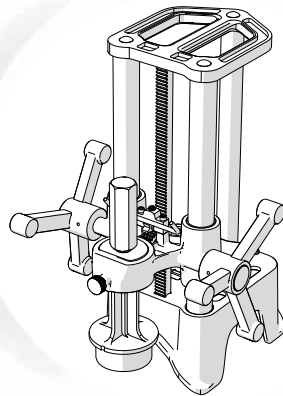


Operator's Manual



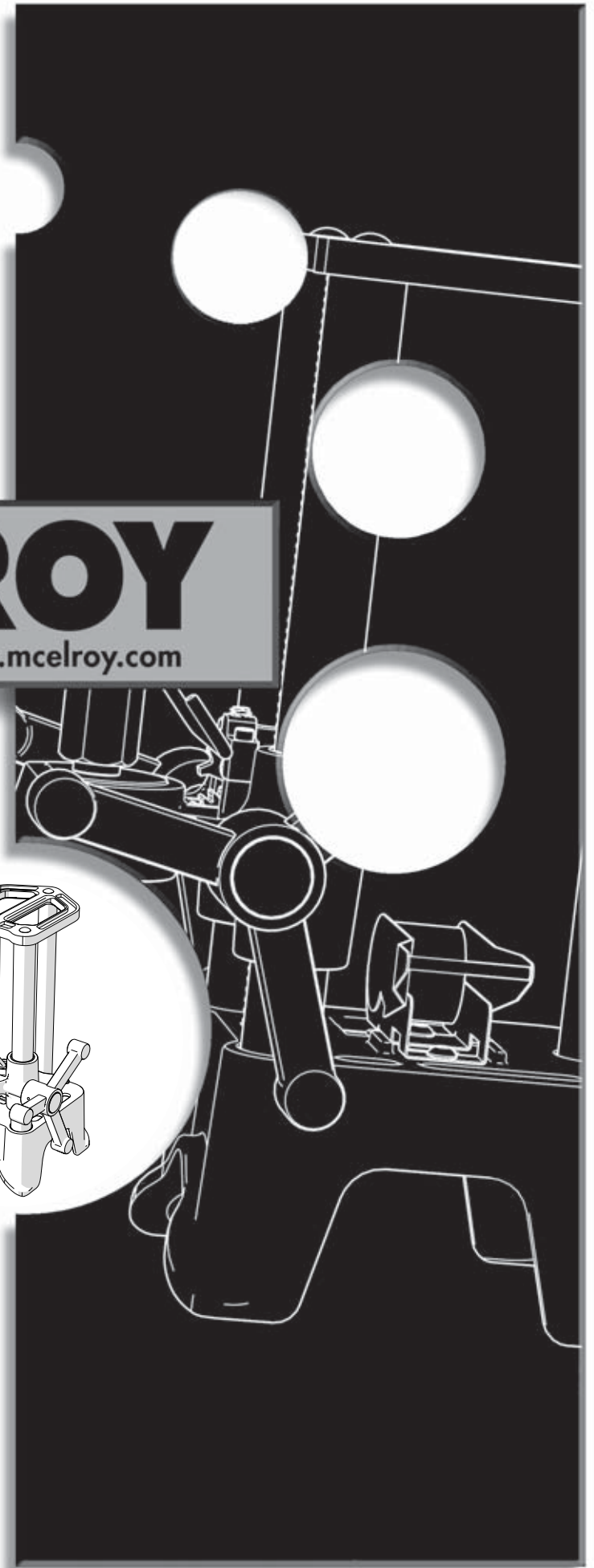
McELROY

www.mcelroy.com



HORNET™

Fusion Machine



This product and other products
could be protected by patents or
have patents pending. All the latest
patent information is available at
patent.mcelroy.com

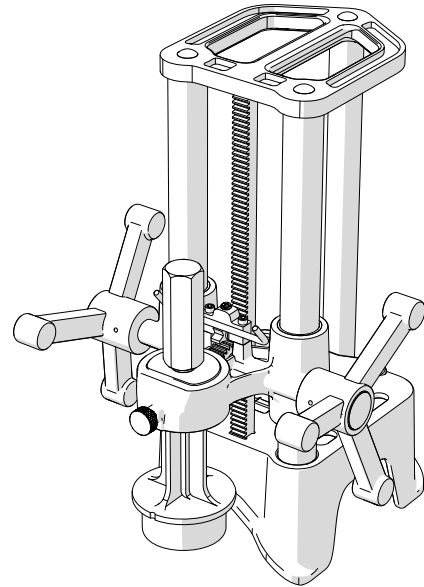
Introduction

Thank You for choosing McElroy

The McElroy Hornet™ is a manually operated fusion machine for fusing 20mm to 63mm outlets onto all main sizes.

With reasonable care and maintenance, this machine will give years of satisfactory service.

Before operating this machine, please read this manual thoroughly, and keep a copy with the machine for future reference. This manual is to be considered part of your machine.



CD01947-02-09-17

TX05216-02-22-17

McElroy University

For more than 30 years, McElroy has been the only pipe fusion machine manufacturer to continuously offer advanced training. Course offerings are meant to enhance your efficiency, productivity and safety in the proper use of McElroy machines. McElroy University classes are structured so that the skills learned and the machines used in each class closely match the machines found on pipelining jobsites. We offer training at our facility or yours. Our uniquely qualified McElroy University course instructors offer years of industry experience.

Tuition for each course includes lunches, course materials and a certificate of completion. Online registration, as well as up-to-date course offerings and dates, is available at www.mcelroy.com/university

This manual is intended as a guide only and does not take the place of proper training by qualified instructors. The information in this manual is not all inclusive and can not encompass all possible situations that can be encountered during various operations.



MU203-13-14

TX04659-03-24-14

Warranty

LIMITED WARRANTY

McElroy Manufacturing, Inc. (McElroy) warrants all products manufactured, sold and repaired by it to be free from defects in materials and workmanship, its obligation under this warranty being limited to repairing or replacing at its factory and new products, within **5 years** after shipment, with the exception of purchased items (such as electronic devices, pumps, switches, etc.), in which case that manufacturer's warranty applies. Warranty applies when returned freight is prepaid and which, upon examination, shall disclose to have been defective. This warranty does not apply to any product or component which has been repaired or altered by anyone other than McElroy or has become damaged due to misuse, negligence or casualty, or has not been operated or maintained according to McElroy's printed instructions and warnings. This warranty is expressly in lieu of all other warranties expressed or implied. The remedies of the Buyer are the exclusive and sole remedies available and Buyer shall not be entitled to receive any incidental or consequential damages. Buyer waives the benefit of any rule that disclaimer of warranty shall be construed against McElroy and agrees that such disclaimers herein shall be construed liberally in favor of McElroy.

RETURN OF GOODS

Buyer agrees not to return goods for any reason except upon the written consent of McElroy obtained in advance of such return, which consent, if given, shall specify the terms and conditions and charges upon which any such return may be made. Materials returned to McElroy, for warranty work, repair, etc., **must have a Return Material Authorization (RMA) number**, and be so noted on the package at time of shipment. For assistance, inquiry shall be directed to:

McElroy Manufacturing, Inc.
P.O. Box 580550
833 North Fulton Street Tulsa, Oklahoma 74158-0550
PHONE: (918) 836-8611, FAX: (918) 831-9285.
EMAIL: fusion@McElroy.com

Note: Certain repairs, warranty work, and inquiries may be directed, at McElroy's discretion, to an authorized service center or distributor.

DISCLAIMER OF LIABILITY

McElroy accepts no responsibility of liability for fusion joints. Operation and maintenance of the product is the responsibility of others. We recommend qualified joining procedures be followed when using McElroy fusion equipment.

McElroy makes no other warranty of any kind whatever, express or implied; and all implied warranties of merchantability and fitness for a particular purpose which exceed the aforesaid obligation are hereby disclaimed by McElroy.

PRODUCT IMPROVEMENT

McElroy reserves the right to make any changes in or improvements on its products without incurring any liability or obligation to update or change previously sold machines and/or the accessories thereto.

INFORMATION DISCLOSED

No information of knowledge heretofore or hereafter disclosed to McElroy in the performance of or in connection with the terms hereof, shall be deemed to be confidential or proprietary, unless otherwise expressly agreed to in writing by McElroy and any such information or knowledge shall be free from restrictions, other than a claim for patent infringement, is part of the consideration hereof.

PROPRIETARY RIGHTS

All proprietary rights pertaining to the equipment or the components of the equipment to be delivered by McElroy hereunder, and all patent rights therein, arising prior to, or in the course of, or as a result of the design or fabrication of the said product, are exclusively the property of McElroy.

LAW APPLICABLE

All sales shall be governed by the Uniform Commercial Code of Oklahoma, U.S.A.

Register your product online to activate your warranty:
www.McElroy.com/fusion

(Copy information listed on the machine nameplate here for your records).

Model No. _____

Serial No. _____

Date Received _____

Distributor _____

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Fusion Equipment Safety

Safety Alerts

This hazard alert sign  appears in this manual. When you see this sign, carefully read what it says. YOUR SAFETY IS AT STAKE.

You will see the hazard alert sign with these words: DANGER, WARNING, and CAUTION.



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

In this manual you should look for two other words: **NOTICE** and **IMPORTANT**.

NOTICE: can keep you from doing something that might damage the machine or someone's property. It may also be used to alert against unsafe practices.

IMPORTANT: can help you do a better job or make your job easier in some way.

TX00030-12-1-92



WR00051-11-30-92

Read and Understand

Do not operate this equipment until you have carefully read, and understand all the sections of this manual, and all other equipment manuals that will be used with it.

Your safety and the safety of others depends upon care and judgment in the operation of this equipment.

Follow all applicable federal, state, local, and industry specific regulations.

McElroy Manufacturing, Inc. cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the machine are therefore not all inclusive. You must satisfy yourself that a procedure, tool, work method, or operating technique is safe for you and others. You should also ensure that the machine will not be damaged or made unsafe by the method of operation or maintenance you choose.



TX02946-4-15-09

WR00052-12-1-92

Fusion Equipment Safety

General Safety

Safety is important. Report anything unusual that you notice during set up or operation.

LISTEN for thumps, bumps, rattles, squeals, air leaks, or unusual sounds.

SMELL odors like burning insulation, hot metal, burning rubber, hot oil, or natural gas.

FEEL any changes in the way the equipment operates.

SEE problems with wiring and cables, hydraulic connections, or other equipment.

REPORT anything you see, feel, smell, or hear that is different from what you expect, or that you think may be unsafe.



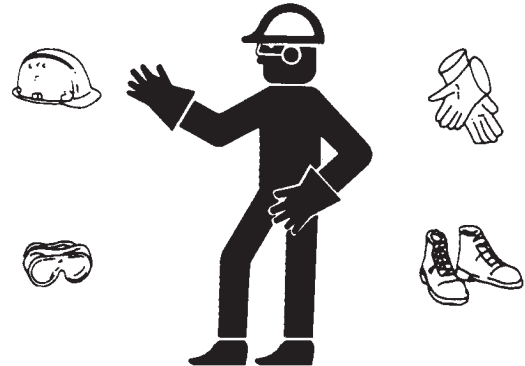
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Wear Safety Equipment

Wear a hard hat, safety shoes, safety glasses, and other applicable personal protective equipment.

Remove jewelry and rings, and do not wear loose-fitting clothing or long hair that could catch on controls or moving machinery.



WR00053-12-92

TX00032-4-7-93

Heater Is Not Explosion Proof



This heater is not explosion proof. Operation of heater in an explosive atmosphere without necessary safety precautions will result in serious injury or death.

If operating in an explosive atmosphere, the heater should be brought up to temperature in a safe environment, then **unplugged before entering** the explosive atmosphere for fusion.



WR00034-11-30-92

TX00100-04-28-14

Fusion Equipment Safety

Electrical Safety

⚠ WARNING Always ensure equipment is properly grounded. It is important to remember that you are working in a wet environment with electrical devices. Proper ground connections help to minimize the chances of an electric shock.

Frequently inspect electrical cords and unit for damage. Have damaged components replaced and service performed by a qualified electrician.

NOTICE: Always connect units to the proper power source as listed on the unit, or in the owner's manual.

NOTICE: Disconnect the machine from the power source before attempting any maintenance or adjustment.

⚠ WARNING Disconnect the machine from the power source before attempting to service. Failure to disconnect the power could result in serious injury or death due to electric shock. Refer service to a qualified technician.



WR00055-4-7-93



WR00025-11-30-92

TX05217-02-22-17

Power Tool Safety

⚠ WARNING Read and understand the all instructions provided with your power tool. Failure to follow all the power tool instructions, may result in electric shock, fire and/or serious personal injury.



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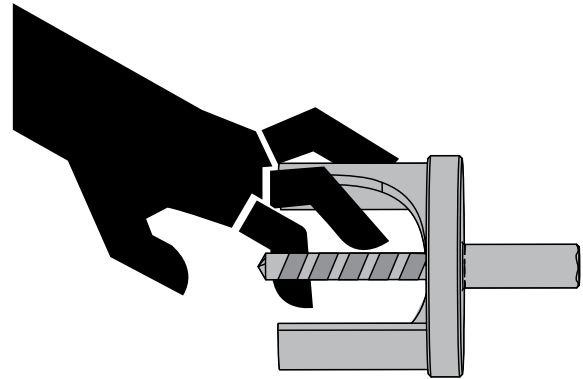
Fusion Equipment Safety

Cutters Are Sharp

⚠ WARNING

Pipe cutters are sharp and can cut. Keep hands clear of the cutter while in use. Use care when operating the cutter, and when handling them.

NOTICE: Turn drill off before attempting any maintenance or adjustment.



WR00116-0222-17

TX05219-0222-17

Heater Is Hot

⚠ CAUTION

The heater is hot and will burn clothing and skin. Keep the heater in its insulated heater frame or stand when not in use, and use care when heating the pipe.

NOTICE: Use only a clean dry lint free non-synthetic cloth to clean the heater adapters.



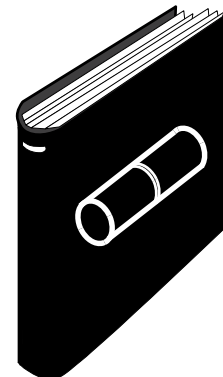
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Fusion Procedures

Obtain a copy of the pipe manufacturer's procedures or appropriate joining standard for the pipe being fused. Follow the procedure carefully, and adhere to all specified parameters.

NOTICE: Failure to follow pipe manufacturer's procedure could result in a bad joint. Always follow pipe manufacturer's procedures.



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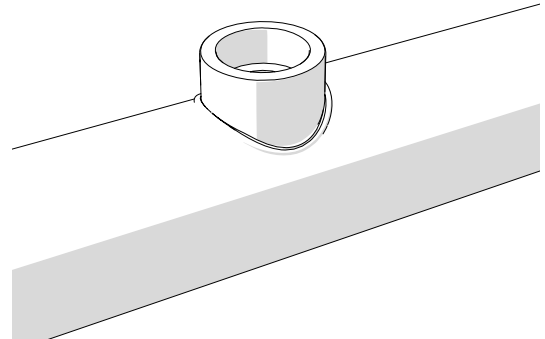
Overview

Theory of Heat Fusion

The principle of heat fusion is to heat two surfaces to a designated temperature, and then fuse them together by application of force. This pressure causes flow of the melted materials, which causes mixing and thus fusion. When the thermoplastic material is heated, the molecular structure is transformed from a crystalline state into an amorphous condition. When fusion pressure is applied, the molecules from each thermoplastic part mix. As the joint cools, the molecules return to their crystalline form, the original interfaces are gone, and the fitting and pipe have become one homogeneous unit. A strong, fully leak tight connection is the result.

The principal operations include:

- Clamping** The pipe and fitting must be held firmly to allow all subsequent operations to take place.
- Cleaning** The area of pipe that the fitting will come in contact with must be cleaned.
- Aligning** The fitting, heater adapters, and pipe must be properly aligned.
- Heating** A melt pattern must be formed that penetrates into the pipe and into the fitting.
- Joining** The pipe and fitting must be joined and the pipe fully seated within the fitting.
- Holding** The molten joint must be held immobile until adequately cooled.
- Inspecting** Visually examine the entire circumference of the joint for compliance with standards established by your company, customer, industry, federal, state, or local regulations.

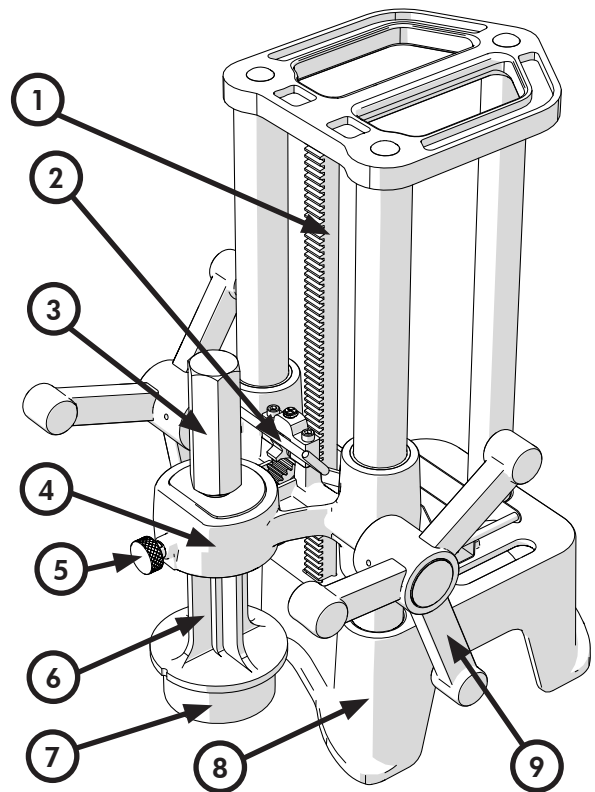


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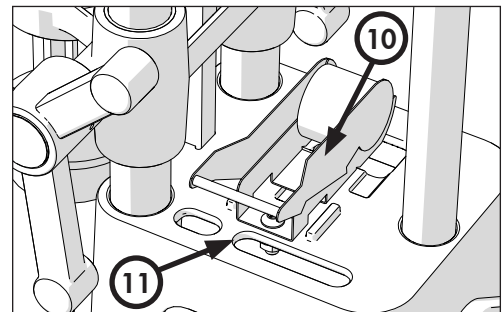
Overview

Hornet™

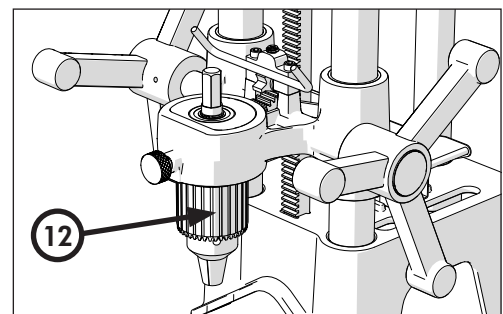
- 1 Carriage Rack
- 2 Carriage Lock
- 3 Fitting Holder Clamp Knob
- 4 Carriage
- 5 Carriage Holder Lock
- 6 Fitting Holder
- 7 Fitting Puck
- 8 Pipe Clamping Base
- 9 Carriage Handles
- 10 Pipe Strap
- 11 Pipe Strap Hook Location
- 12 Cutter Holder
- 13 Hornet™ Accessory Case - Stores cutters, pucks and holders



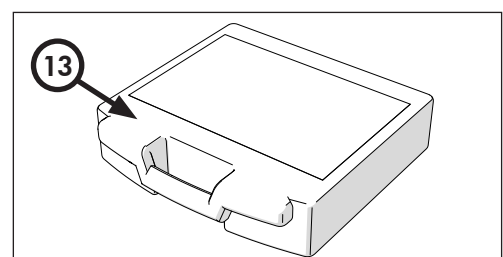
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CD01949-02-09-17



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CD01951-02-09-17

Overview

Heater



Heater is not explosion proof. Operation of heater in an explosive atmosphere without necessary safety precautions will result in serious injury or death.

If operating in an explosive atmosphere, heater should be brought up to temperature in a safe environment, then **unplugged before entering** the explosive atmosphere for fusion.

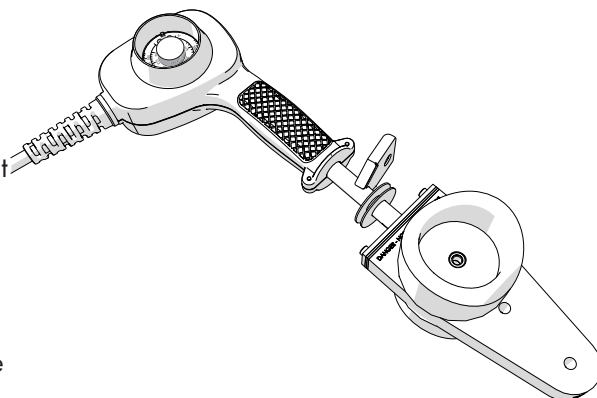
The heater has a green indicator light which will flash on and off. This indicates that the controller is operating normally. If the green indicator is not flashing then the controller may not be operating properly. If this occurs, disconnect power and have the heater repaired by an McElroy Authorized Service Center.

The heater temperature is controlled by a microprocessor. It has a red indicator light on the handle at the bottom of the temperature scale. When the heater is plugged in and preheating the light glows steadily until the set temperature is reached. The light then goes off and on slowly as the heater maintains temperature.

The heater body is not coated. Coated fusion heater adapters are available for all fusion applications.

NOTICE: The heater should never be used without fusion heater adapters installed.

To prevent a build-up of plastic pipe residue from accumulating on the heater plates (loss of surface temperature and pipe sticking may result), the heater plates should be cleaned with a non-synthetic cloth before every fusion joint.



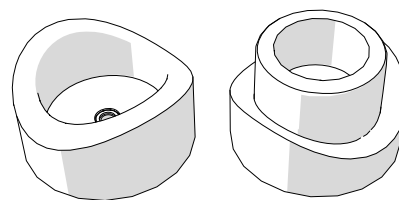
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Heater Adapters

Heater adapters are available for a variety of fittings.

NOTICE: The heater should never be used without heater adapters installed.

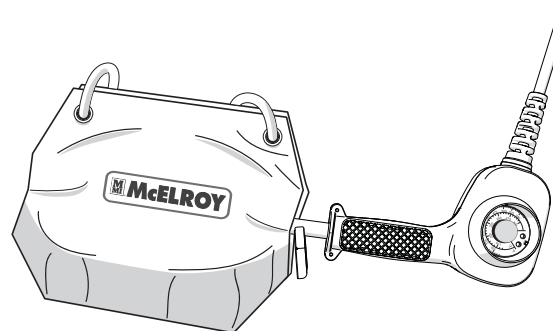


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TX05222-02-22-17

Insulated Heater Sling

The heater should always be stored in the insulated heater sling or blanket for protection of the operator and to minimize heat loss and risk of mechanical damage. When placing the heater in the sling, allow the handle to remain outside the sling.



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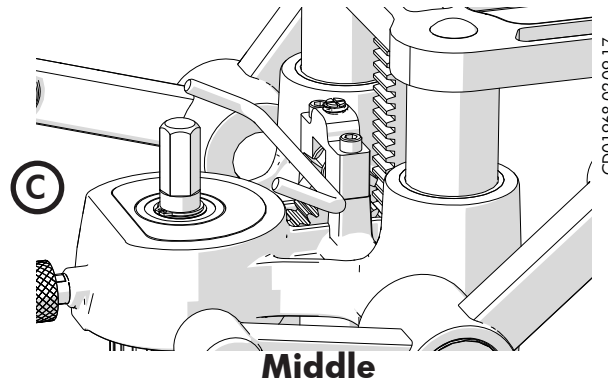
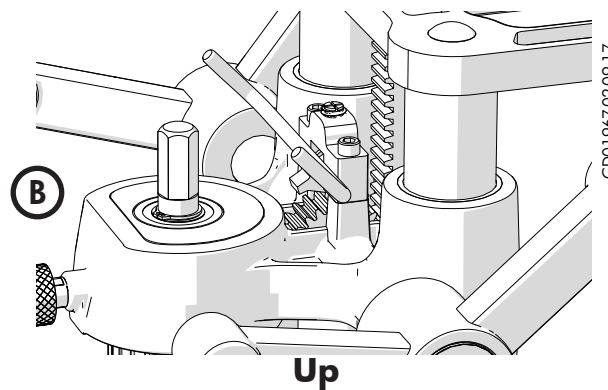
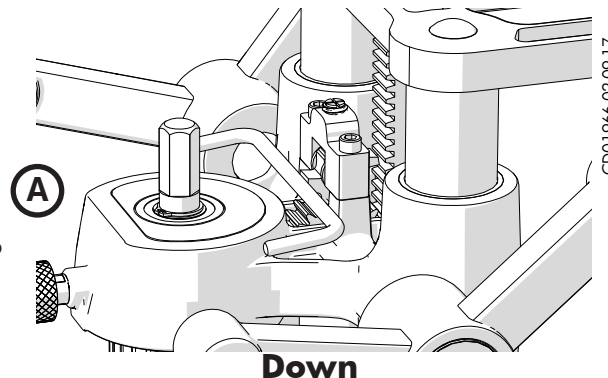
TX00363-9-15-94

Overview

Carriage Lock

The carriage lock has 3 positions:

- A** The **Down** position prevents movement away from the base but allows movement toward the base. Use this position to prevent movement away from the pipe during the fusion process.
- B** The **Up** position prevents movement toward the base but allows movement away from the base. Use this position to keep the carriage from moving toward the base while changing holders in the carriage.
- C** The **Middle** position allows the carriage to move freely in either direction. Use this position to move the carriage in both directions during the heat/soak process.



Operation

Read Before Operating

Before operating this machine, please read this manual thoroughly, and keep a copy with the machine for future reference.

The fusion procedures in this manual are for use with polypropylene pipe. If fusing other thermoplastic pipe materials, refer to the pipe manufacturer's suggested procedures or appropriate joining standard.

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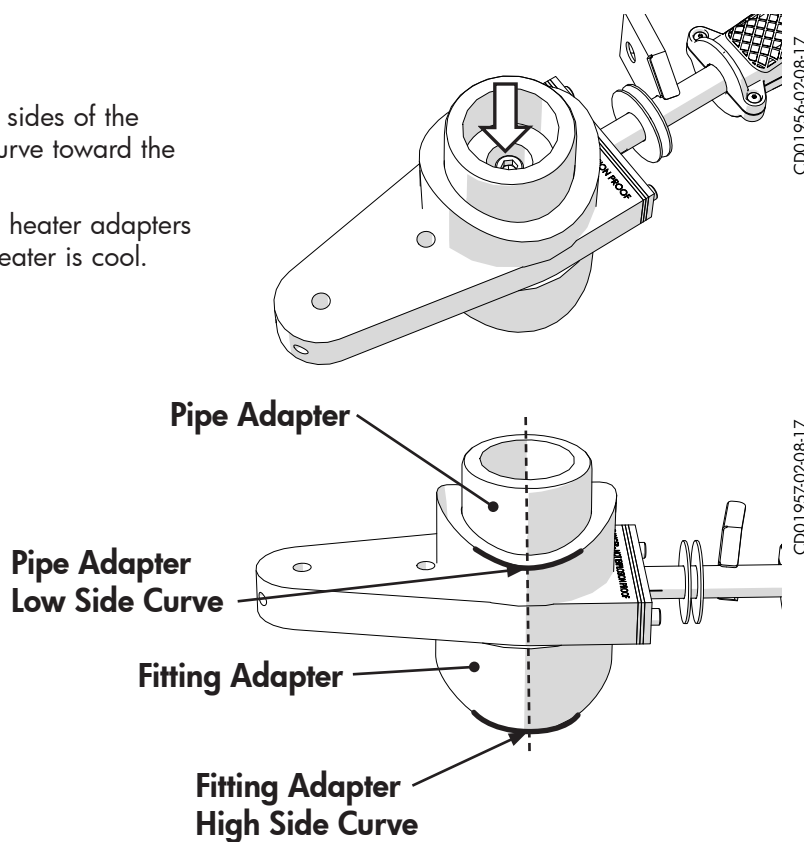
Stop-5-6-96

Install Heater Adapters

Install heater adapters.

Align the pipe adapter low side curve toward the sides of the heater body. Align the fitting adapter high side curve toward the sides of the heater body. Tighten the adapters.

NOTICE: The heater should never be used without heater adapters installed. Only install heater adapters when the heater is cool.



CD01956-02-08-17

CD01957-02-08-17

TX05225-02-22-17

Operation

Prepare Heater



Heater is not explosion proof. Operation of heater in an explosive atmosphere without necessary safety precautions will result in serious injury or death.

If operating in an explosive atmosphere, heater should be brought up to temperature in a safe environment, then unplugged before entering the explosive atmosphere for fusion.

Ensure the correct size heater adapters are installed.

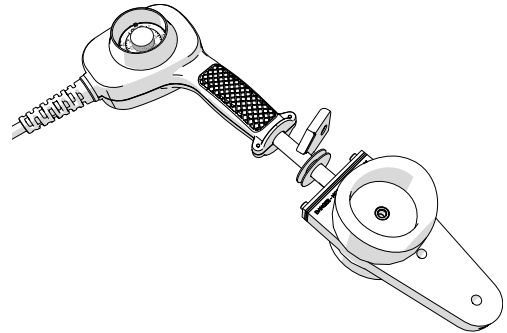
Place heater in insulated heater sling allowing the handle to remain out of the sling and plug heater into a proper power source.

Allow heater to warm-up to operating temperature.

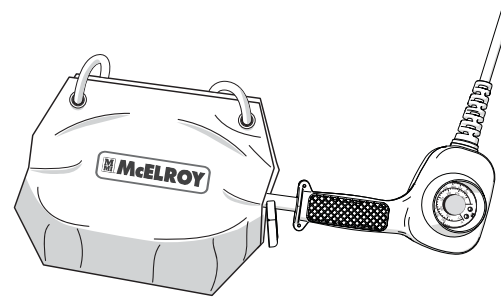
NOTICE: Incorrect heating temperature can result in bad fusion joints. Check heater plate surface temperature periodically with a properly calibrated pyrometer, and make necessary adjustments.

Refer to the "Maintenance" section of this manual for instructions on how to adjust heater temperature.

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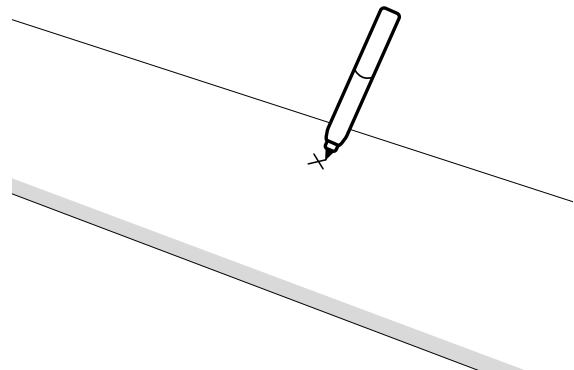


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Mark the Pipe

Clean the pipe in the area the fitting will come into contact. Follow joining standard instructions for cleaning and preparing the pipe.

Make a mark on the pipe where new outlet will be located.



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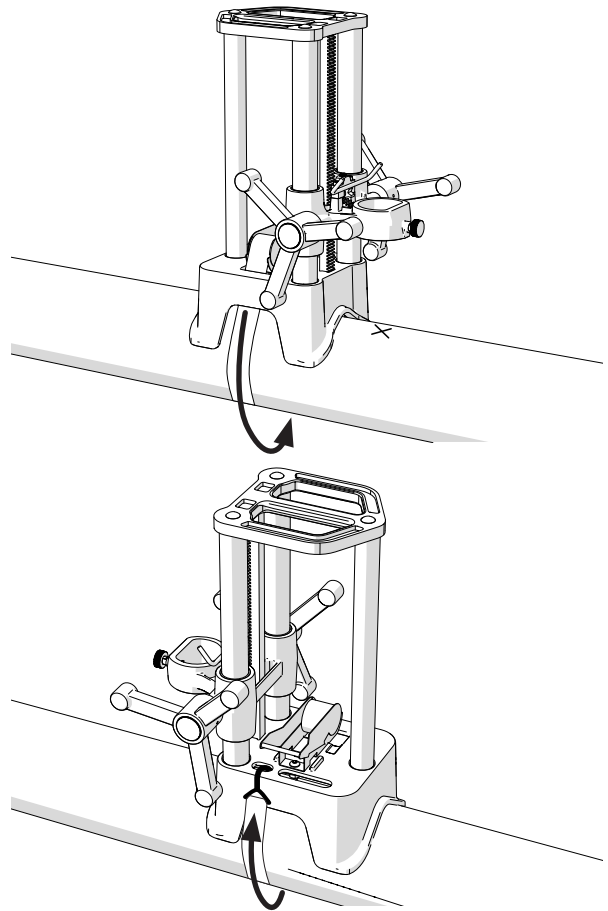
Operation

Attaching Hornet to Pipe

Place the machine on the pipe over the mark where the new outlet will be fused.

Run the pipe strap down and around the bottom of the pipe and up to the other side of the machine. Place the hook of the strap through the small slot of the base.

Tighten the strap to secure the machine to the pipe.



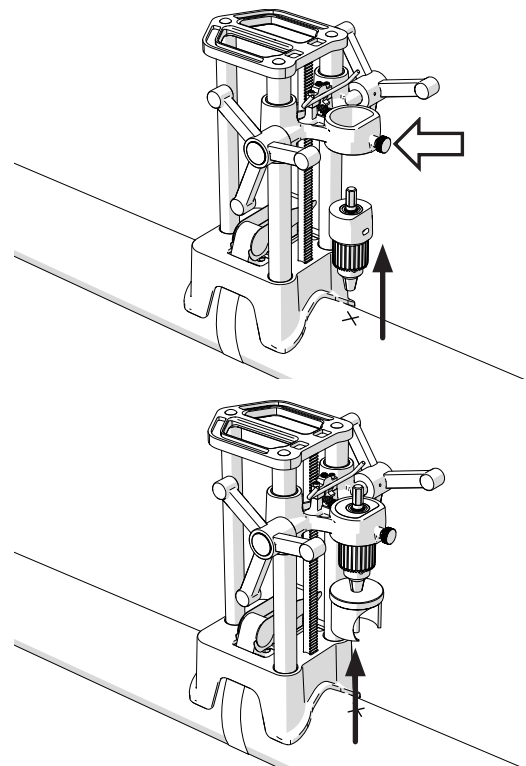
TX05228-02-22-17

Insert Cutter Holder and Cutter

Move the carriage away from pipe and lock in position.

Insert the cutter holder into the carriage until the holder lock snaps into place securing the holder.

Insert the cutter into the chuck of the holder and secure with the chuck key.



TX05229-02-22-17

Operation

Position Hornet

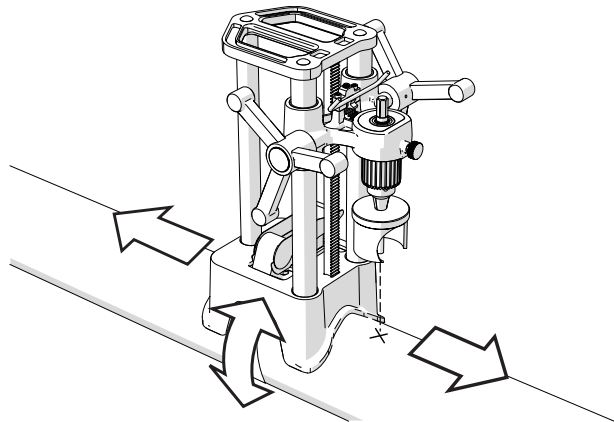
Loosen the strap on the Hornet and position the machine over the mark that was made on the pipe. Move the cutter to the pipe to ensure the cutter is positioned over the mark on the pipe.

Tighten the strap to secure the Hornet to the pipe. Check that the cutter is still in the correct position over the mark.

Move the carriage away from pipe and lock the position.

To remove the cutter holder from the Hornet:

Secure the holder in one hand while pulling out on the holder lock to release it from the carriage.

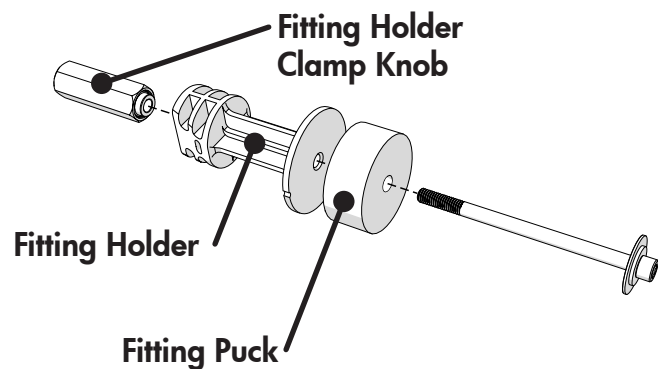


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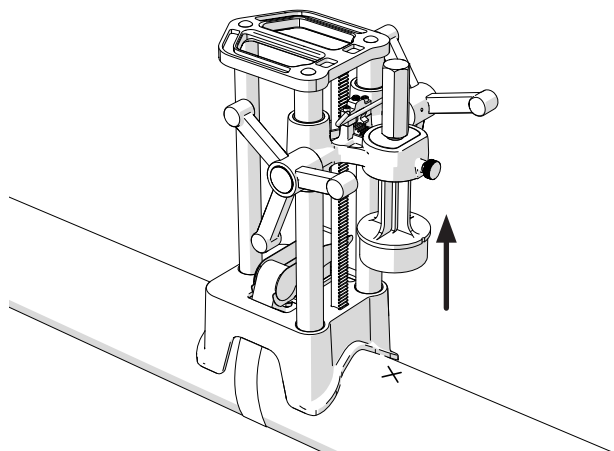
Insert Fitting Holder

Install the fitting puck that matches the fitting size for the outlet being installed into the fitting holder. Do not clamp tightly onto the fitting puck. Clamp tight enough to secure the puck in place.



CD01970-02:10-17

Insert the assembled fitting holder into the Hornet carriage until the holder lock snaps into place securing the holder.



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Operation

Attach Fitting to Fitting Holder

Insert the appropriate size fitting over the fitting puck and against the fitting holder. Match the curve of the fitting to the curve of the pipe. Tighten the clamp knob to secure the fitting to the fitting holder.

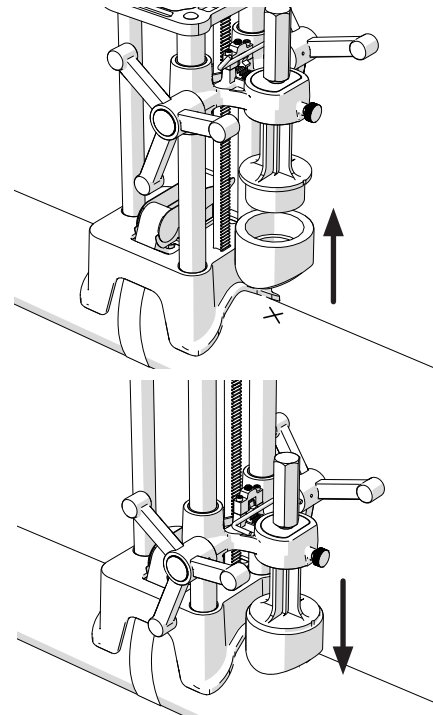
Move the carriage toward the pipe and bring the fitting in contact with the pipe. Loosen the fitting and adjust it until the fitting curve matches the curve of pipe. Re-tighten the clamp to secure the fitting in position.

Move the carriage away from pipe and lock in position.

To remove the fitting holder from the Hornet:

Secure the holder in one hand while pulling out on the holder lock to release it from the carriage. Remove the fitting holder with the fitting installed.

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CD01971-02-10-17

CD01972-02-10-17

Cut Pipe

Re-insert the cutter holder until the holder lock snaps into place securing the holder.

Attach a power drill to the hex on the top of the cutter holder.

Move the carriage until the cutter is near the pipe.

Turn on the drill and turn the carriage handle to slowly move the carriage toward the base. Do not press down hard while cutting. Allow the cutter to do the work and apply light pressure to the carriage handle to guide the cutter through the pipe.



WARNING Pipe cutters are sharp and can cut. Keep hands clear of the cutter while in use. Use care when operating the cutter, and when handling them.

IMPORTANT: Allow the drill to rest against the carriage guide rods to help stabilize the drill and prevent the drill from spinning around if the cutter grabs the pipe.

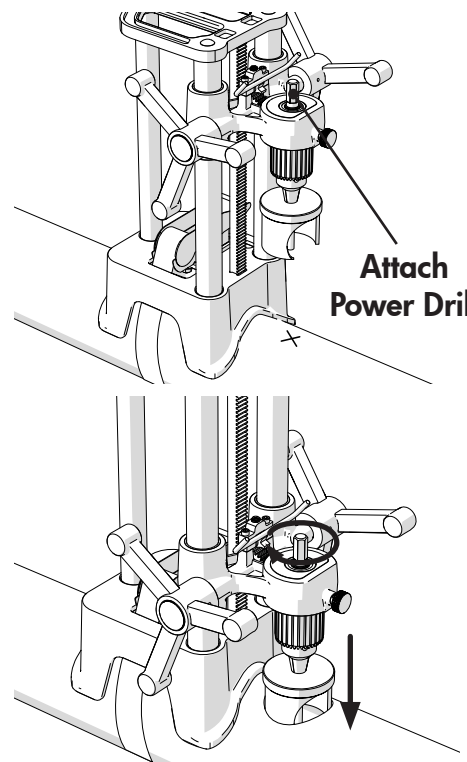
Allow the cutter to cut completely through the wall of the pipe. When the cutter has finished cutting, keep the drill running and move the carriage and cutter from the pipe. Turn off the drill. Lock the carriage position.

To remove the cutter holder from the Hornet:

Secure the holder in one hand while pulling out on the holder lock to release it from the carriage.

Remove any burrs that may have been left by the cutter on the inside and outside of the hole. Use care not to contaminate the area.

TX05233-02-22-17



CD01961-02-10-17

CD01963-02-10-17

Operation

Heat Fitting and Pipe

Re-insert the fitting holder until the holder lock snaps into place securing the holder.

Use a pyrometer to check the temperature on the socket faces of the heater.

If the temperature needs to be adjusted, refer to "Adjusting Heater Temperature" in the Maintenance section of this manual.

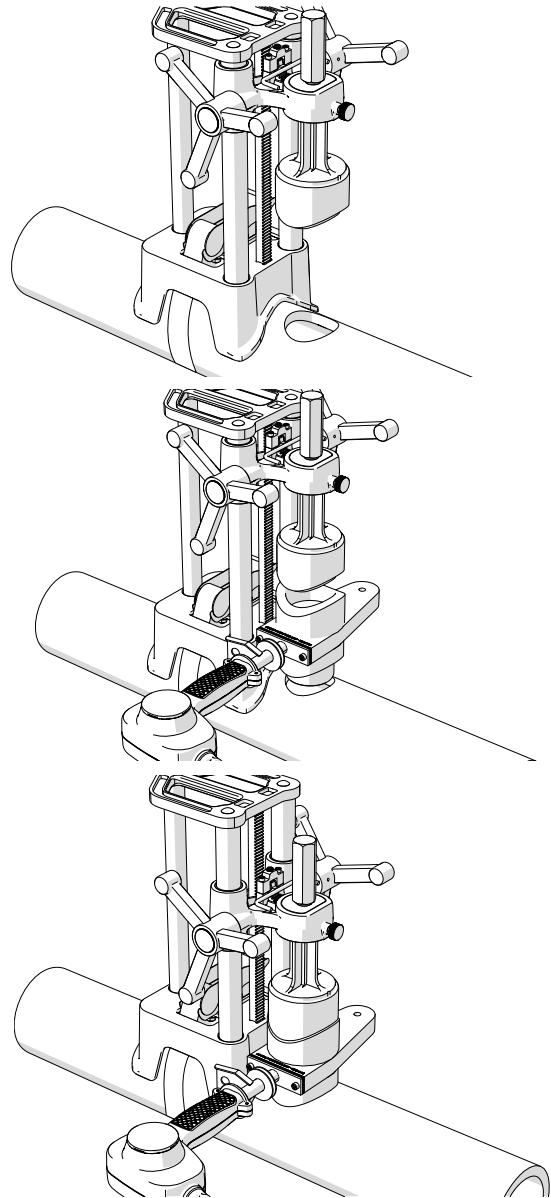
Insert the heater in between the pipe end and fitting. Set the carriage lock to the middle position. Slowly move the carriage, moving the fitting and heater onto the pipe. Move the carriage until the heater is fully seated in the pipe and fitting on the heater. There may be a need to add some pressure to ensure consistent contact with the heater.

IMPORTANT: Do not force the heater on the fitting and pipe. Allow the pipe and fitting to melt onto the heater. Forcing the pipe and fitting onto the heater will damage the assembly tool or create a questionable melt pattern.

Ensure the heater is supported during the entire heating process.

Heating time starts when the pipe and fitting are fully inserted onto the heater adapters.

Heat fitting and pipe for the pipe manufacturer's specified period of time or appropriate joining standard.



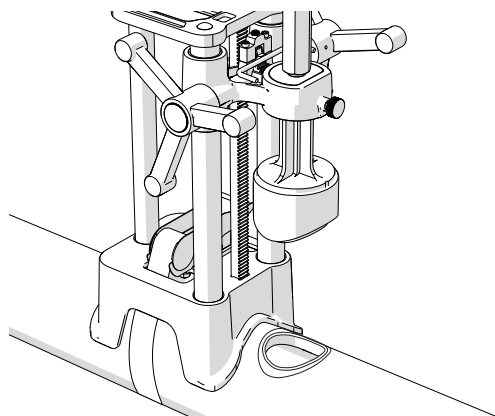
TX05234-02:22:17

Remove Heater

Move the carriage away from the pipe until there is enough room to remove the heater. Quickly remove the heater from the pipe and fitting.

IMPORTANT: Do not twist the heater while removing. An optional auxiliary heater handle is available to assist with removing the heater.

Quickly inspect the heated parts to make sure all surfaces have been melted properly.



TX05235-02:22:17

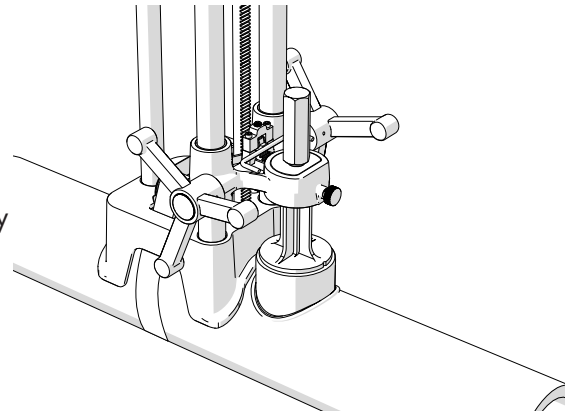
Operation

Fusion and Cooling

Quickly move the carriage toward the pipe and insert the fitting into the pipe. Once the fitting has been inserted completely, lock the carriage position.

NOTICE: Be sure to complete the joint in the time allowed by the pipe manufacturer or appropriate joining standard.

Allow the jaws to stay in place for the total cooling time specified by the pipe manufacturer or appropriate joining standard.



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Remove Hornet

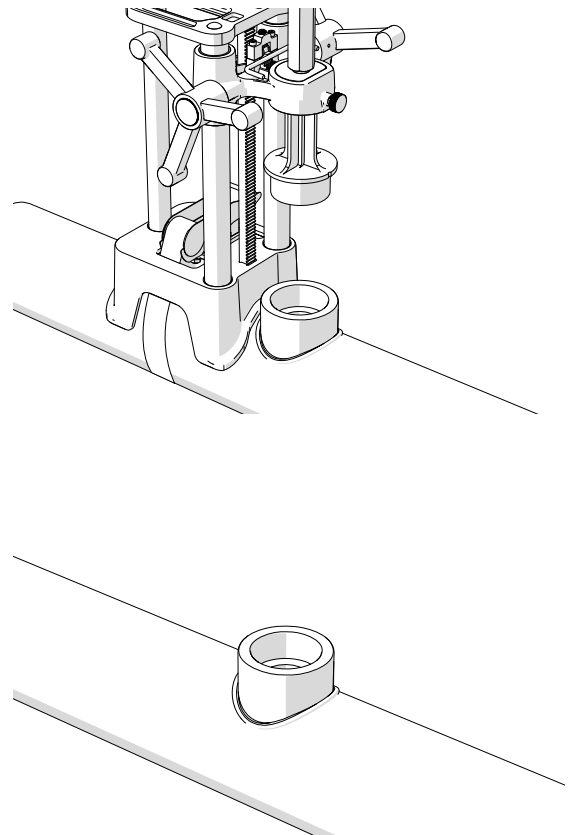
After completing the specified cooling time, inspect the joint for compliance with the appropriate joining standard.

There should be no gaps or voids between the fitting and the pipe.

Loosen the fitting holder clamp knob to release the grip on the fitting. Move the carriage away from the pipe and lock the carriage position.

Release the strap around the pipe and remove the Hornet.

Follow the steps in this section to make another outlet fusion.



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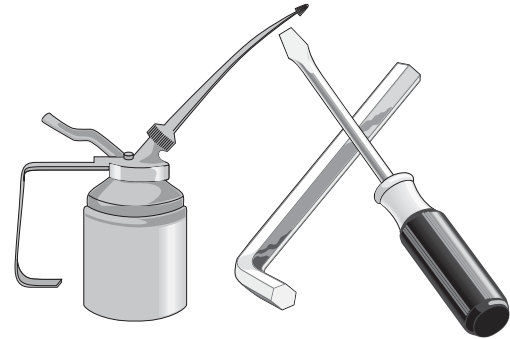
Maintenance

Preventative Maintenance

To insure optimum performance, the machine must be kept clean and well maintained.

With reasonable care, this machine will give years of service. Therefore, it is important that a regular schedule of preventive maintenance be kept.

Store machine inside, out of the weather, whenever possible.



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TX00428-8-10-95

Washing the Machine

The machine should be cleaned, as needed with a soap and water wash.

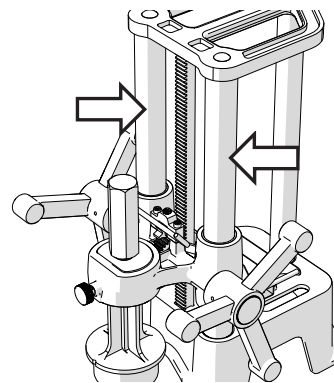


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TX05238-02-22-17

Clean Guide Rods

Remove accumulated dirt and grit from guide rods using WD-40® or similar solvent and wipe guide rods clean.

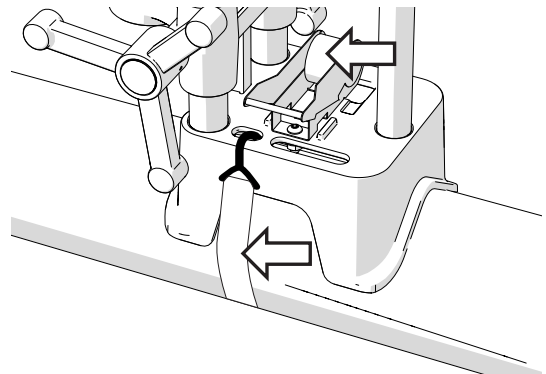


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Pipe Strap

Inspect the pipe strap for damage or fraying. If the strap is damaged then it needs to be replaced.



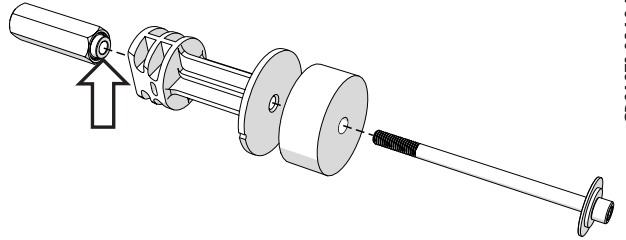
CD01959-02-13-17

TX05239-02-22-17

Maintenance

Clean and Lubricate Bearings

The clamp knob is equipped with thrust bearings to reduce friction and improve efficiency of clamping. Wash the clamp knob bearing assembly with a solvent and then lubricate with a 30W or lighter oil.

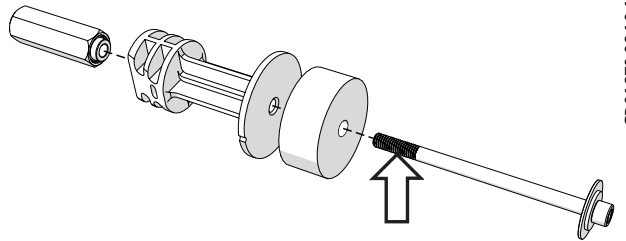


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Clean Fitting Holder Bolt Threads

Keep the bolt threads brushed clean.

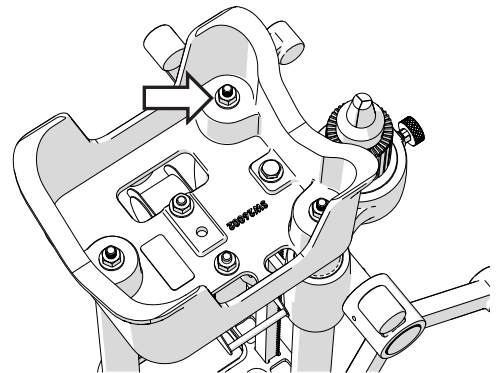


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Fasteners Must Be Tight

Check all nuts, bolts, and snap rings to make certain they are secure and in place.



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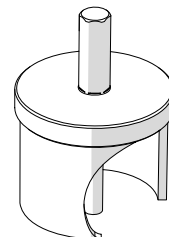
TX00437-9-13-94

Pipe Cutters

Inspect the cutters for damage and dullness. Dull or chipped cutters must be replaced.



WARNING Pipe cutters are sharp and can cut. Keep hands clear of the cutter while in use. Use care when operating the cutter, and when handling them.



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TX00437-9-13-94

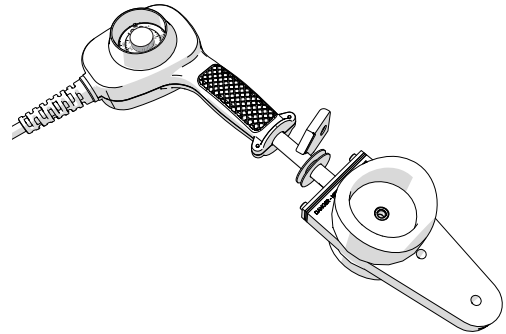
Maintenance

Clean Heater Surfaces

The heater adapters must be kept clean and free of any plastic build-up or contamination.

Before each fusion is made, the surface of the heater adapters must be wiped with a clean dry lint free non-synthetic cloth.

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Installing Socket Fusion Heater Adapters

The heater body of this assembly is not coated. Coated heater adapters are available for all fusion applications.

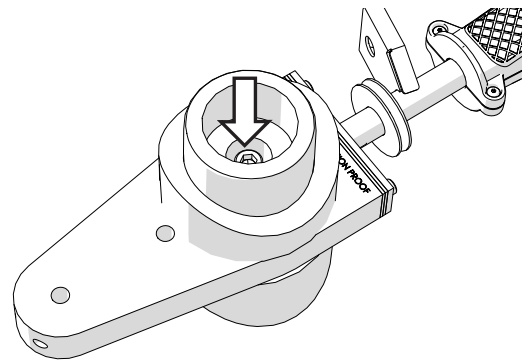
Heater adapters are installed with stainless steel cap screws.

Care should be taken to assure that the heater adapters are seated on the heater body, and that there is no foreign matter trapped between these surfaces.

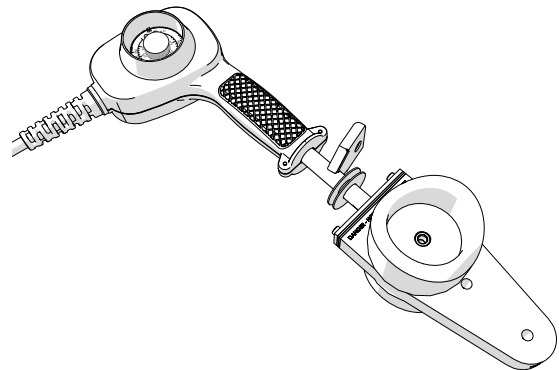
IMPORTANT: Do not over-tighten the bolts.

The surface of the heater adapters are coated with an anti-stick coating.

NOTICE: Only install heater adapters when the heater is cool.



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Maintenance

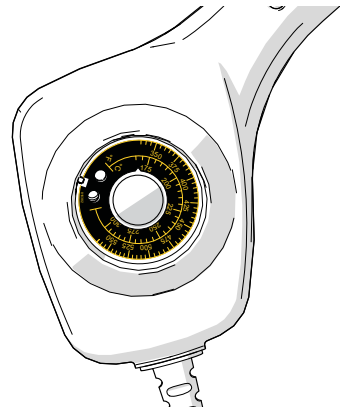
Adjusting Heater Temperature

Turn knob to desired temperature. Measure the heater surface temperature with a pyrometer. Any variance must be corrected to the pyrometer reading.

Loosen setscrew in the knob. Turn knob to point to the same temperature as the pyrometer. Tighten setscrew in the knob.

Turn knob to desired temperature. Allow heater to stabilize at the new temperature (5 to 10 minutes) after adjusting.

The thermometer on the heater body indicates internal temperature and should be used as a reference only.



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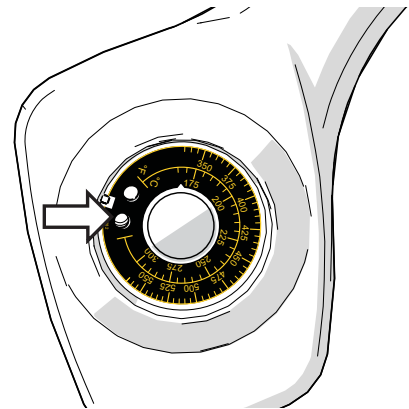
TX02009-3-13-02

Heater Indicator Light

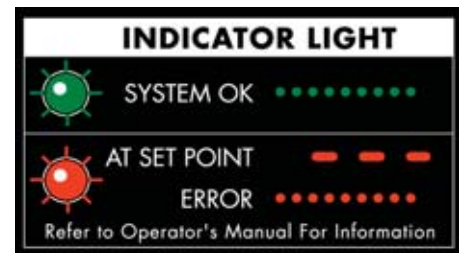
The heater has a green indicator light which will flash on and off. This indicates that the controller is operating normally. If the green indicator is not flashing then the controller may not be operating properly. If this occurs, disconnect power and have the heater repaired by an McElroy Authorized Service Center.

The heater has a red indicator light on the handle at the bottom of the temperature scale. When the heater is plugged in and preheating the red light glows steadily until the set temperature is reached. The red light then goes off and on as the heater maintains temperature.

If the heater is not operating properly, the control will attempt to turn the heater off and the red indicator light will flash rapidly. If this occurs, disconnect the power and take it to a McElroy Authorized Service Center for repair.



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TX04036-4-12-10

Maintenance Checklist

Fusion Machine Checklist

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Specifications

Hornet™

Specification: Designed to fuse 20mm to 63mm outlets to a main pipe.

Dimensions:

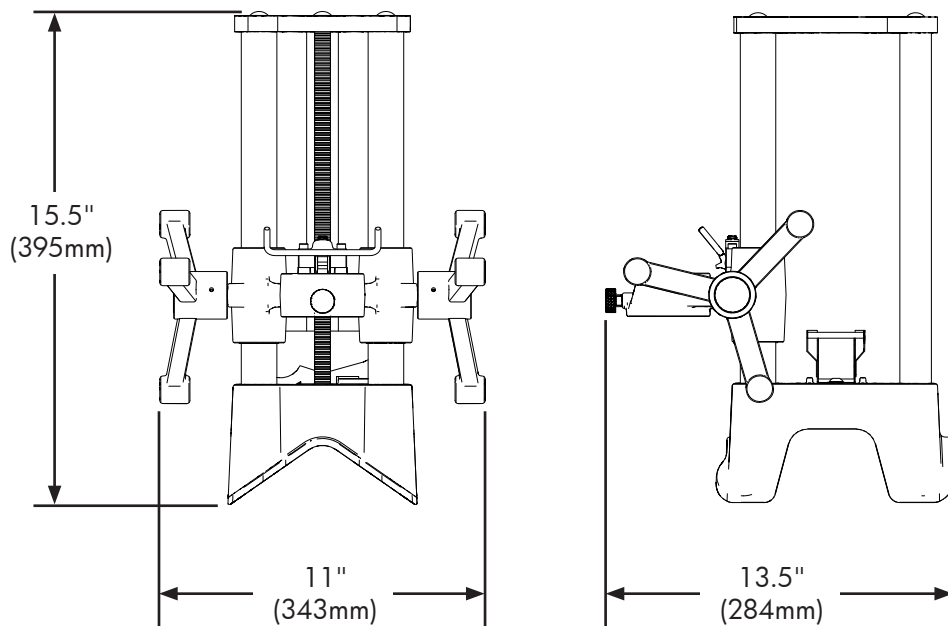
Width: 11" (284mm)
Length: 13.5" (343mm)
Height: 15.5" (395mm)

Weight:

Weight: 11 lbs (5Kg)

Heaters:

16mm - 63mm Socket Heaters (not included with Hornet)
100-120V, 50/60Hz, 1Ph, 700W, 6.4A
200-240V, 50/60Hz, 1Ph, 700W, 3.2A, CEE 7/7 Plug



About this manual . . .

McElroy Manufacturing continually strives to give customers the best quality products available. This manual is printed with materials made for durable applications and harsh environments.

This manual is waterproof, tear resistant, grease resistant, abrasion resistant and the bonding quality of the printing ensures a readable, durable product.

The material does not contain any cellulose based materials and does not contribute to the harvesting of our forests, or ozone-depleting constituents. This manual can be safely disposed of in a landfill and will not leach into ground water.

TX001660-8-19-99



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