



This operating manual is for the Pioneer EZ3K Shrink Machine and Cooling System only.

The operating manual contains all information necessary for proper use of the unit. The contents correspond to the EZ3K Shrink System at the point in time of product release. This manual and EZ3K unit is subject to changes in the pursuit of continuous improvement and product development.

No claims may be made from the contents of this manual (data, diagrams, drawings, descriptions, etc.) Subject to errors!

The operation manual is to familiarize yourself with the EZ3K shrink system and to use it properly and safely for its intended purpose.

Please let us know if you should find any errors or incorrect information on reading through this manual.

The operating manual contains instructions for operating EZ3K safely, properly, for avoiding dangers, reducing repair costs and standstill periods, and for increasing the reliability and service life of the induction unit.

Hazards from electromagnetic radiation

If the induction heating is started up without a shrink chuck being located in the coil, the magnetic field affects the immediate vicinity of the coil.

For your own safety, please observe the following rules:



Do not introduce any devices susceptible to magnetic interference into the vicinity of the unit!



**If you have a cardiac pacemaker, please consult your doctor.
In rare cases, interference is possible!**

Safety Instructions



Read the operating manual carefully before initial operation of the unit. Become well acquainted with the control and safety elements!



The unit may only be operated by trained, instructed staff!



The operating manual is an important part of the EZ3K Shrink System and must be easily accessible, legible and understandable for all persons working with the unit.



The unit may only be used for its proper purpose and in correctly functioning state!

The EZ3K Shrink System is specially designed for tool change with Pioneer shrink chucks (operation time, cooling time, etc.). When other shrink chucks are shrunk in or out, problems can occur causing damage to the chucks or to the induction unit itself.



Use only Pioneer shrink fit chucks! No guarantee can be assumed for any other chucks!

The manufacturer cannot guarantee safe operation of the unit after any unauthorized modifications or interventions in the unit. The risk of endangering life of the operator or third parties, and the risk of damage to the EZ3K Shrink System and other items of property is sole responsibility of the user alone!



Choice of the installation site

EZ3K Shrink System is designed as a bench-top unit and should be installed safely and free of vibrations at a dry workplace which is as free as possible from dust and dirt.



Installation the unit free of vibrations; protect from contamination and moisture!

Avoid direct sunlight for better visibility and operation of the display.

Electrical Safety Instructions

The unit contains live components with dangerous voltages. Please observe the following for your own safety:



Do Not Open the machine!

Any and all service must be performed by Pioneer trained service staff!



Do not allow metal chips and liquids to enter into the unit!



Keep the unit clean and clean it regularly!



Only suitable cutting tools and shrink chucks should be used in this machine!



Do not introduce any items through the ventilation grids!

Hot Parts Safety

The surface of the Shrink chuck can heat up to approx. 400°C (750°F) with a maximum of 566°C (1050°F).
The EZ tool holder adaptors can also get hot, but the heating coil does not heat up during proper operation.



Caution! Risk of injury from burning on the hot parts!

For your own safety, comply with the following safety measures when working with the unit:



When shrinking tools in and out, always wear heat resistant gloves that match operational temperature as protection from burning and cut injuries!



Wear approved safety goggles when shrinking!



Ensure that hot parts cannot be touched by mistake!



Never leave hot shrink chucks standing exposed, place them in the EZ Shrink cooling station immediately and cover with EZ cooling adapter and cycle the cooling station!



Do not place hot tools on flammable surfaces, but only on heat-resistant surfaces!



Apart from the chuck and tool, do not introduce metallic objects into the inner area of the coils. This machine is induction and will heat up any metal material!



During operation, never reach into the heating area of the coils, as rings, chains, or other jewelry can heat up very quickly and burn the wearer!

Over Heat Safety

The shrink chuck and tool can overheat as a result of incorrectly parameters and repeated heating up of a shrink chuck in a short period of time. This is why the parameters must be entered with care, always use a lower setting until proper operation can be confirmed.

Repeated heating must be avoided, fully cool the chuck and tool to room temperature in the case of a failure before attempting to restart the procedure.



Avoid overheating of the shrink chuck and extremely long shrinking times!



Do not keep flammable substances in the vicinity of the unit!



Do not use flammable cleaning agents!

Operational Hazard's

Ensure that no parts of your body or any items are introduced into the movement zone of the coil during operation of the induction unit. The weight of the coil could cause crushing and cuts in combination with tool cutting edges.

Please also observe the extra safety instructions in the appendix and supplementary equipment.



Caution in the moving zone of the coil: risk of crushing and cuts!



Always use proper EZ shrink holding base that matches the shank of the shrink chuck for proper alignment of the shrink chuck to the coil.

Improper alignment may cause damage to the coil, heating components and shrink chuck.

STEP 1

Locate the EZ Cooling Station near the EZ Shrink machine, leave some space to prevent water from splashing on the EZ Shrink Machine.



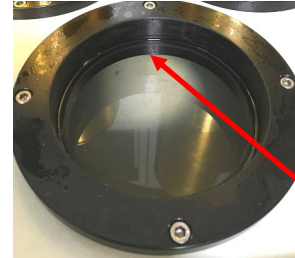
STEP 2

Fill EZ Cool Cooling Station with filtered water, add anti-rust additive to prevent rust and damage.

The tank holds Approx. 5 gallons.

Caution!

Do not overfill the tank, water level should be below the adapter rings.



Fill to bottom of the adapter ring.

STEP 3

Plug in EZCool Cooling Station into receptacle, make sure if the voltage is 100V, 20A single phase.



STEP 4

Set timer, start setting should be 30 seconds, adjust timer as needed to cool the Shrink Chuck to room temperature.





STEP 5

Make sure an LS-20 Receptacle is installed.
Voltage is 220-250V, 20A single phase.



STEP 6

Plug Voltage Stabilizer / Regulator into the 220V, 20A Reciprocal shown in Step 5.

Note: Stabilizer included standard in 2020 models.



STEP 7

Plug EZ Shrink 3K Machine into Plug #1, turn on the Voltage Stabilizer.



STEP 8

Verify the Charge Cycle button is in the down position. If it takes more than 10 seconds for the Green 220V to appear push this button down.



STEP 9

Input voltage is in Red, output is in Green. If Input is between 220-250V and output is at 220V you are ready to start the EZ Shrink 3K.



STEP 10

Switch on.

Note: never turn off the switch during the operation.

Note: Use all safety equipment and protective gloves.



STEP 11

Put suitable EZ BASE on the EZ3K Shrink Machine, Then put the shrink fit holder on the EZ BASE.



STEP 12

Set up the time for heating.

- 1) Select the cutter shank size
- 2) Adjust the shrink time if needed for that size, the system will remember your last setting. See guide sheet for starting point. Adjust time for your chuck.



Tool Size	Metric Size	Time (Seconds)
1/8"	3mm	25-35
3/16"	4-5mm	22-32
1/4"	6mm	16-26
5/16"	8mm	16-26
3/8"	10mm	16-26
7/16"		18-28
1/2"	12mm	18-28
5/8"	16mm	18-28
3/4"	20mm	24-34

STEP 13

- 1) Install location disk for the cutting tool size.
- 2) Move the induction coil to the proper position.
- 3) Tighten the lock handle (right side) to hold the coil in position.

DO NOT ADJUST while the machine is operating.

Caution!

The bottom line of metal disc inside the coil should higher than the nose of Pioneer shrink fit chuck by 5~10 mm (1/4-3/8"), the coil will overheat and cause damage if the metal disc is touching the tool holder.



Do not allow the holder to protrude through the coil locator!



STEP 14

Wear on heat resist gloves.



STEP 15

Press START button. Allow the cycle to count down to 0.

Note:

If the count down needs to be stopped hit the "Reset" button.



STEP 16

- 1) Loosen the lock handle (right side) and move the coil to the top.
- 2) Add or Remove the cutting tool from the Shrink Fit Chuck. If preset screw is being used the cutting tool will locate on the screw. If no screw is used the cutting tool must be held in position until the holder cools enough to grasp the shank. Locating rings are recommended if no preset screw is being used.



STEP 17

EZ3K will need 30 sec. count down for cooling the coil.

Press RESET

When the 30 sec. count down completed the machine is ready to operate.



STEP 18

Touching the Gold Base only with heat resistant gloves, move the base and holder to the EZ Cool Machine for cooling.



STEP 19

Move the Gold Base, touching the Gold base only into one of the open ports on the EZ Cool Machine.



STEP 20

Put the EZ3W SHOWER HOUSING on the EZ BASE.

Caution! Housing must lock onto base or leakage may occur. If the height is not correct add EZ3W SHOWER HOUSE EXTENSION on the EZ BASE for long shrink chuck assemblies.



STEP 21

Set the cooling time for 30 sec., press START to cool. Some tools, large tools may require more time to bring the assembly temperature down, adjust time as your tools require.



BROKEN TOOL REMOVE

STEP1

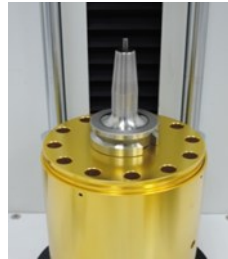
- 1) Prepare a 2mm*200mm long hex T-wrench.
- 2) Remove the pullstud from the shrink fit chuck if needed.

Note: If a preset screw is in the chuck you will cannot use this procedure.



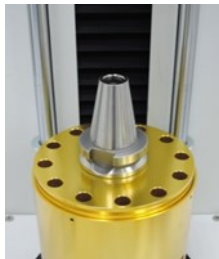
STEP2

Wear EZ GOLVE, start heating process with appropriate settings for the size of tool.



STEP3

When heating is completed, flip the Shrink Holder over in the Base to have access to the taper end of the chuck.



STEP4

Move the shrink fit chuck with the base to EZ3W.

Insert the T-wrench to the bottom of the tool and push the tool out. To much pressure will bend the t-handle wrench.

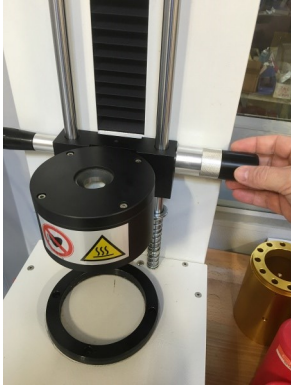


Note: If the cutting tool has broke in a way to damage the bore of the Shrink Fit holder, this procedure will not work, the tool will not push out.

Changing the Coil on EZ3K

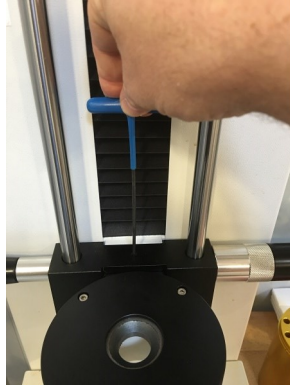
Step 1

Bring down the Coil and lock in place



Step 2

Loosen Retaining Screw with 2.5mm wrench



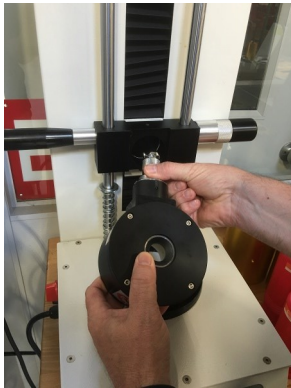
Step 3

Pull out on coil to expose the connector



Step 4

Un-thread the connector from the back of the coil



Step 5

Pull out to disconnect the coil from the connector



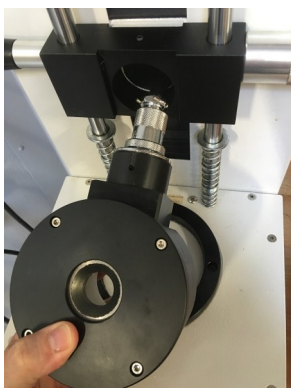
Step 6

Insert desired coil onto connector



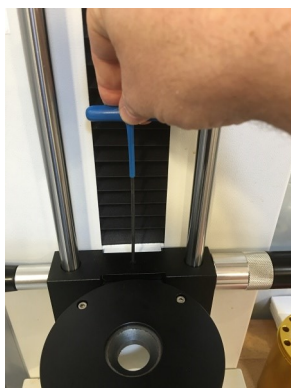
Step 10

Tighten threaded connector to secure connection



Step 11

Re-insert the coil and tighten retaining screw

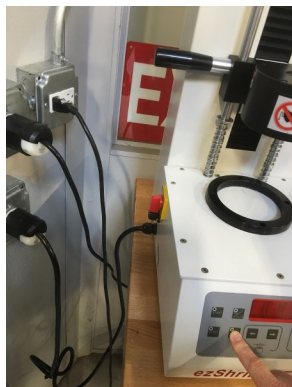


See next page for programming

Changing the Coil on EZ3K

Step 12

Hold down the “Air” button



Step 13

While holding down the “Air” button turn the power on



Step 14

Do not release the “Air” button until “1 3” appears on the screen



Step 15

Release the “Air” button and push the “Air” button until 5 2 appears



Step 16

Using the “-” button change to 5 1



Step 17

Hit the “Reset” button



Step 18

Power the unit off, wait 10 seconds and power the unit back on

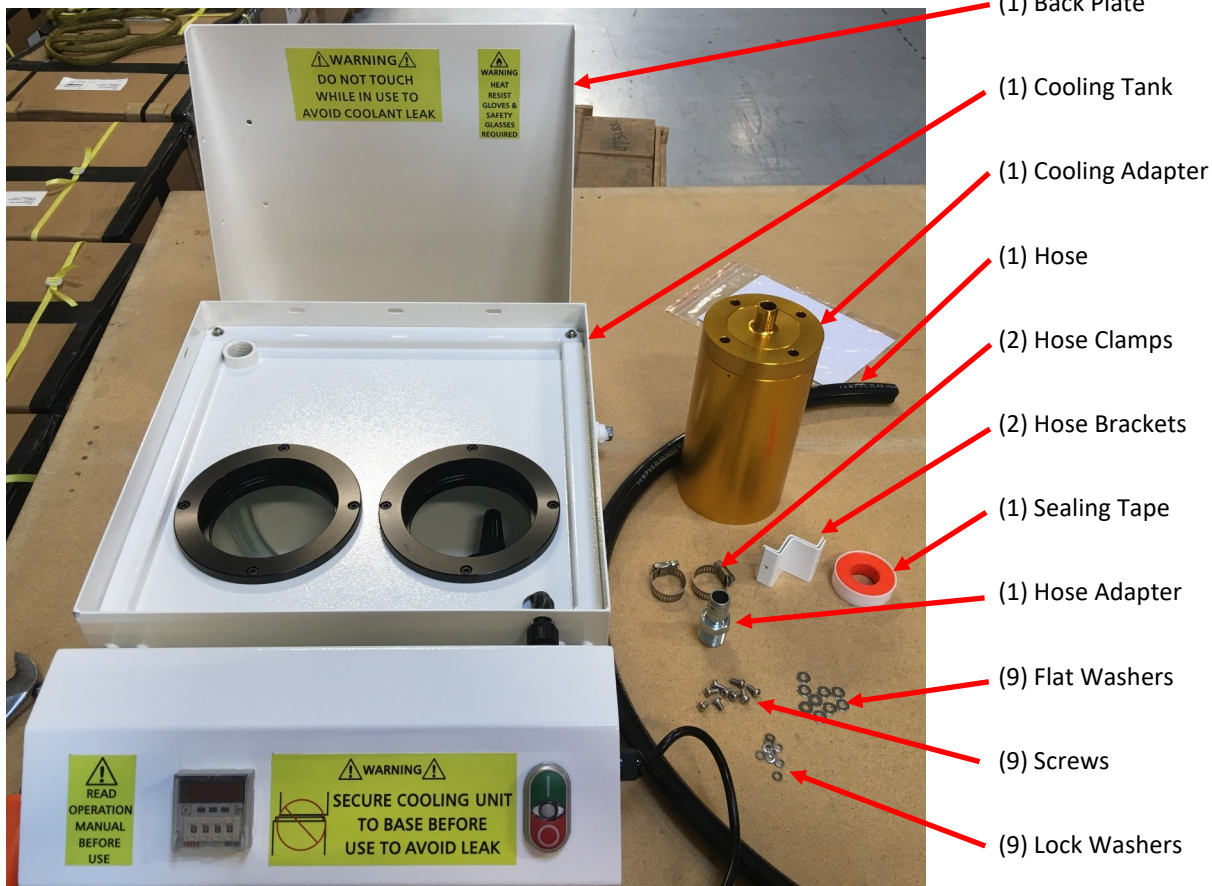


Step 19

25mm, 32mm, 7/8, 1” and 1-1/4” will now appear as options to select with the larger coil.



EZ Cool Assembly—EZ3W



Step 1

Apply Sealing Tape to the Hose Adapter



Step 2

Thread Hose Adapter into Cooling Tank



Step 3

Tighten Hose Adapter



Step 4

Install Hose onto Hose Adapter



Step 5

Install Hose Clamp onto Hose



Step 6

Align the Back Plate onto the Cooling Tank



Step 7

Assemble Lock Washer and Flat Washer onto the Screws



Step 8

Assemble Back Plate to the Tank by assembling 5 screws from the outside



Step 9

Start (1) screw into the first hose bracket to hold the hose in place, Do Not Tighten!



Step 10

Start (1) screw into the second hose bracket, Do Not Tighten!



Step 11

Align Second screw hole in the hose bracket, both brackets



Step 12

Tighten all (4) screws



Step 13

Slide hose clamp onto the hose



Step 14

Install Hose onto Cooling Adapter



Step 15

Slide hose clamp into place and tighten



Step 16

Add 5 gallons of coolant to the tank, do not pour onto the start button or timer. Make sure timer and buttons are dry, plug into 110V and you are ready to use the EZ3W.



Step 17

Plug the cooling station into the 220V outlet on the stabilizer as shown..



Pour coolant into access hole

ERROR CODE

EZ3K E1: Coil over heating.

EZ3K E5: Coil connection error or mainboard breakdown.

EZ3K E7: Voltage or electric current error inside the coil during the heating.

ERROR CODE troubleshooting

EZ3K E1: Wait till the coil is cooling down.

EZ3K E5: Check if the coil is connected properly.

EZ3K E5: Please contact us if the mainboard breakdown.

EZ3K E7: The coil should NOT move during the heating. Turn off the unit and restart.

EZ3K E7: Please contact us if restart is not working.

Cutter Removal troubleshooting

If the cutting tool will not remove the common causes are:

- 1) The machine is at the wrong settings for this tool:
Double check settings
- 2) The cutting tool is not carbide:
This machine is only designed for carbide
- 3) The cutting tool or holder bore is damaged in the bore from breakage or handling:
Inspect all holders and cutter shanks prior to assembly
- 4) The tool holder has been heated past 1050°F, annealing the holder:
Always confirm tool holders are at room temperature prior to heating operation, fully cool every tool before attempting to heat or re-heat
- 5) Tool Holder is not H13 material:
Verify material of manufacturer prior to usage, this machine is designed to work with ANSI H13, ISO 40CrMoV5, JIS SKD61 or DIN X40CrMoV51 double tempered at 1050°F (566°C).