CG336 Portable Cut Groover for 3" – 36" AWWA Ductile Iron Pipe

⚠ 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 the operating and maintenance manual and all warning labels on the tool.**
- **Wear safety glasses, hardhat, foot protection, and hearing protection while working around pipe preparation tools.**
- **Save the 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 any pipe preparation tools, 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

CG336 Series Portable Cut Groovers are designed for the sole purpose of cut grooving AWWA ductile iron pipe. The lessee or 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.

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. Always verify that the power source is grounded.
2. **Disconnect electrical power before servicing the tool.** Only authorized personnel shall perform maintenance on the tool. Always disconnect power before servicing or adjusting the tool.
3. **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, hardhat, foot protection, and hearing protection (sound levels up to 93.6 decibels can be produced during the grooving process).
4. **Keep hands and tools away from tool bits and guide wheels during the grooving operation.** Grooving area 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 hands and shirt sleeves.
6. **Operate the tool from the control side only.** The power drive must be operated with a foot switch that is located for easy operator access. Never reach across moving parts. If the tool does not contain a foot switch, contact Victaulic.

⚠ CAUTION

1. **CG336 tools are designed ONLY for grooving pipe sizes, materials, and wall thicknesses designated 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 setup instructions.
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 shall 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, tool, and accessories.** Verify that the tool is stable. Refer to the "Tool Setup" section.
7. **Support the work.** Pipe must be supported by a pipe stand that is secured to the floor or to the ground.
8. **Do not force the tool.** Do not force the tool or accessories to perform any functions beyond the capabilities described in this manual. Do not overload the tool.
9. **Maintain tool with care.** Keep the tool clean to ensure proper and safe performance. Follow the instructions for matching and lubricating tool components, if applicable.
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" section.
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 Company.**
- **Any references to components from other manufacturers are noted as such and are registered trademarks or trademarks of those manufacturers.**

Victaulic CG336 Series Portable Cut Groovers are power driven for cut grooving AWWA ductile iron pipe to Victaulic specifications for installation with Victaulic grooved pipe couplings.

These tools must only be used to groove pipe with specifications that fall within the designated parameters. Refer to the chart below.

⚠ WARNING

- **This tool shall be used ONLY for grooving pipe with specifications that fall within the designated parameters.**

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

Victaulic CG336 Series Portable Cut Groovers are packed in wooden crates that are designed for storage and repeated shipping. Tool accessories are packaged in a steel job box. **Save the original containers for return shipment of rental tools.**

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

CONTAINER CONTENTS

Wooden Crate

(1) Ring Tool
(2) Lifting Eyes

Wooden Crate & Ring Assembly

NOTE: All weights are approximate.

3" – 12" – 366 lbs./166 kg
14" – 18" – 394 lbs./179 kg
20" – 24" – 637 lbs./289 kg
30" – 36" – 719 lbs./326 kg

Steel Job Box

(1) Electric Power Drive Assembly
(2) Tool Head Assemblies (Electric)
(1) Tool Bag
- Hand Tools
- Maintenance Tools

Plastic Cases with Accessories

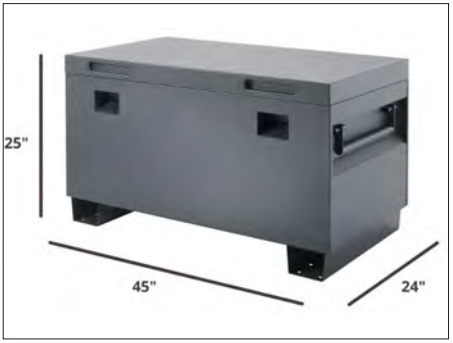
- Pipe Spacers
- "A" Dimension Modules
- Cutoff Blades
- Tool Bits

CG336 RATINGS - MAXIMUM PIPE SIZE AND WALL THICKNESS CAPACITY

		Pipe Size – inches												
Pipe Material	**Component**	**3**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**24**	**30**	**36**
Ductile Iron Pipe	Base Kit	–												
	Pipe Size Kit 3" – 12"	Class 53 Min.						–						
	Pipe Size Kit 14" – 18"	–						Class 53 Min.			–			
	Pipe Size Kit 20" – 24"	–									Class 53 Min.		–	
	Pipe Size Kit 30" – 36"	–											Class 53 Min.	
	Complete Kit	Class 53 Min.												

CONTAINER CONTENTS (CONTINUED)

Steel Job Box



Weight: 378 lbs./172 kg

NOTE: This weight is with an empty tool bag.

Steel Job Box Contents

Plastic Cases

3" – 6"

8" – 12"

14" – 18"

20" – 24"

30" – 36"

RING ASSEMBLY NOMENCLATURE

NOTICE

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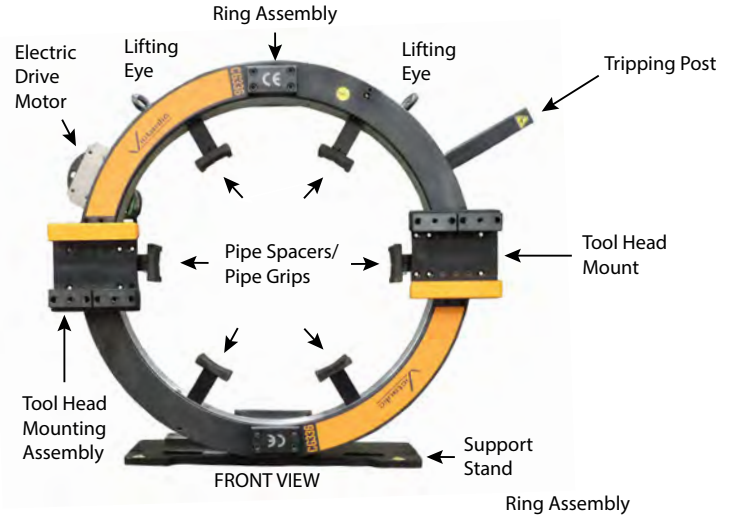
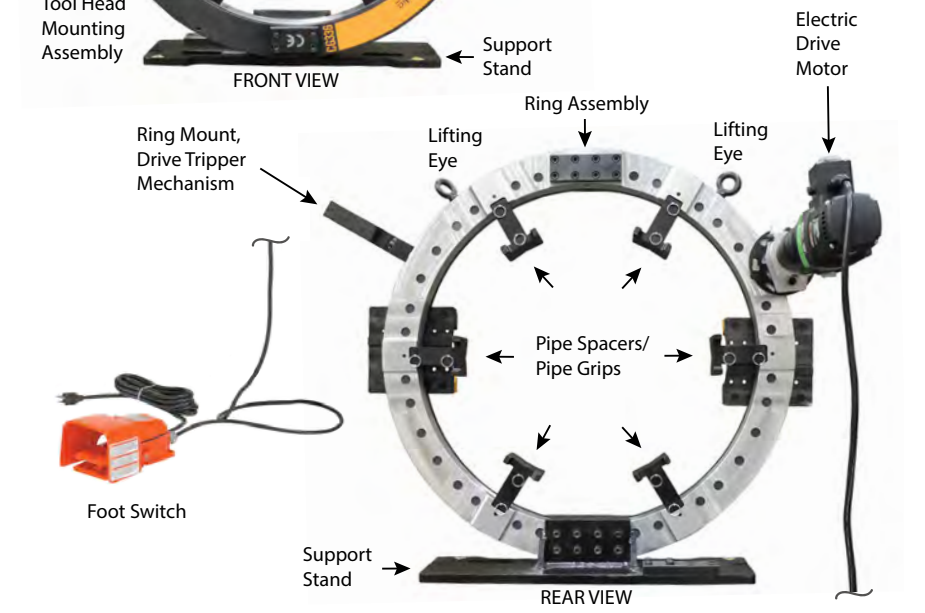
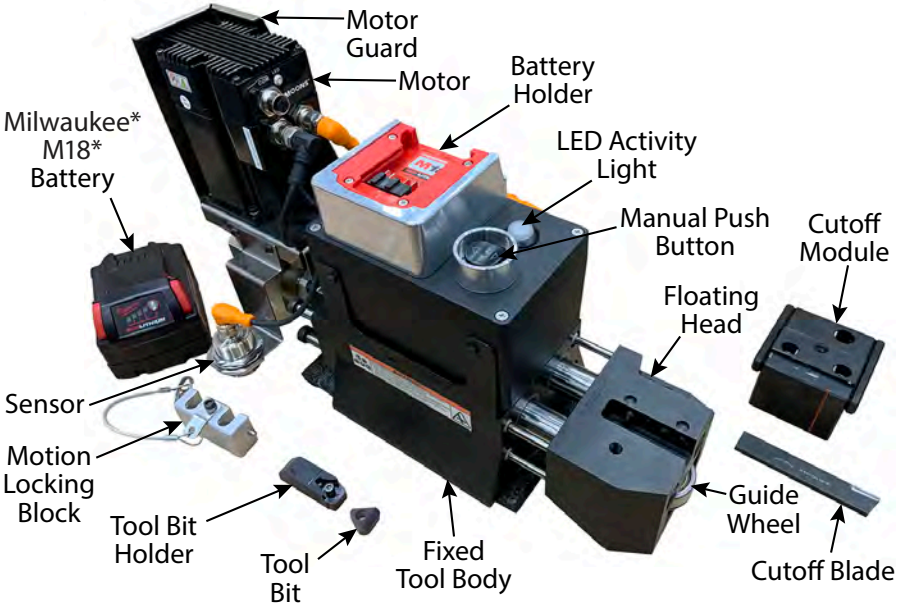
- **Any references to components from other manufacturers are noted as such and are registered trademarks or trademarks of those manufacturers.**





NOTE: Reference page 21 for number of spacers and pipe grips used per ring size.

TOOL HEAD ASSEMBLY NOMENCLATURE



* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

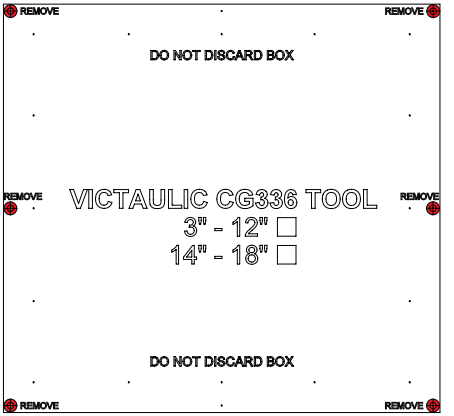
The motion locking block, cutoff module, and cutoff blade are used as part of the cutoff head assembly.

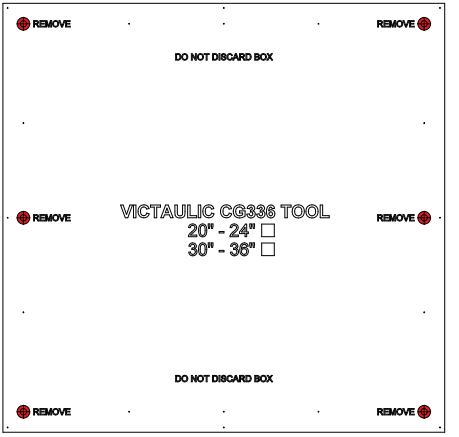
The tool bit holder and tool bit are used as part of the grooving head assembly.

UNPACKING THE RING ASSEMBLIES

The rings are securely restrained in the wooden crate by two angle brackets at the top of the tool and two hex bolts on the foot base.

1. To open the wooden crate, only remove the screws at the locations noted below, then lift the lid from the crate.





2a. Remove the bolt attaching each angle clamp to the tool.

2b. Rotate each angle clamp away from tool.

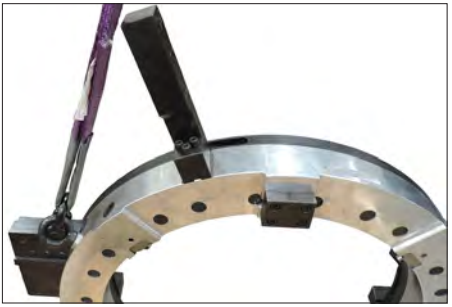
3. Attach the two lifting eyes into the threaded holes used by the angle brackets.

4. Connect lifting straps to lifting eyes.

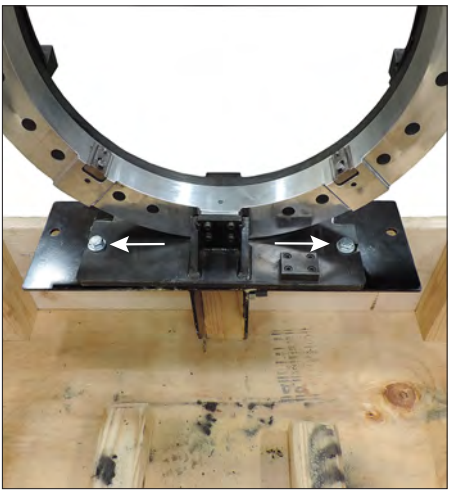
5. Using a hoist or other means, slowly lift the ring into an upright position.

6. Remove the three drive tripper mechanism screws and washers from the ring.

7. Reinstall and tighten the three screws to secure the drive tripper mechanism.



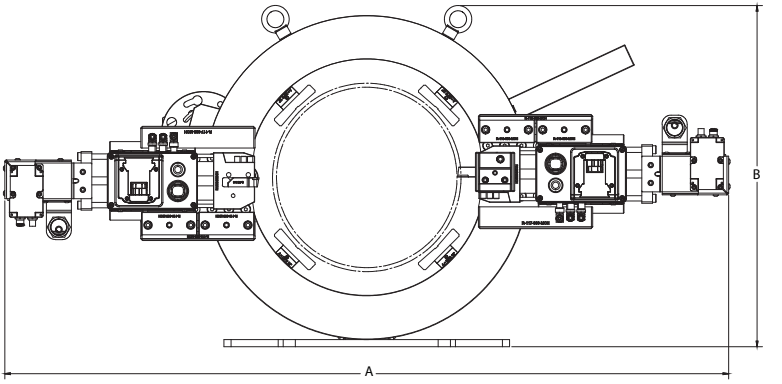
8. Loosen the two hex bolts on the foot base.

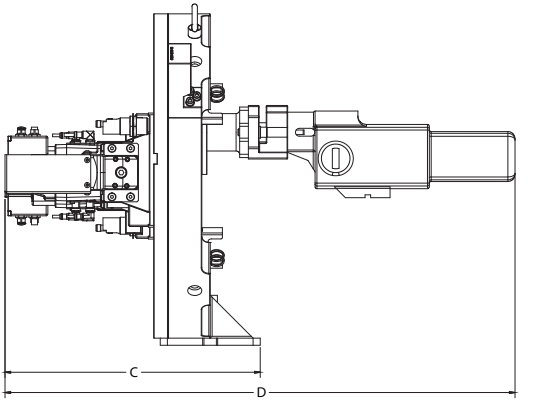


9. Remove ring away from wooden crate.

NOTE: Save the crate and all removed hardware for return shipment of rental tools.

TOOL DIMENSIONS AND SPECIFICATIONS





Tool Size	Dimensions – inches/millimeters				Assembled Tool Weight lbs/kg
	A	B	C	D	
3" – 12"	50 1270	24 609.6	18 457.2	36 914.4	305 138.3
14" – 18"	56 1422.4	30 762	18 457.2	36 914.4	334 151.5
20" – 24"	63 1600.2	38 965.2	20 508	36 914.4	425 192.8
30" – 36"	75 1905	50 1270	20 508	36 914.4	507 230

Tool sound pressure is 85.6 dB(A), while tool sound power is 93.6 dB(A). All measurements taken with an EIBENSTOCK* EAU 34/4 120V 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.

* EIBENSTOCK is a trademark of Elektrowerkzeuge GmbH Eibenstock

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 power cord from the electrical source.**

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

POWER DRIVE REQUIREMENTS

Victaulic CG336 Series Portable Cut Groovers connect directly to a 110V 50-60 Hz 20 amp power source. A hydraulic drive conversion kit may be ordered separately. Contact Victaulic for information regarding drive motors for alternate power sources.

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

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 drive motor while the tool is operating. Voltage drops may cause damage to the drive motor 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.

Power Drive Rating volts/amps	**Cord Lengths feet/meters**		
	25 8	**50 15**	**100 31**
110 20	12 gauge	12 gauge	10 gauge

PIPE SETUP

All coarse scale, dirt, and other foreign material must be removed from the interior and exterior surfaces of the pipe ends.

Victaulic CG336 Series Portable Cut Groovers are designed for field or shop use. Select a location for the grooving operation by taking into consideration the following factors:

a. The required power supply

b. Adequate space to handle pipe lengths

c. A firm and level surface for the hoist and pipe stand.

d. Anchoring requirements for the pipe stand

Pipe must be secured with a pipe stand or similar restraint at both ends to prevent movement. The system used must be capable of bearing the weight of the tool (see “Tool Dimensions” on page 12) in addition to the weight of the pipe being grooved.

⚠ WARNING

- **DO NOT use a hoist or similar lifting system to lift the tool with the pipe inside. The lifting bracket is designed to bear only the weight of the tool.**

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

Position the pipe to overhang the pipe stand by approximately 24" so that the tool can groove the pipe without being obstructed by the pipe stand.

MOTOR SETUP

⚠ WARNING

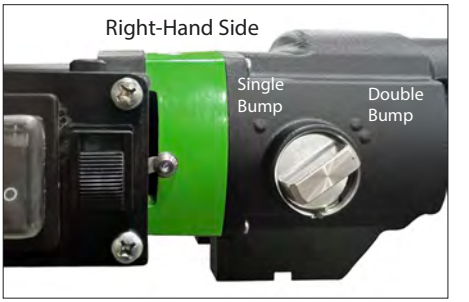
- **While the foot rest may be used to provide additional balance during setup, the tool must not be left freestanding on the foot rest alone.**
- **Support the tool with a hoist or similar restraint when using the foot rest.**

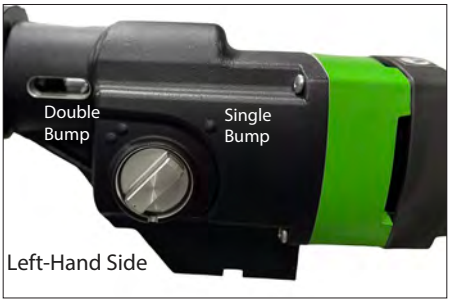
Failure to follow these instructions could damage the tool and cause product failure, resulting in property damage or death or serious personal injury.

The CG336 motor assembly ships separate from the tool. The same motor assembly is used for all four ring sizes. Maintenance, relocation, or storage may require removal of the motor assembly.

The motor has four available adjustments, described below.

The gear selection knob offers two different gears for the motor, symbolized by the single- and double-raised bumps above each dial.





Reference the "Gear Selection Table" below for the correct gear settings for each specific ring size.

GEAR SELECTION TABLE			
Ring Size	**Left Knob**	**Right Knob**	**Ring Rotation**
3" – 12"	Two bumps	One bump	23 RPM
14" – 18"	Two bumps	One bump	23 RPM
20" – 24"	One bump	Two bumps	6 RPM
30" – 36"	One bump	Two bumps	6 RPM

This setting creates the speed and torque necessary for cutting and grooving. **The other settings are not to be used. Damage to the tool head or cutting inserts may result.**

NOTICE

- **The gear selection of the drive motor is synchronized with the automated advancement of the tool heads during operation. Using a different gear combination to rotate the tool faster will slow down tool head movement, resulting in longer grooving cycle times.**

The direction switch is located to the left of the gear selection knob. The higher position drives the motor forward, while the lower position drives the motor backward. The motor must only be driven backward to loosen the blade if it becomes embedded in the pipe.

⚠ WARNING

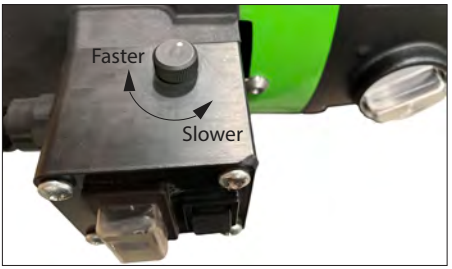
The electric motor features a safety delay. After depressing the switch, the motor will take 2 seconds to begin.

- **Do not interfere with the safety delay on the switch.**
- **Do not override the switch by obstructing or defeating it in any way.**

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

The master power switch is located to the left of the direction switch. The higher position is ON, while the lower position is OFF. Verify that the power switch is OFF before connecting to power.

The speed control knob is located above the power and direction switches. Turning the knob clockwise speeds up the motor, while turning the knob counterclockwise slows the motor.



The foot switch is wired in series with the master power switch. Verify that the foot switch is located on the control side of the tool, with adequate clearance for ease of use and to avoid a tripping hazard. During operation, the operator must be able to face the tool to monitor grooving and cutoff progress. Verify the electric cords of the foot switch are clear of the rotating tool heads during operation.

TOOL SETUP

The CG336 tool must be assembled and adjusted in a specific sequence. Performing the steps out of order or skipping steps may result in out of specification grooves and/or damage to cutting bits.

The following checklist details the appropriate order of setup.

- ☐ Ring selection for pipe size
- ☐ Pipe spacer and pipe grip installation
- ☐ Tool head mount adjustment
- ☐ Mount tool onto pipe
- ☐ Install drive motor assembly
- ☐ Tool head setup - grooving
- ☐ Tool head setup - cutoff
- ☐ Install tool heads onto tool

Ring Selection

The CG336 has four rings to select from for the pipe size needed:

- 3" – 12"
- 14" – 18"
- 20" – 24"
- 30" – 36"

There are two methods available for mounting the tool:

- Standard method – Pipe Mount – Pipe is supported and secured on pipe stands and the tool is fitted onto the end of the pipe

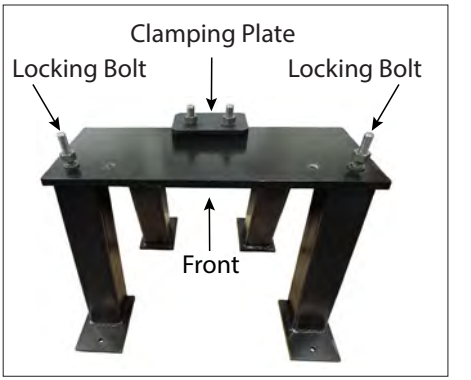
NOTE: Refer to the "Pipe Setup" section on page 14 for "Pipe Mount" method of mounting the tool.

- Optional method – Platform Mounting (optional purchase) – Tool is secured to platform and pipe is brought into the tool. **NOTE:** Additional pipe stands may be required to support pipe length.

Platform Mounting

The platform must be assembled and adjusted depending on the pipe size. There are two different configurations. One for pipe sizes 3" – 18" and one for pipe sizes 20" – 36".

The platform shown below is the 20" – 36" configuration with the short side of the clamping plate facing forward and the ring locking bolts in the outward position.



Follow steps 1-4 below to change the configuration for pipe sizes 3" – 18".

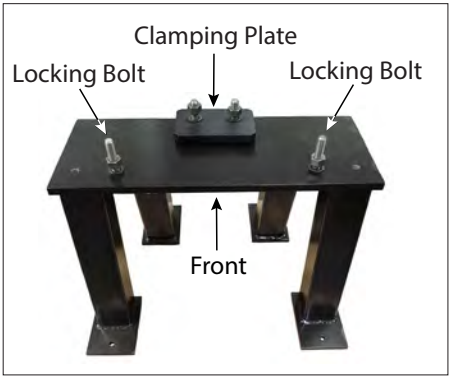
1. Move the two locking bolts, washers, and hex nuts from the outward position to the inward position.

2. Remove the two hex nuts and washers from the clamping plate.

3. Arrange the plate so the long side is facing forward.

4. Reinstall the two washers and hex nuts.

The platform shown below is the 3" – 18" configuration with the long side of the clamping plate facing forward and the ring locking bolts in the inward position.



GROOVING HEAD SETUP

Each of the two tool head assemblies can be used for grooving or cutoff operations. Select one and set it on a work surface.

1. Select the correct tool bit holder and tool bit for the pipe size being grooved.

2. Attach the tool bit to the tool bit holder using the supplied insert screw and flag wrench.

⚠ CAUTION

- **Only use the supplied flag wrench to attach the insert.**
- **Use of other tools for this may crack the insert.**

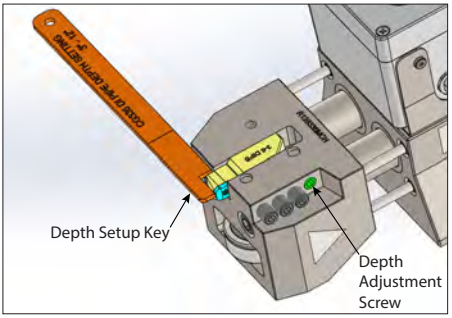
Failure to follow these instructions could damage the tool and cause product failure, resulting in property damage or personal injury.

3. Using the supplied 3/16" T-handle hex wrench, back out the three tool holder screws and the depth adjustment screw so the slot is completely open from the face of the tool head back.

4. Using a cloth, wipe the slot until it is clean.

5. Slide the tool bit holder assembly into the slot with the insert facing the screws. Place the face of the depth setup key against the face of the floating head.

6. Using the depth adjustment screw, rotate clockwise until the insert touches the notch of the depth setup key. Verify the correct key is being used for the pipe size.



NOTE: The initial groove depth can be set up before tool head is mounted on the ring as shown on pages 17 – 18, or alternatively with the tool head mounted on the ring as shown on page 27.

7. Tighten the three tool bit holder screws while pressing the tool bit holder into the slot. The tool bit holder will sit slightly out of the slot. Visually verify the tool bit holder is installed parallel with the tool bit holder slot.

8. Verify there is no motion locking block on the tool head being used for grooving operations.

The motion locking block must only be used on a tool head assembly that is set up as a cutoff head for cutting off the end of a pipe.

9. Install a Milwaukee* M18* battery into the battery holder. Verify forward and reverse functionality with the manual push button.

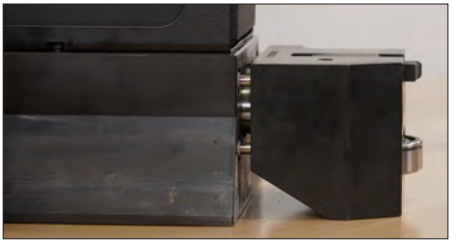
⚠ CAUTION

- **This tool has only been tested with Milwaukee* M18* batteries.**
- **Victaulic CANNOT guarantee compatibility or performance with any other battery.**

Failure to follow these instructions could damage the tool and cause product failure.

* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

10. Move the floating head, leaving a 1/8" gap between the head and body. Remove the Milwaukee* M18* battery.



NOTICE

- **Verify batteries are removed from tool heads when not in use.**

CUTOFF HEAD SETUP

Set the second tool head assembly onto a work surface.

1. Using the supplied 3/16" T-handle hex wrench, back out the three tool holder screws and the depth adjustment screw so the slot is completely open from the face of the tool head back.

2. Using a cloth, wipe the slot until it is clean.

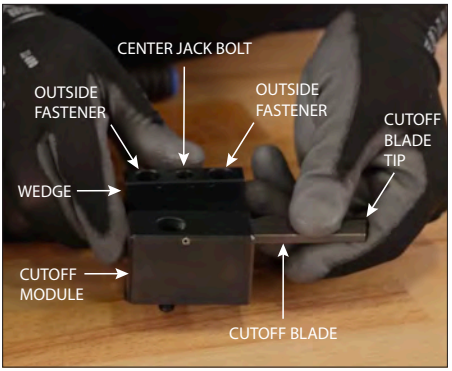
3a. Select the proper cutoff module for the pipe size and groove type (rigid vs. flexible). The size range and type is engraved on each module.

NOTE: Flexible modules also have a colored line to differentiate them. Refer to the image below.

3b. Loosen the two outside fasteners on the cutoff module wedge block.

3c. Verify the center jack bolt is retracted.

4. Slide a cutoff blade into the cutoff module so that the cutoff blade tip is facing the wedge.



5. Verify the back end of the cutoff blade shank is flush with the side of the cutoff module.

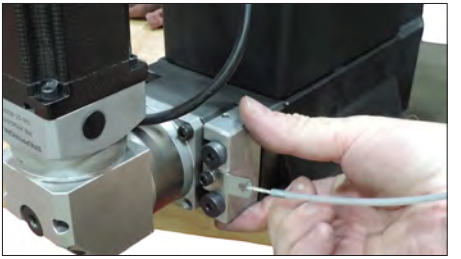
6. Tighten the two outer screws to secure the cutoff blade.

7a. Fit the assembled cutoff module into slot. Further retract the depth adjustment screw, if needed. It will not be used for this setup.

7b. Using the supplied 6mm T-handle hex wrench, tighten the face screw first to pull the cutoff module tight to the face of the floating head.

8. Using the supplied 3/16" T-handle hex wrench, tighten the three tool holder screws on the floating head. Do not tighten the depth adjustment screw.

9. Install the motion locking block across the two shoulder screws next to the right angle gearbox.



10. Slide the attached retainer pin completely through the motion locking block to lock it in place.

NOTE: If the motion locking block will not fit, the two shoulder screws may need to be loosened slightly with the supplied 3/16" T-handle hex wrench. Re-tighten the two shoulder screws after installing the motion locking block.

NOTICE

- **The motion locking block must only be used on a tool head assembly that is set up as a cutoff head for cutting off the end of a pipe.**

11. Install a Milwaukee* M18* battery into the battery holder. Verify forward and reverse functionality with the manual push button. Move the floating head, leaving a 1/8" gap between the head and body. Remove the Milwaukee* M18* battery.

⚠ CAUTION

- **This tool has only been tested with Milwaukee* M18* batteries.**
- **Victaulic CANNOT guarantee compatibility or performance with any other battery.**

Failure to follow these instructions could damage the tool and cause product failure.

NOTICE

- **Verify batteries are removed from tool heads when not in use.**

* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

PIPE SPACER AND GRIP INSTALLATION

Select the pipe spacers needed for the pipe diameter. Pipe size is engraved on each spacer block. Pipe grips are the same for all pipe sizes.

- Sizes 3" – 16" use (4) spacers and (4) pipe grips
- Size 18" does not use spacers, only (4) pipe grips
- Sizes 20" – 36" use (6) spacers and (6) pipe grips

1. Attach each pipe spacer to a spacer adjusting block on the inside of the ring.

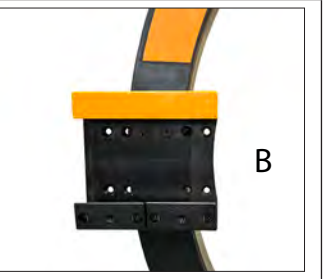
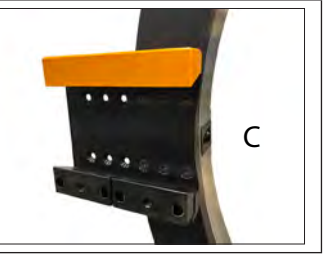
2. Align the positive triangle block with the negative triangle depression and fit together.

3. Slide a retaining pin into the hole until it stops.

4. Attach pipe grips to the pipe spacers using the same method.

TOOL HEAD MOUNT ADJUSTMENT

Each tool head mount is secured to the ring with (6) M8 x 1.25 x 20mm flat socket head screws. The tool head mount has a key that fits into a slot in the face of the ring. For most pipe sizes, the two tool head mounts on each ring will be secured such that the radius edge of the mount aligns with the inside diameter of the ring and all (6) fasteners can be used. The mount needs adjustment for the following pipe sizes:

Pipe Sizes	Tool Head Mount Position
3" and 30" – Adjust both mounts so that two rows of empty mounting holes are visible on the ID of the ring.	
4", 6", 14", 20" - Adjust both mounts so that one row of empty mounting holes are visible on the ID of the ring.	
For all other sizes, the two mounts are to be secured such that the radiused edge of the mount is aligned with the ID of the ring AND all (6) fasteners can be used.	

TOOL HEAD MOUNT CHART

	Pipe Size – inches												
	3	4	6	8	10	12	14	16	18	20	24	30	36
Position	A	B	B	C	C	C	B	C	C	B	C	A	C

MOUNT TOOL TO PIPE

Verify pipe is securely mounted – refer to the "Pipe Setup" section on page 14. Verify each of the pipe spacer adjusting blocks is fully retracted into the inside diameter of the ring.

1. Using the two supplied lifting eyes, attach a strap or chain that is rated for the weight of the ring. Lift the ring and slide it onto the pipe end.

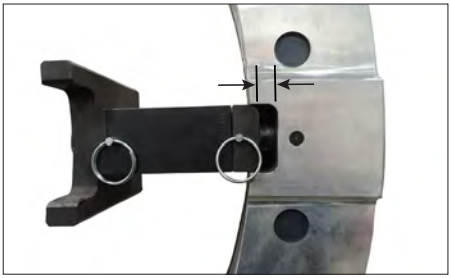
⚠ CAUTION

- **Avoid scratching or damaging the pipe when mounting the tool.**

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

2. Using the supplied 10mm T-handle hex key, start extending the pipe spacers using the spacer adjusting bolts on the outside diameter of the ring. Tighten each about three to four turns, moving from bolt to bolt until all are tight.

3. Looking at the back of the ring, visually check the gap in the spacer adjusting block pockets. The gaps should all be close in size. If not, loosen blocks where the gap is high and then tighten the block opposite. The ring should be roughly centered on the pipe.



NOTICE

- **While the tool is capable of fully grooving and cutting a pipe with the ring not centered, it adds considerable time to the process. Taking a few extra minutes in this step will facilitate the grooving and cutting process.**

⚠ WARNING

- **DO NOT use any other tools for tightening the ring. Impact guns and ratchet devices will damage the adjustment mechanism.**

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

4. Set digital level on pipe as shown and zero the level (see instructions supplied with level).

5. Remove level from pipe and place it on face of tool vertically. The level must read between 89.5 to 90.5 degrees. If level is outside of this range, loosen the two bottom pipe spacer adjusting bolts and shift the ring until desired range is reached on the level.

INSTALL DRIVE MOTOR ASSEMBLY

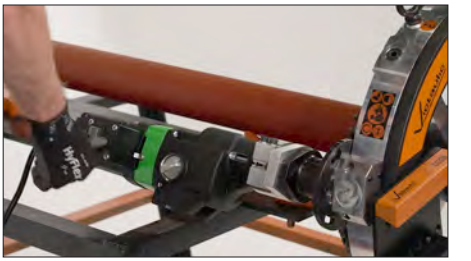
Verify the two motor flange bolts are loose enough for the motor flange to fit over them.

1. Align the motor assembly such that the control switches are facing away from the pipe. Fit the flange over the flange bolts. Move the face of the ring in either direction, if needed, to align the center spline.

2. Once the spline is inserted, rotate the assembly and tighten the two flange bolts.

3. Plug motor in and verify ring face is turning clockwise when viewed from the front of the tool.

4. Set speed adjustment to slow speed. Verify gear selector switches are set correctly. Tool will stall or not cut correctly if correct gear setting is not used.



5. Rotate ring so that tool head mounts are in the 3:00 and 9:00 o'clock positions. Unplug the drive motor.

TOOL HEAD INSTALLATION

Verify drive motor is not plugged in and the Milwaukee* M18* batteries have been removed from the grooving and cutoff heads. Verify the two wedge blocks are loose on each mount. Refer to “Grooving Head Setup” and “Cutoff Head Setup” in this manual.

NOTICE

- **Verify batteries are removed from tool heads when not in use.**

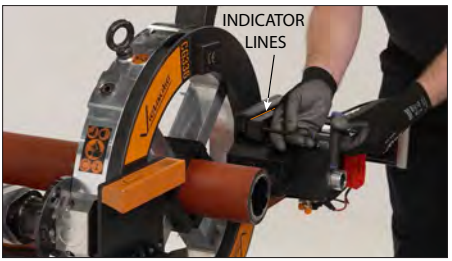
1. Slide the assembled cutoff head into one of the mounts slowly. Stop when the tip of the cutoff blade is 1/4" from the surface of the pipe.

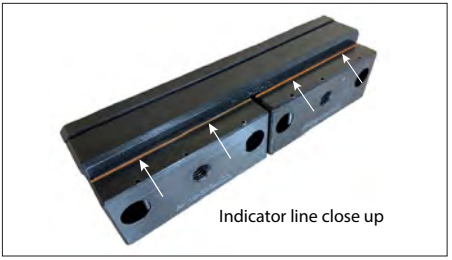
2a. Tighten the two tool head wedge blocks to secure the cutoff head.

2b. Verify center jack bolt is retracted on each wedge block.

2c. Tighten the two outer screws of each wedge block.

2d. Repeat tightening each wedge block until the indicator lines on each block form a straight line and are the same distance above the cutoff head mount.





3. Pull on the cutoff head to verify it will not slip when the ring is rotated slowly.

4. Plug in the drive motor and rotate the ring slowly. Monitor the gap between the cutoff blade and the pipe surface as it moves around the pipe. The point where the gap is the smallest is the “high spot” of the pipe. Rotate the tool head so the cutoff blade is above the high spot.

5. Unplug the drive motor and back off the two wedge block bolts that were tightened earlier.

* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

6. Use the center jack if needed to loosen wedge block. Be careful to not let the cutoff head slide into the pipe or out of the mount.

⚠ WARNING

- **Verify that the cutoff head is stable while bolts are loosened to ensure the head does not slip in the holder.**

Failure to follow this instruction could cause the cutoff head to fall to the ground or crash the bit into the pipe, resulting in personal injury and product/property damage.

7. Move tool head so the cutoff blade is 1/16" – 1/8" above the high spot.

8. Tighten the two outer wedge block bolts and verify the center jack bolt is retracted on each wedge block.

⚠ WARNING

- **Verify that the wedge block bolts are tightened sufficiently.**

Failure to follow this instruction could cause the cutoff head to crash into the pipe or fall out of the mount, resulting in personal injury and product/property damage.

9. Plug in drive motor and rotate ring until the other tool head is above the high spot. Repeat steps 6-8.

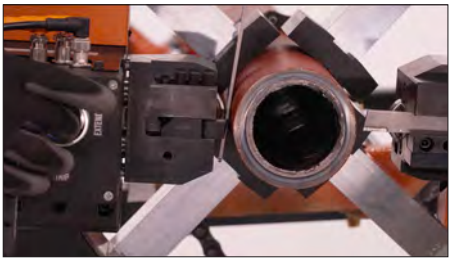
GROOVING HEAD GROOVE DEPTH SETUP – ALTERNATE METHOD

There is an alternate method to setting up groove depth. The previous description in the "Grooving Head Setup" section was for a grooving head that was not yet installed on the ring. The following method will set the tool bit when the grooving head is installed on a pipe. Both methods will produce the same groove depth.

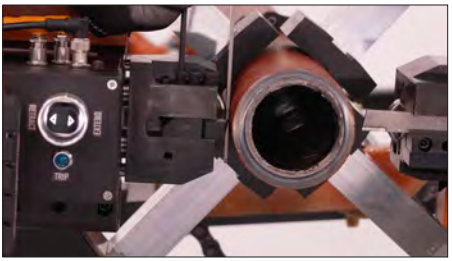
1. Verify there is no motion locking block on the grooving head. **The motion locking block must only be used on a tool head assembly that is set up as a cutoff head for cutting off the end of a pipe.**

2. Using the manual push button on the grooving head, extend the floating head out until the guide wheel is about 1/4" from the pipe surface. Select the correct groove depth setup key and place the machined end in between the guide wheel and the pipe.

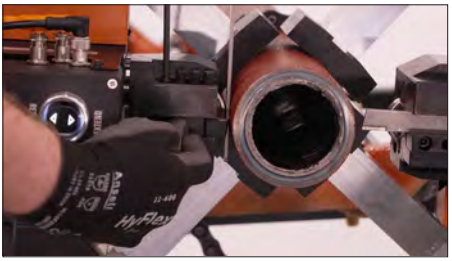
3. Extend the floating head until the key is pinched between the guide wheel and the pipe.



4. Loosen the three tool holder screws.



5. Rotate the depth adjustment screw clockwise until the tip of the tool bit touches the pipe surface. Tighten the three tool holder screws while pressing tool bit holder into slot and against the cone point of the depth adjustment screw.



6. Using the manual push button on the cutoff head, retract the floating head away from the pipe until there is at least a 1/4" gap between the cutoff blade and the pipe surface.

GROOVING / CUTOFF OPERATIONS

1. Install a Milwaukee* M18* battery on both the cutoff head and grooving head.

CAUTION

- **This tool has only been tested with Milwaukee* M18* batteries.**
- **Victaulic CANNOT guarantee compatibility or performance with any other battery.**

Failure to follow these instructions could damage the tool and cause product failure.

2. On the drive motor, turn the speed control fully counter-clockwise to select the slowest motor speed. Connect the power cord to an internally-grounded electrical source.

3. Press the foot switch and allow the cutoff and grooving heads to make a single rotation around the pipe. If either the cutoff blade or tool bit start to touch the pipe, stop rotation and press the manual push button on the applicable tool head to retract the cutoff blade or tool bit. Proceed with completing the full rotation.

4. After the cutoff and grooving heads have completed a single rotation, turn the motor speed control dial clockwise for full motor speed.

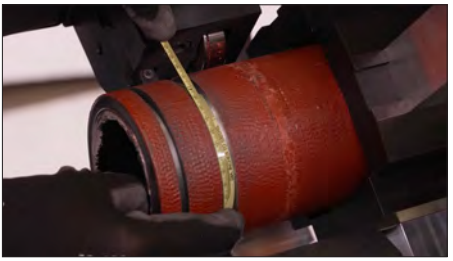
* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

5. Press the foot switch and allow the tool heads to advance automatically into the pipe for grooving and cutoff.

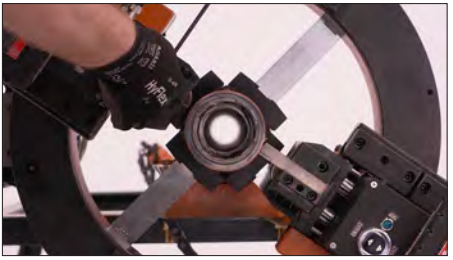
6. Allow sufficient time for the grooving head to advance into the pipe and make a complete groove around the pipe. When there are no more chips being cut anywhere from the groove, the tool needs to be stopped for a quality check. Stop the rotation when the grooving head is at the 9:00 - 10:00 position. Remove foot from foot switch and disconnect power cord.

7. Using the manual push button on the grooving head, retract the tool bit completely from the groove. On the cutoff head, press the retract button one time to slightly back off the cutoff blade from the pipe surface. The cutoff blade does not need to be retracted completely.

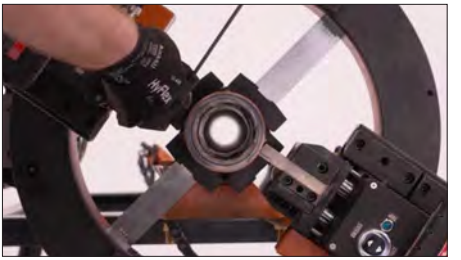
8. Use a pipe tape to measure the groove diameter. It is expected to be shallow and just outside of specification when the depth setup gauges are used. Determine the amount of additional depth needed to bring the groove diameter into specification.



9. Loosen the three tool holder screws. Rotate the depth adjustment screw clockwise. Each 1/4" turn of this screw will advance the tool bit 0.012". This will increase the groove depth 0.012" and reduce groove diameter by 0.024".

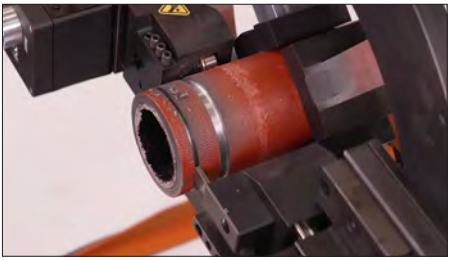


10. When finished with the depth adjustment, tighten the three tool holder screws while pressing the tool holder into the slot. The tool holder will sit slightly out of the slot. Visually verify the tool holder is installed evenly with the tool holder slot.



11. Using the manual push button on the grooving head, bring the floating head into the pipe until there is only a small gap between the tool bit and the surface of the groove. There is no need to make any adjustments to the cutoff head.

12. Plug the power cord back in and resume cutting operations. The groove will be complete before the pipe end is cut off.



13. When there are no more chips or cutting happening with the groove, stop the tool and use the manual push button on the grooving head to fully retract the floating head, freeing the tool bit from the groove. Remove the Milwaukee* M18* battery from the battery holder on the grooving head. This step reduces wear and extends the life of the tool bit.

⚠ WARNING

- **It is the responsibility of the operator to support the portion of pipe that is being cut off. Falling pieces of pipe can damage tool heads.**

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

14. Press the foot switch and complete the pipe cutoff. After the cutoff is complete, release the foot switch and stop the tool.

* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

15. Using the manual push button on the cutoff head, retract the floating head completely. Remove the Milwaukee® M18® battery from the battery holder of the cutoff head.

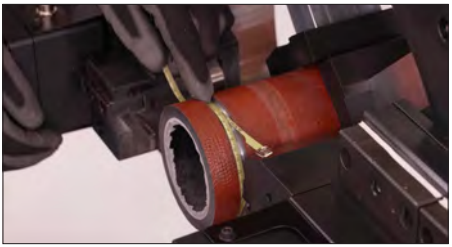
NOTICE

- **Verify batteries are removed from tool heads when not in use.**

16. Unplug the tool.

17. Use the supplied Groove Verification Gauge to verify the "A" dimension is within specification. Test the "GO" and "NO-GO" sides of the gauge for pipe size and groove type that is being cut.

18. Use a pipe tape to measure the groove diameter. Refer to the "Groove Specifications" section on page 37.



NOTICE

- **The tool may be removed from the pipe. Using the 10mm T-handle hex wrench, loosen the pipe clamps on the bottom of the ring. If moving tool to a new pipe end of the same size, the top pipe clamps are in the proper position to center the tool without adjustment.**

GROOVING SHORT SECTIONS OF PIPE

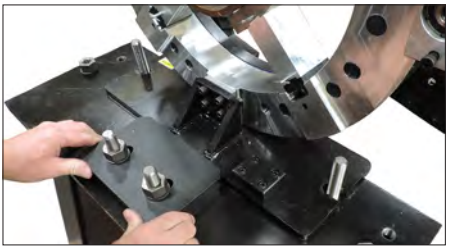
The instructions below show this process using the 3" – 18" platform. If grooving pipe sizes larger than 18" refer to the "Platform Mounting" section on page 16. **NOTE:** The shortest length of pipe that can be safely grooved is 7 ½".

⚠ WARNING

- **DO NOT attempt to groove pipe lengths shorter than 7 ½".**

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

1. Place the ring onto the platform and slide the clamping plate forward.

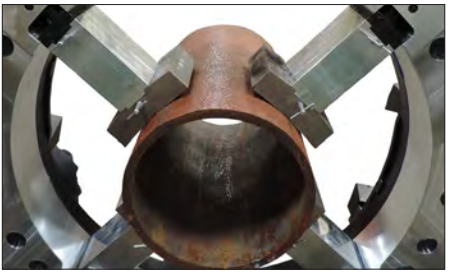


2. Place a washer and hex nut onto each of the two locking bolts and tighten to secure.

3. Tighten the two hex nuts on the clamping plate to secure.

4. Using the supplied 10mm T-handle hex key, start extending the pipe spacers using the spacer adjusting bolts on the outside diameter of the ring. Tighten each about three to four turns, moving from bolt to bolt until all are tight.

5. Looking at the back of the ring, visually check the gap in the spacer adjusting block pockets. They must all be the same. If not, loosen blocks where the gap is high and then tighten the block opposite. The ring must be roughly centered on the pipe.



6. Install the drive motor onto the ring as shown. Refer to the "Install Drive Motor Assembly" section in this manual.

7. Slide a tool head in each mount slowly. Stop when the tip of the cutting tool is 1/4" from the surface of the pipe. Tighten to secure. Refer to the "Tool Head Installation" section in this manual.

8. Install Milwaukee* M18* batteries into each of the tool heads.

* Milwaukee and M18 are registered trademarks or trademarks of Milwaukee Electric Tool Corporation.

⚠ CAUTION

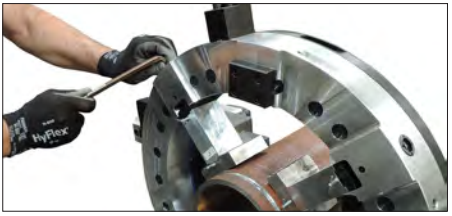
- **This tool has only been tested with Milwaukee* M18* batteries.**
- **Victaulic CANNOT guarantee compatibility or performance with any other battery.**

Failure to follow these instructions could damage the tool and cause product failure.

9. Proceed to grooving/cutoff of the pipe. Refer to the "Grooving/Cutoff Operations" section in this manual. When the grooving/cutoff process is complete, use the manual push buttons on the tool heads to retract the floating head completely.

10. Use a pipe tape to measure the groove diameter. Refer to the "Groove Specifications" section on page 37.

11. Loosen the top two pipe spacers to remove the pipe.



12. Repeat the process for the opposite end of the pipe.

MAINTENANCE

DANGER

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

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

Daily

At the end of each day or just prior to use, the tool must be cleaned of chips and debris. Pay particular attention to the tool head block, where chips can become stuck. Lubricate tool head guide rods with light machine oil. Actuate tool head movement back and forth to distribute oil in bushings.

Verify batteries are sufficiently charged.

Weekly

At the end of each week, the following additional steps are required.

1. Using a lithium-based mineral oil grease, grease the ring gear at the grease fitting on the face of the ring. Rotate the ring during grease application to ensure even distribution.

2. Clear debris around the lower pipe clamps. Pay particular attention to debris buildup in the pockets.

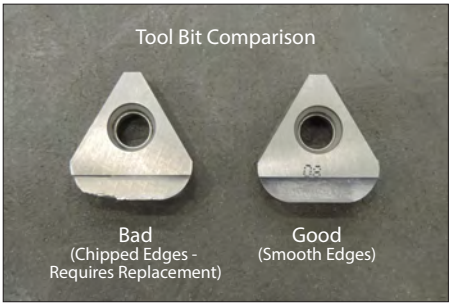
3. Lubricate exposed hex head screws with light machine oil.

Before Grooving Pipe

Inspect cutoff blade and tool bits to verify they are not chipped or damaged.

NOTE: Cutoff blades can be resharpened. Grooving tool bits CANNOT be resharpened.

Reference the photo below for examples of a tool bit in good condition, versus a tool bit with damaged/chipped edges that requires replacement.



PARTS ORDERING INFORMATION

When ordering parts, reference the latest version of the RP-CG336 Repair Parts List, which can be downloaded at victaulic.com. The following information is required for Victaulic to process the order and send the correct part(s).

1. Tool Model Number – CG336
2. Tool Serial Number – The serial number can be found on the tool's nameplate.
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

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

ACCESSORIES/COMPONENTS

Base Kit: Includes common core components utilized with all pipe size kits.

Part Number: R052336KIT

- (2) Electric Tool Heads
- (1) Motor Assembly
- (1) Hand Tool Kit

Pipe Size Kits: (Choose one or more): Includes an externally-mounted ring that corresponds with a range of allowable pipe sizes.

3" – 12" Part Number: R062336KIT

- (1) 3" – 12" Ring and Accessories

14" – 18" Part Number: R072336KIT

- (1) 14" – 18" Ring and Accessories

20" – 24" Part Number: R082336KIT

- (1) 20" – 24" Ring and Accessories

30" – 36" Part Number: R092336KIT

- (1) 30" – 36" Ring and Accessories

Complete Kit: Includes base kit and all four pipe size kits.

Part Number: R000336KIT

Accessories:

Optional Platform

Part Number: R195336ASY

Cutoff Blade

Part Number: R046336MCH

Tool Bits (Qty. 10/Pkg.)

3" – 6" Part Number: RK00T30P0P

8" – 12" Part Number: RK00T30P1P

14" – 18" Part Number: RK00T30P2P

20" – 24" Part Number: RK00T30P2P

30" – 36" Part Number: RK00T30P3P

Refer to the "Grooving Head Setup" section on page 17 for replacement instructions.

BATTERY DISPOSAL REQUIREMENTS

The toolbox may contain lithium-ion batteries that require care in storage, transport, and disposal. Any expired batteries shall be disposed of properly in accordance with the US Environmental Protection Agency's (EPA's) Used Lithium-Ion Batteries website and any additional local/jobsite requirements.

PACKAGING THE RINGS FOR RETURN SHIPMENT TO VICTAULIC

When packing the ring tool for return shipping, verify that all accessories are removed from the ring with the exception of the tool head mounts. The tool head mounts must be placed at the 3:00 and 9:00 positions.

Reverse the instructions on pages 10-11:

1. Move ring to wooden crate.

2. Move hinge plate inside crate to a horizontal position. Lower tool onto hinge plate, aligning slots in foot base with holes in hinge plate. Tighten the two hex bolts on the foot base.

3. Remove the drive tripper mechanism. Place tripper and fasteners into pocket in crate. Wrap with foam to prevent damage.

4. Using a hoist or other means, slowly lower the ring into a prone position.

5. Remove lifting straps from lifting eyes.

6. Remove the two lifting eyes from the threaded holes used by the angle brackets.

7. Rotate the angle clamp toward the tool.

8. Connect the bolt attaching each angle clamp to the tool.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Tool bit chatters.	Tool bit is loose or overextended.	Tighten or retract tool bit.
	Tool bit is damaged.	Replace tool bit.
	Tool holder is too loose in the slides.	Tighten tool holder.
	Cutting bit is worn.	Replace cutting bit /insert.
	Cutting speed is too fast.	Adjust cutting speed slower.
	Clamping pads are loose on the pipe.	Tighten clamping pads.
	Ring position is shifting on pipe.	Tighten pipe spacer adjustment screws.
	Incorrect motor gear selection.	Refer to gear selection table on page 15.
	Motor speed too high.	Slow down motor speed.
Excessive tool bit wear.	Scale or other foreign material is present on the pipe.	Clean pipe to remove foreign material.
	Cutting speed is too fast.	Adjust cutting speed.
Rough surface finish.	Tool bit is chipped or dull.	Replace tool bit.
	Cutting speed is too fast.	Adjust cutting speed slower.
Tool bit does not reach the work, or grooves are too shallow.	Foreign material caught between guide wheel and pipe.	Clean pipe and guide wheel to remove foreign material.
	Groove bit depth not set correctly.	Adjust groove bit depth.
	Tool head positioned too far away from pipe surface.	Lower tool head on mounting plate and/or change position of mounting plate on ring.

TROUBLESHOOTING (CONTINUED)

PROBLEM	POSSIBLE CAUSE	SOLUTION
Tool bit is digging in and/ or drive motor is stalling.	Improper clearance of tool bit to pipe surface.	Manually retract floating head and reset clearance to high spot.
	Guide wheel is missing or broken.	Replace guide wheel.
	Tool bit is overextended.	Retract tool bit.
	Tool bit holder is overextended.	Retract tool bit holder.
Pipe or ring is slipping, or ring is moving back and forth during grooving.	Clamping pressure is not tight enough.	Tighten the pipe spacer adjustment screws.
	Scale or other foreign material is present on the pipe.	Clean pipe to remove foreign material.
	Dull tool bits are causing extra force in the axial or radial direction.	Replace tool bits.
	Scale or other foreign material is present on the pipe grips.	Clean pipe grips to remove foreign material.
Electric drive motor does not start.	Electric supply not available.	Check plugs and circuit breakers of electrical supply.
	Motor brushes worn.	Replace motor brushes.
	Thermal overload may have tripped.	Verify that the extension cord isn't too long for the gauge. Reference the "Extension Cord Requirements" section. Allow time for motor to cool.
Electric drive motor stalls.	Rotation speed is too fast for pipe diameter.	Adjust motor to low gear and restart grooving.
	Motor brushes worn.	Replace motor brushes.
	Pipe cutoff is pinching cutoff blade.	Support pipe cutoff to eliminate movement and pinching.
	Extension cord is too long for the gauge.	Reference the "Extension Cord Requirements" section.
Electric drive motor is running but ring is not rotating.	Motor is not in gear.	Verify both motor gear selection knobs are fully engaged.
	Taper drive shaft is loose.	Remove mount collar on motor and re-seat taper shaft.
	Taper drive shaft is broken.	Remove mount collar on motor and replace taper drive shaft.
Tool head motor not running, red LED flashing or solid.	Program fault, motor shorted, or wiring fault.	Contact Victaulic for a replacement motor.
Pipe spacer adjusting nuts are backing out of ring body.	Nuts can loosen under excessive vibration over time.	Apply Loctite* Threadlocker Blue 242* to nuts and tighten back into ring body using the supplied spanner wrench. Do not overtighten. Nuts must be flush with outside of ring surface.

* Loctite and Threadlocker Blue 242 are registered trademarks of the Henkel Corporation

GROOVE SPECIFICATIONS

For the most up-to-date information regarding radius cut groove specifications, reference the current revision of Victaulic publication 25.05, which can be viewed/ downloaded by scanning the mobile QR code link to the right, or by clicking on this desktop link:
https://assets.victaulic.com/assets/uploads/literature/25.05.pdf

CG336 Portable Cut Groover for 3" – 36" AWWA Ductile Iron Pipe

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