving process.**
- **It may become necessary to clean the lower roll with a wire brush periodically. Pay particular attention to any buildup during the grooving process that may impact the ability to effectively clean the knurling.**

This section provides information about keeping tools in proper operating condition, and guidance for making repairs when it becomes necessary. Preventive maintenance during operation will pay for itself in repair and operating savings.

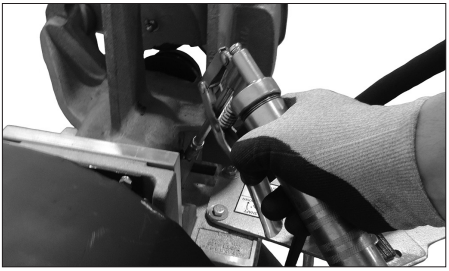
Replacement parts must be ordered from Victaulic to ensure proper and safe operation of the tool.

LUBRICATION

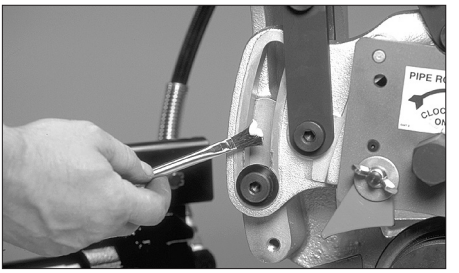
After every eight hours of operation, lubricate the tool. Always lubricate the upper roll bearings when rolls are changed.



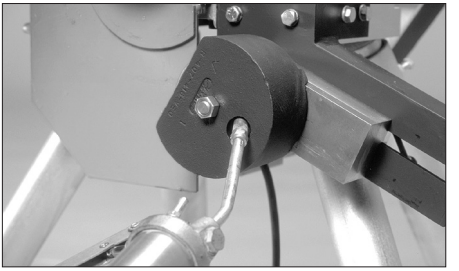
1. Grease the upper roll bearings every time roll changes are made and after every eight hours of operation. A grease fitting is provided, as shown. Refer to the applicable “Recommended Lubricants” table for the proper grease.



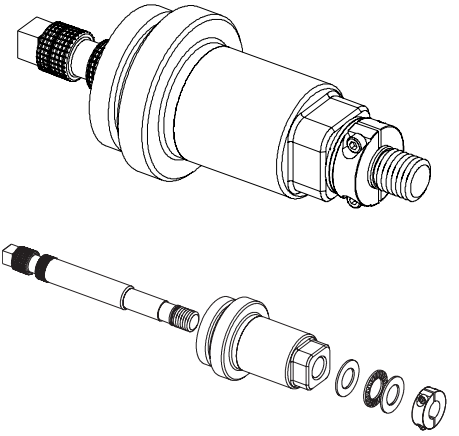
2. Grease the main shaft bearings through the grease fitting on the side of the tool, as shown. Refer to the applicable “Recommended Lubricants” table for the proper grease.



3. Lubricate the linkage mechanisms, the arm pivot point, and the arm sliding surfaces. A heavy-duty spray lubricant can be used, or apply grease by hand. Refer to the applicable “Recommended Lubricants” table for the proper grease.



4. Lubricate the stabilizer wheel (if equipped) through the grease fitting, as shown. Refer to the applicable “Recommended Lubricants” table for the proper grease.



5a. After every 40 hours of operation, clean and lubricate the ¾-inch/DN20 and 1 – 1 ½-inch/DN25 – DN40 lower roll assemblies.

5b. Remove the cap screws and disassemble the two-piece collar. Remove the collar, needle bearing, and washers.

5c. Remove the lower roll from the arbor. Clean the ¾-inch/DN20 and 1 – 1 ½-inch/DN25– DN40 lower roll and lightly lubricate with the proper lubricant (mechanical assembly spray supplied with the tool and available from Victaulic).

5d. Reassemble the ¾-inch/DN20 and 1 – 1 ½ inch/DN25– DN40 lower roll assembly. Lubricate the needle bearing.

CHECKING AND FILLING HYDRAULIC HAND PUMP HYDRAULIC FLUID

The hydraulic fluid level in the hydraulic hand pump must be checked a minimum of every six months (depending on tool usage), or if pumping feels spongy.

1. Open the valve on the hydraulic hand pump by turning it counterclockwise.

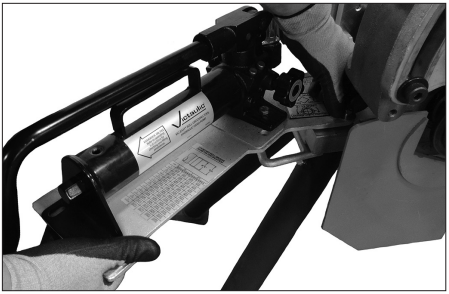
2a. Remove the hydraulic fill plug at the back end of the hydraulic hand pump.

2b. Check the hydraulic fluid level. Add hydraulic jack oil to the bottom of the threaded port.

2c. Re-install the hydraulic fill plug.

2d. Follow the “Air Bleeding” section.

AIR BLEEDING



1. Remove the hydraulic hand pump/pump support assembly from the tool base.

2. Close the valve on the hydraulic hand pump by turning it clockwise.

3. To bleed air from the system, hold the entire hydraulic hand pump so that the hydraulic fill plug end is ABOVE the hydraulic cylinder. This will prevent siphoning of fluid from the hydraulic cylinder through the hydraulic hand pump.

4. Open the hydraulic fill plug one full turn.

5. Pump the handle of the hydraulic hand pump several strokes to build pressure.

6. Open the valve on the hydraulic hand pump by turning it counterclockwise. Allow air to escape.

7. Repeat steps 2 through 6 several times to bleed all air from the system.

8. Continue to hold the hydraulic hand pump above the hydraulic cylinder, and close the hydraulic fill plug.

9. Re-install the hydraulic hand pump/pump support assembly securely to the tool base.

RECOMMENDED LUBRICANTS

BEARING AND SLIDE GREASE

(General Purpose EP Lithium Base Grease)

Manufacturer	Product
BP Amoco	Energrease LC-EP2
Gulf Oil Corp.	Gulfcrown Grease EP#2
Lubriplate	No. 630-2
Mobil Oil Corp.	Mobilux EP2
Pennzoil Products Co.	Pennlith EP 712 Lube
Shell Oil Co.	Alvania EP2
Sun Refining	Sun Prestige 742 EP
Texaco Inc.	Multifak EP2

HYDRAULIC OIL

(High Pressure, Anti-Wear/Anti-Foam Hydraulic Oil ISO Grade 32)

Manufacturer	Product
BP Amoco	Energol HLP-HM32
Gulf Oil Corp.	Harmony 32 AW
Kendall Refining Co.	Kenoil R&O AW-32
Lubriplate	HO-o
Mobil Oil Corp.	Mobil DTE 24
Pennzoil Products Co.	Pennzbell AW32
Shell Oil Co.	Tellus 32
Sun Refining	Survis 832
Texaco Inc	Rando

PARTS ORDERING INFORMATION

When ordering parts, the following information is required for Victaulic to process the order and send the correct part(s). Request the RP-270FSD Repair Parts List for detailed drawings and parts listings.

1. Tool Model Number – VE270FSD
2. Tool Series Number – The serial number can be found on the side of the tool on the nameplate
3. Quantity, Part Number, and Description
4. Where to Send the Part(s) – Company name and address
5. To Whose Attention to Send the Part(s)
6. Purchase Order Number
7. Billing Address

Parts can be ordered by calling 1-800-PICK VIC.

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.

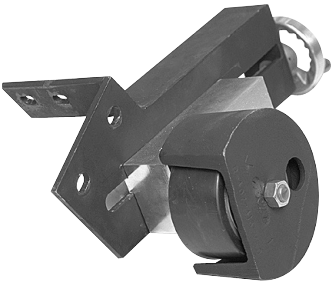
VAPS224 VICTAULIC ADJUSTABLE PIPE STAND

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.

OPTIONAL ROLLS

Refer to the applicable "Roll Groove Specifications" section, which identifies rolls that are available for different pipe materials and groove specifications.

PIPE STABILIZER



The pipe stabilizer for the VE270FSD is designed to prevent sway of short and long pipe lengths in 8 - 12-inch/DN200-DN300 sizes. The pipe stabilizer is required when grooving light-wall stainless steel pipe and 8-inch/DN200 copper tubing. Contact Victaulic for details.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pipe will not stay in grooving rolls.	Incorrect pipe positioning of long pipe length.	Refer to the "Long Pipe/Tubing Lengths" section on page 13.
	Lower roll and pipe are not rotating clockwise.	Contact Victaulic.
Pipe stops rotating during grooving.	Rust or dirt build-up is present on the lower roll.	Remove rust or dirt accumulation from the lower roll 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 grooving rolls.	Inspect the lower roll for worn knurls. Replace the lower roll if excessive wear is present.
	The motor/drive has stalled due to excessive pumping of the hydraulic hand pump.	Open the valve on the hydraulic hand pump to release the pipe. Close the valve on the hydraulic hand pump and continue grooving. Pump the hydraulic hand pump at a moderate rate.
	The circuit breaker has tripped or a fuse has blown on the electrical circuit that supplies the power drive.	Reset the breaker, or replace the fuse.
	The Woodruff keys are broken or missing.	Remove the lower roll and insert the punch tool into the key removal hole(s). Press out the broken key(s) and install the new keys (supplied with the tool). Re-install the lower roll.
While grooving, loud squeaks echo through the pipe.	Incorrect pipe support positioning of long pipe length. Pipe is "over-tracking."	Move the pipe support to the right. Refer to the "Grooving Long Pipe Lengths" section on page 25.
	Pipe end is not cut square.	Cut the pipe end squarely.
	Pipe is rubbing excessively on the lower-roll backstop flange.	Remove the pipe from the tool, and apply a light coating of bandsaw blade wax to the face of the pipe end.
During grooving, loud thumps or bangs occur approximately once every revolution of the pipe.	Pipe has a pronounced weld seam.	For 12-inch/DN300 and smaller pipe sizes, grind the raised welds flush with the interior and exterior pipe surfaces 2 inches/50 mm back from the pipe end.
Pipe flare is excessive.	Pipe support is adjusted too high for long pipe.	Refer to the "Grooving Long Pipe Lengths" section on page 25.
	Tool is tilted forward (out of level) while grooving long pipe.	Refer to the applicable "Tool Setup" section.
	Incorrect pipe support positioning.	Move the pipe support to the right. Refer to the "Grooving Long Pipe Lengths" section on page 25.
	Pipe stabilizer is adjusted too far inward.	Back off the pipe stabilizer to the furthest point at which it still stabilizes the pipe effectively.
Larger diameter pipe sways or vibrates from side to side.	Incorrect pipe stabilizer adjustment.	Move the pipe stabilizer in or out until the pipe rotates smoothly. If a pipe stabilizer is not installed, contact Victaulic to order the kit.

TROUBLESHOOTING (CONTINUED)

PROBLEM	POSSIBLE CAUSE	SOLUTION
Tool will not groove the pipe.	The valve on the hydraulic hand pump is not closed tightly.	Tighten the valve on the hydraulic hand pump.
	The hydraulic hand pump is low on hydraulic fluid.	Refer to the "Checking and Filling Hydraulic Hand Pump Hydraulic Fluid" section on page 37.
	Air is present in the hydraulic system.	Refer to the "Air Bleeding" section on page 37.
	Pipe is beyond the wall thickness or pipe yield strength capacity of the tool.	Refer to the "Roll Groove Specifications" section on page 43.
Pipe groove diameters do not meet Victaulic specifications.	Groove diameter stop is not adjusted properly.	Refer to the "Groove Diameter Stop Adjustments" section.
	Pipe is beyond the wall thickness capacity of the tool, or the pipe material is too hard.	Refer to the "Roll Groove Specifications" section on page 43.
The "A" Gasket Seat or "B" Groove Width dimensions do not meet Victaulic specifications.	Upper roll bearing is not lubricated sufficiently.	Refer to the "Maintenance" section on page 35.
	Incorrect upper roll, lower roll, or both installed on the tool	Install the correct rolls. Refer to the "Roll Groove Specifications" section on page 43.
	Pipe not inserted fully onto the lower roll, or pipe is not tracking properly.	Ensure that pipe is against the lower-roll backstop flange. Refer to the "Long Pipe Lengths" section for proper pipe stand positioning.

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

ORIGINAL GROOVE SYSTEM (OGS) AND "ES" ROLL PART NUMBERS

STEEL AND STAINLESS STEEL PIPE – COLOR-CODED BLACK

Pipe Size inches/mm	OGS Roll Part Numbers	"ES" Roll Part Numbers
¾ 20	Lower Roll R900268LA1 Upper Roll R9A0268U02	—
1-1½ 25 – 40	Lower Roll R901268LA2 Upper Roll R9A0268U02	—
2-3½ 50 – 90	Lower Roll R902272L03 Upper Roll R9A2272U06	Lower Roll RZ02272L03 Upper Roll RZA2272U03
4 – 6 100 – 150	Lower Roll R904272L06 Upper Roll R9A2272U06	Lower Roll RZ04272L06 Upper Roll RZA4272U06
8-12 200-300	Lower Roll R908272L12 Upper Roll R9A8268U12	Lower Roll RZ08272L12 Upper Roll RZA8268U12

ORIGINAL GROOVE SYSTEM (OGS) ROLL PART NUMBERS

ALUMINUM AND PVC PLASTIC PIPE – COLOR-CODED YELLOW ZINC

Pipe Size inches/mm	Roll Part Numbers
2-3½ 50-90	Lower Roll RP02272L03 Upper Roll RPA2272U06
4 – 6 100 – 150	Lower Roll RP04272L06 Upper Roll RPA2272U06
8-12 200-300	Lower Roll RP08272L12 Upper Roll RPA8272U12

RX ROLL PART NUMBERS

SCHEDULE 5S AND 10S STAINLESS STEEL PIPE – COLOR-CODED SILVER

Pipe Size inches/mm	RX Roll Part Numbers
2-3½ 50-90	Lower Roll RX02272L03 Upper Roll RXA2272U06
4-6 100-150	Lower Roll RX04272L06 Upper Roll RXA2272U06
8-12 200-300	Lower Roll RX08272L12 Upper Roll RXA8272U12

CTS US STANDARD – ROLL PART NUMBERS

ASTM B-88 HARD-DRAWN COPPER AND DWV PER ASTM B-306 TUBING – COLOR-CODED COPPER

Pipe Size inches/mm	Copper Roll Part Numbers
2-6 50-150	Lower Roll RR02272L06 Upper Roll RRA2272U08
8 200	Lower Roll RR08272L08 Upper Roll RRA2272U08

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

ENDSEAL “ES” GROOVE SPECIFICATIONS

For the most up-to-date information regarding EndSeal “ES” roll groove specifications, reference the current revision of Victaulic publication 25.02, 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/25.02.pdf

COPPER TUBING GROOVE SPECIFICATIONS

For the most up-to-date information regarding copper tubing roll groove specifications, reference the current revision of Victaulic publication 25.06, 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/25.06.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

For additional information on Victaulic Advanced Groove System (AGS) products, reference the current revision of the I-W100 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-W100.pdf

For additional information on Victaulic Copper Connection Products, reference the current revision of the I-600 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-600.pdf

EC DECLARATION OF CONFORMITY

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 Models:	VE270FSD VE271FSD
Serial No. :	Refer to Machinery Nameplate
Product Description:	Portable Pipe Roll Grooving Tools
Conformity Assessment:	2006/42/EC, Annex I
Reference Standards:	EN ISO 12100 : 2010 EN ISO 13857 : 2019 EN 953 : 1997 +A1 : 2009 ISO 14120 : 2015
Technical Documentation:	The relevant technical documentation prepared in accordance with Annex VII (A) of the Machinery Directive 2006/42/EC, will be made available upon request to the governing authorities.
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

MD_DoC_RGT_001_020724_en

UK DECLARATION OF CONFORMITY

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:	VE-270 FSD VE-271 FSD
Serial No. :	Refer to Machinery Nameplate
Product Description:	Portable Pipe Roll Grooving Tools
Conformity Assessment:	2008 No. 1597, Annex I
Reference Standards:	BS EN ISO 12100 : 2010 BS EN ISO 13857 : 2019 BS EN ISO 14120 : 2015
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.
Authorized Representative:	Victaulic Company c/o Victaulic Europe BV 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: May 14, 2021

VE270FSD and VE271FSD

TM-VE270/271FSD 2469 REV E UPDATED 04/2024 RM00270000