

# JK3



*Digital Knight*  
**Digital Mug Press**



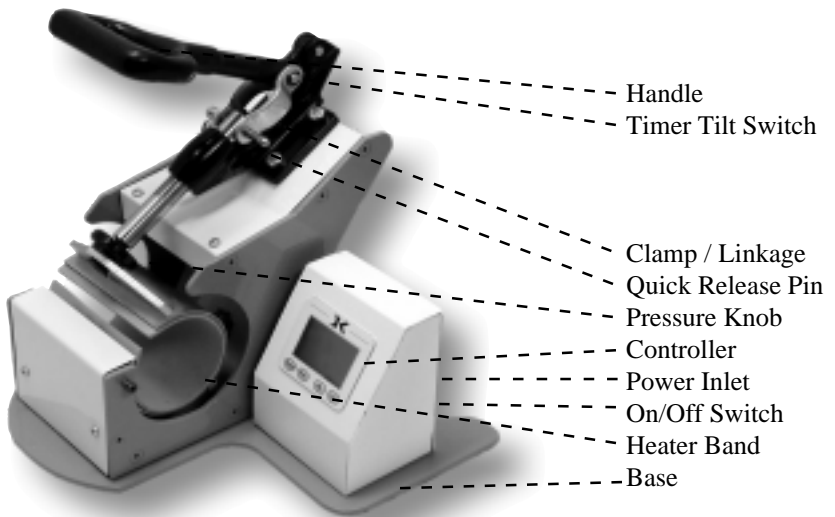
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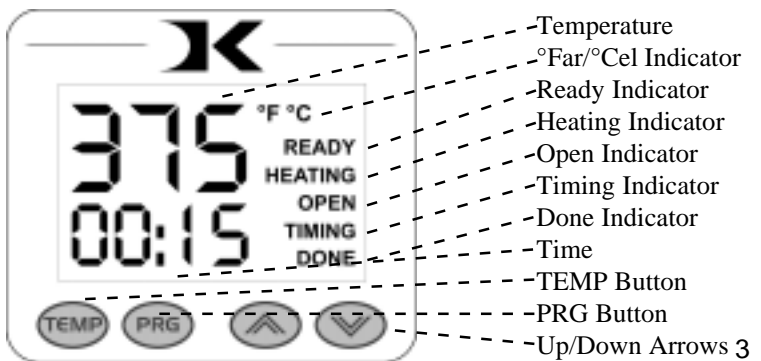
# Introduction

Congratulations on your purchase of the DK3 Digital Mug Press! This heat press machine has many exciting features, all of which are meant to help make your heat transfer pressing endeavors as successful and easy as possible. Please take the time now to thoroughly read through this manual to become acquainted with them. It will explain some key features, concepts and methods that will save much time and effort in using this press and in your heat pressing applications.

Throughout this manual, many areas and components of this machine will be referred to by specific names. Please refer to the illustrations below in order to become familiar with some of the terminology used in this manual.



## Default Operating Mode of Controller



# Setup & Suggestions

- Locate the press on a firm, sturdy work surface.
- The height of the bench/work space the press is located on would be ideally 27” to 32” high.
- Attach the power cord to the rear of the controller.
- Keep all items clear of the heater area. The heater band, pressure adjustment area, and front of the press may become hot. Do not rest any items on the machine.
- The press should remain in the unclamped position when not in use. Do not leave the heater band closed if not using. This will cause the timer to run.

## Basic Use

### Setting Time

The time setting is always editable in the default operating mode of the controller. The left two digits of the time display are minutes. The right two digits are seconds. This can be changed to Hours/Minutes in the User Options Menu.

- Use the Up & Down arrow keys to change the time.
- Hold the Up or Down arrow key down to increment the values quickly. After a brief pause, the values will accelerate.
- Press the Up & Down arrow keys together to clear the setting to 00:00
- When the press is closed, the timing cycle starts. The “TIMING” indicator will appear.
- When the timing cycle is finished, the “DONE” indicator will appear.
- Depending on the timer alarm chosen, the alarm may continue to sound at the end of the timing cycle until the press is opened.
- When the press is opened up, the “OPEN” indicator will appear.



# Setting Temperature

In the default operating mode of the controller, the displayed temperature is the **Current** temperature. This is the actual temperature of the heater band surface. Please note that on the DK3 the operating range of the controller is from 150°F to 400°F (65°C to 204°C). During the first heat up cycle of the press, the controller will display 150°F (65°C) until the heat platen temperature rises above that temperature.

The **Set Point** temperature is the temperature the operator sets the press for. This is the value the press will regulate the **Current** temperature based on. The set point temperature may be changed whenever necessary:

- When in the default operating mode, press the TEMP button.
- The Current temperature will be replaced by the *blinking* Set Point temperature.
- Use the Up & Down arrow keys to change the Set Point temperature.
- Hold the Up or Down arrow key down to increment the values quickly. After a brief pause, the values will accelerate.
- Press the Up & Down arrow keys together to set the temperature to 350.
- When finished setting the temperature, press the TEMP button to return to the default operating mode.



- The control will regulate the heat platen temperature based on the set point temperature. When the temperature falls below the Set Point, the “HEATING” indicator will appear.
- When the temperature reaches the Set Point, the “HEATING” indicator will disappear and the “READY” indicator will appear.
- If the Set Point temperature is set to a temperature below the Current temperature, the press will wait to cool down to that Set Point. At that time, neither the “READY” or “HEATING” indicators will appear.

# Setting Pressure

The DK3 is fully adjustable to accommodate various size mugs.

- To **decrease the pressure**, allowing for larger diameter mugs, or to make the tension lighter, turn the pressure knob to the right, clockwise.
- The heater band will rise away from the front of the press. The allen screw will enter into the plunger shaft deeper.



- To **increase the pressure**, allowing for smaller diameter mugs, or to make the tension tighter, turn the pressure knob to the left, clockwise.
- The heater band will come closer to the front of the press. The allen screw will come out of plunger shaft further.

## Important Pressure Notes

**The clamp must lock in place** for a successful transfer. Do not simply close the handle until the timer starts. The handle must lock and clamp down so that there is significant pressure on the mug. If the clamp assembly can not be locked, then the pressure must be decreased.

**Do not over tighten the pressure.** If it requires a lot of force to close the press onto the mug, the black adjustment knob can break. The handle should be closable with one hand of the operator when properly lubricated. If two hands must be used with a properly lubricated clamp assembly, there may be a risk of breaking the pressure adjustment knob.

Sublimation inks do not require much pressure for a good transfer. However - many styles of imprintable mugs are not straight, especially at the top & bottom of the mug. For this reason, heavier pressure helps press the transfer right up against the entire surface of the mug. **Set the pressure adjustment so that there is a firm clamping force.** This will insure good contact, and great results.

When the press is hot, and after much use, the pressure assembly may be difficult to adjust. An **ALLEN KEY** has been included to allow for easy adjustment without needing to come in close contact with hot surfaces.

# Standard Guidelines & Settings

The DK3 comes preset at 400°F for 4.5 minutes. **Always use a plain paper cover sheet OR teflon liner over the entire mug surface on top of the transfer to protect the mug surface.** For some offset transfers, high energy sublimation inks, hard mug coatings or full bleed handle to handle transfers, it may be necessary to increase the time to 5 minutes or more.

These settings should do well for most sublimation style transfers. If the results are not acceptable, or you are using laser transfer papers or other type of transfer media, contact your transfer ink or paper supplier for recommended guidelines.

**Please note that when pressing mugs, it is perfectly normal to have a significant drop of 30+° in temperature during the first part of the cycle** due to the mug absorbing a large amount of heat. The press will recover and print properly, however.

One recommendation for increasing production and decreasing pressing time is to use a pre-heating oven, such as a small toaster oven or other countertop batch heater. Pre-tape and wrap the mugs, set the small oven to 300°F, and have mugs preheating inside while other mugs are being pressed. This will invest heat into the mass of the ceramic, without activating the sublimation, so that the final pressing in the DK3 will be significantly faster. Times can then be lowered down to 2.5 to 3.5 minutes and in some cases less.

Some mugs may have irregular shapes. The top and especially bottom rims of the mugs may taper inward. **This will result in the paper possibly wrinkling at the edge of the mug.** Normally this will not affect the transfer elsewhere on the mug. However if attempting to press full bleed transfers with the image wrapping around the rims of the mug, this can cause problems. White lines and faded white splotches will appear, especially near the extremities of the mug. This is the result of the mug shape tapering inward, and the paper continuing to stiffly extend outward. The pressure of the press may help bend the paper a bit but the dryness of the paper may cause wrinkling. The solution to this is to dampen (with wet fingers or spray bottle - do not submerge) the cover sheet with water and bend the paper with the palm of your hand around the edges of the mug. Press the mug as usual and the water will help “paper mache” or cast/mold the paper around the mug curvature. This will help alleviate white lines and white splotches on the mug.

# Programmable Presets

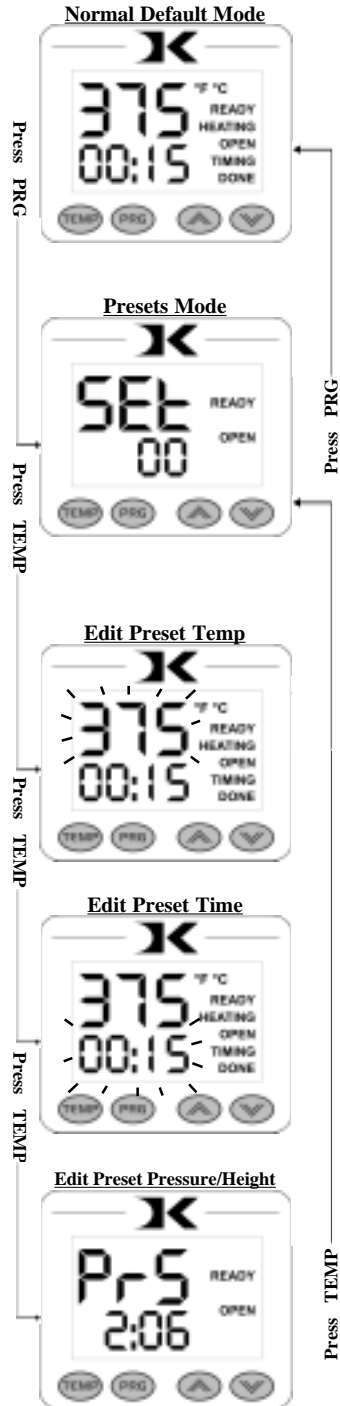
Programmable presets are stored programs where commonly used Temperature, Time and Height (pressure) settings can be stored and retrieved.

Presets can be recalled simply by pressing the PRG key, selecting the program desired with the arrow keys, and pressing the PRG key again. This will update the current settings on the press with the settings in the preset.

Presets can be edited by pressing the TEMP key while inside the programs. When the display shows “SEt”, press the TEMP key to change the temperature, time and PRS (height) settings for that preset. The TEMP key moves the flashing value from Temp to Time to PRS and back to “SEt”. The arrow keys change the value.

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So... the PRG key enters into the presets, and also exits the presets. When exiting the presets, the press' temperature & time is updated with the values that were stored in the preset, and the PRS display tells the operator what height level to adjust the pressure to.



# User Options Menus

The user options menu is a set of features and calibration options that are programmable and adjustable by the user. It consists of a set of menu items that can be scrolled through. Each menu item is a feature whose values can be viewed and /or changed. To enter the user options menu:

- From the default operating mode, press the TEMP & PRG keys simultaneously.
- If the keys are not pressed exactly at the same time, you may enter the temperature edit mode, or the presets mode. Exit either of those modes and try again.
- To cycle from one menu item to the next, press PRG.

## Fahrenheit / Celsius

The Current, Set Point, and Preset temperature values can be displayed in Fahrenheit or Celsius. To change the value to F or C, use the arrow keys. Press PRG to move to the next menu item.



## Timer Counter

The timer displays as factory default Minutes:Seconds. This can be changed to Hours:Minutes. To change to value to HR (hours:mins) or MIN (mins:secs), use the arrow keys. Press PRG to move to the next menu item.



## Recorded Pressings

The digital control records the number of pressing cycles completed. This can be very helpful when counting the number of full pressings that have been performed. The value will scroll from left to right. A “-” sign will separate the beginning and end of the number. To reset the count to Zero, press an arrow key. Press PRG to move to the next menu item.



## Height Gauge - High Point

This feature is not applicable on this press. Press PRG to skip this menu item.



## Height Gauge - Low Point

This feature is not applicable on this press. Press PRG to skip this menu item.



## Pressure / Height Gauge Sensitivity

This feature is not applicable on this press. Press PRG to skip this menu item.



## Drop Sense

A temperature alarm is available for warning the user of out-of-range temperature conditions. The user can set this menu item to sound an alarm if the heat platen drops below the Set Point temperature by the amount indicated. **Please note that when pressing mugs, it is perfectly normal to have a significant drop of 30+° in temperature during the first part of the cycle due to the mug absorbing a large amount of heat. The press will recover and print properly, however.**

Use the arrow keys to set the degrees or to turn this feature off. If the Current temperature drops below the Set Point by this amount or more, an alarm will sound. The default value is OFF.



# Beep

Normally, all buttons on the keypad beep when pressed. This can be turned off, so all button keypresses are silent. Use the arrow keys to turn this feature On or Off.



# Alarms

There are 10 different alarms available to choose from. These alarms are sounded at the end of the timing cycle, as well as if the Drop Sense feature is enabled.

Use the arrow keys to change the values or to turn the alarm off. Please note the different alarms below.



- denotes a short beep.
- \_ denotes a longer beep.
- ~ denotes infinite loop.

<u>Alarm #</u>	<u>Alarm Pattern</u>
Off	No alarm
01	••• _
02	••• _ ~
03	•• _
04	•• _ ~
05	•••
06	••• ~
07	_ ~
08	_
09	•
10	• (shorter)

# Maintenance

The majority of the press has been designed to be as maintenance free as possible. There are only a few aspects of the machine that should be monitored to insure proper operation.

- The clamp/linkage assembly is the greatest area of wear and friction on the press. The posts that connect to the heat platen should be lubricated with SuperLube - a clear high-temperature lubricant. Do **not** use grease, or WD-40 to lubricate the clamp/linkage assembly.
- The heat conductive silicone pad adhered to the heater band is a consumable item and may need replacement from time to time, depending on the amount of use. As long as the green heat conductive pad retains its sponginess, and is not severely cracked or has pockets of missing material, it should perform just fine.

# Troubleshooting

The following information attempts to address the most probable mechanical and user issues with the press. Most issues with heat transfer presses are application related. That is, they have to do with the results of a particular transfer application.

For technical support on problems having to do with the final results of a particular transfer paper or media, please contact the supplier of that transfer media. Generally, the machinery manufacturer is unable to support the myriad of different transfer papers, inks and imprintable items on the market from other resellers.

- Q.** The timer does not start when I close the heat platen, or the timer does not reset when I open the press up.
- A.** There are several probable causes for this. The timer is activated by a micro-tilt-switch attached to the pressure bar that holds the heat platen. When the head of the machine is opened, the timer needs to be tilted at a certain angle to signal the controller to stop/reset. When the head for the machine is lowered, the timer needs to be tilted at a certain angle to signal the controller to stop/reset. Open the pressure box and manually rotate the tilt-switch to see if it is sending the proper signal.

# Troubleshooting (cont.)

- Q.** I press the keys on the keypad, and there is no sound or response from the controller.
- A.** Check the connection of the keypad to the controller. This is inside the top panel. Unplug the power cord. Remove the two screws in between the clamp/linkage that hold down the top panel, and carefully lift the panel up and look inside at the digital controller. The keypad connector passes in through the top panel. It should wind around the first circuit board and be seated fully into the connector. Check the black keypad connector that plugs into the circuit board to see if it has pulled apart. Also check the area where the keypad connects to the front membrane to see if the leads have been damaged. The membrane keypad may need to be replaced.
- Q.** The control displays **Err** when it first comes on, and I can not set the temperature or use the press.
- A.** The **Err** message will display if the heating signal from the platen has been cut off, interrupted, or the heating sensor has failed. First check the green heat connector that plugs into the digital control. This is inside the top head. Unplug the power cord. Remove the four screws that hold the back panel onto the box, and carefully lift the panel back and look inside at the digital controller. At the top of the controller, there is a green connector that plugs in. This is the temperature sensor wire. Check to make sure it is properly seated. Be sure not to unplug any other connectors. The temperature wire connects to the center of the rear half of the heat platen. Check this connection as well to see if the connection is correct.
- Q.** The press has shut off, and will not come back on after checking the power cord, on/off switch, etc.
- A.** Check the fuse. In the back panel of the control box, the power cord socket has a built-in fuse-holder. Unplug the power cord, and gently pry out the fuse-holder. If the fuse is burnt out or there is no continuity, replace it with the spare located in the fuse holder also. If the fuse is fine, check the black and white wire connections from the power socket to the on/off switch, and from the on/off switch to the controller.

# Limited Warranty

*Geo Knight & Co warrants that the press is free from defects in both material and workmanship (1) Year from the date of invoice to the buyer. If any parts or workmanship are found to be defective in manufacture, Geo Knight & Co will repair or replace the defective parts or workmanship. In addition, Geo Knight & Co warrants that the Digital Knight heat control is free from defects in both material & workmanship and is covered under no-charge support for (3) years. Geo Knight & Co also warrants that the heater band is warranted for (3) years or 3,000 pressing cycles, whichever comes first, provided it is owned by the original purchaser. This warranty on the heating element does not cover temperature sensor failure, damage or disconnection. The number of pressing cycles of the machine must be confirmed by a technician at the factory in order to honor the heater band warranty. This entire limited warranty covers all parts to repair the defects, except when damage results from accident, alteration, misuse or abuse, or when the machine has been improperly installed, or modified in any way. If the press becomes defective during the limited warranty period of (1) year for the entire press, (3) years for the control, or (3) years / 3,000 pressing cycles for the heater band, Geo Knight & Co reserves the right to recall the defective press to the factory for repairs if on site component replacement is deemed not possible by Geo Knight & Co. A return authorization must be granted by Geo Knight & Co prior to its return.*

*If a press covered by the (1) year limited warranty must be returned to the factory for repairs, Geo Knight & Co shall make every effort to repair buyer's press. However, Geo Knight & Co reserves the exclusive right to determine whether to repair or replace a defective press. If Geo Knight & Co authorizes a replacement press, the warranty of the replacement press shall expire on the anniversary date of the original machine's invoice to the buyer.*

*There are no warranties which extend beyond the description on the face hereof. Seller disclaims any implied warranty of merchantability and/or any implied warranty of fitness for a particular purpose, and buyer agrees that the goods are sold "as is". Geo Knight & Co does not warrant that the functions of the press will meet the buyers requirements or expectations. The entire risk as to use, quality and performance of the press lies with the buyer. In no event will Geo Knight & Co be liable for any damages, including loss of profits, destruction of goods or any other special, incidental, consequential or indirect damages arising from the use of the press or accompanying materials. This limitation will apply even if Geo Knight & Co or its authorized agent has been advised of the possibility of such damage.*

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