DK14AW

AUTOMATIC FLAT PRESS

REV12424-A

DESCRIPTION OF MACHINE:

The DK14AW flat press is an automatic heat transfer press. The machine is designed to press the flat material once the operator has placed the object on the lower sliding table and activated the machine. Once the pressing time cycle is complete, the machine will automatically open allowing user to slide the table out and remove the printed work. The machine will automatically adjust the temperature and time and pressure needed to insure proper transfer based on the users product selection on the touch screen.

ELECTRICAL SPECIFICATIONS:
VOLTAGE: 115V-125V AC
CYCLES: 50/60 HZ.
WATTAGE: 1260 WATTS
AMPS: 10.5 AMPS

CAUTION: Only trained staff should operate the DK14AW flat press machine. The machine is an automatic machine that requires great care in operating the machine properly.

CAUTION: Locate the DK14AW machine on a sturdy level surface. In order for the machine to operate properly, the machine requires a minimum of 8" of clearance around the RIGHT- BACK- LEFT side of the machine. Keep all flammable materials away for the machine. Do not store or keep materials on the top of the press. Make sure no flammable fumes are present in the area the machine will be operating in.

CAUTION: To provide continued protection against risk of electric shock, connect to properly grounded outlets only. ONLY USE the power cord supplied with the machine. DO NOT use extension cords or power strips unless they have the required amperage rating and are properly grounded.

CAUTION: Keep molded power cord firmly engaged with the machine's power socket. Position the power cord in a fashion that prevents damage to the power cord or over extended.

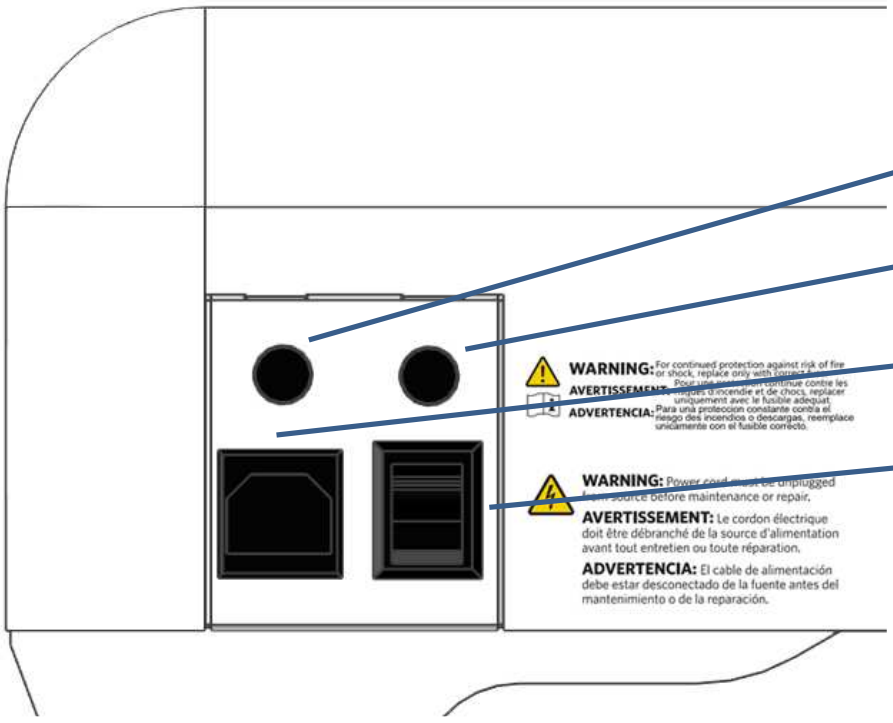
BASIC FEATURES

TOUCHSCREEN
PRODUCT SELECTION

DUAL HAND ACTIVATE BUTTONS

EMERGENCY RELEASE BUTTON
PRESS BUTTON TO OPEN THE
HEAT PLATEN

TWIST TO RESET



MAIN POWER FUSE HOLDER

ACTUATOR FUSE HOLDER

POWER INLET SOCKET

MAIN ON/OFF SWITCH

CAUTION: Do not touch the pressing surface on the heat platen. The pressing surface is extremely HOT and can cause injury.

CAUTION: After the printed product is complete and the press opens, the printed product is still very HOT to the touch. Only handle the printed product wearing proper protective gloves.

WARNING: DO NOT activate the machine with unevenly placed materials on the table. This action can result in twisting/uneven pressure and failure of the heater platen.

BASIC OPERATION

1. Plug machine into wall outlet.
2. Turn MAIN power switch on.
3. Tape the IMAGE TRANSFER SHEET tightly to the printed product, or place it loosely on top of the product.
4. Now place the product CENTERED on the bottom table.
5. Once the press is finished PRE-HEATING and indicates READY, the press can be activated.
6. Hold the activate buttons together until the press indicates TRANSFER IN PROGRESS.

CAUTION: In the event that you wish to OPEN the heat platen while it is closing, simply RELEASE the ACTIVATE BUTTONS and the heat platen will RETURN automatically to the open position.

7. Once the pressing cycle is complete, the heat platen will open and the table can be manually pulled out and the printed product can be removed and set aside to cool

CAUTION: Printed products are HOT to the touch when they are first pressed. Great care must be used when handling. Use proper protective gloves when handling the printed products.

WARNING: Only factory authorized personnel are allowed to service or perform maintenance on this machine.

FOR TECHNICAL SUPPORT, CONTACT GEO. KNIGHT CO. AT 1-800-525-6766

GEO Knight & CO. INC
EST. 1885

DK14AW

AUTOMATIC FLAT PRESS

TROUBLESHOOTING & SERVICE MANUAL

SPECIFICATIONS

Electrical:	120 Volts - 10 Amps - 1200 Watts - 50/60Hz
Total Dimensions:	15” Wide x 21” Deep x 14” High
Footprint:	15” Wide x 21” Deep
Requirements:	14AWG UL listed modular power cord required (included)
	1” space for airflow suggested behind press
	Do Not store liquids on or around machine
	Do Not store anything on heater

TESTING PROCEDURES

POWER ON TEST

Turn power on, Beeper sounds for approx. ¼-second
Touchscreen displays initial splash-screen display
Product & GREEN Ready/Pre-Heat Status displays
Heater relay ‘clicks’ and heater begins heating

ACTUATOR & LIMIT SWITCHES TEST

Depressing the 2 Black Side Activate buttons should begin downward travel (AFTER Heater is PRE-HEATED)
Letting go before full travel reached should result in automatic retraction
Heater should stop its return home when internal home-limit reached
A printing cycle activation beep should start once internal pressure setting is reached
Press E-Stop to interrupt and return actuator and heater to home position

PRODUCT SELECT TEST

Touch Main Touchscreen CATEGORY display icon to select a Product Category
Touch Secondary PRODUCT screen to select a specific Product within that particular Category
In individual product screen, press Sleep icon to test sleep mode, and press screen again to leave

E-STOP TEST

Depress E-Stop button to confirm RED Button and “E-Stop” indication
Ongoing printing cycles will be interrupted and heater will return to home position
Twist and Pull on E-Stop button to return to normal operating mode
Press E-Stop button rapidly in then out to confirm bounce protection against rapid E-Stop signals

PRODUCT PRESS/RELEASE TEST

Place product on bottom table with cover sheet of paper under and over the product
Once Pre-Heated and “READY” displays with Green status button, PRESS & HOLD 2 Black Activate buttons
Beeper should beep when product is pressed and internal pressure setting is reached
Depress the E-Stop button to release product and remove from table

USB FIRMWARE UPDATE TEST

Turn power off, insert USB Drive into side port with DK14A.HEX file on the USB drive
Turn power on, confirm 2 short beeps and WHITE flashing button and "UPDATE" indication on the screen
Remove USB thumb drive early to confirm RED button and normal startup without update
2nd Test: Confirm GREEN button, "UPDTING/FINISHED" indicator, and firmware updated without interruption

VERSION DISPLAY & PRESSING CYCLES DISPLAY TEST

While powered on and inactive, press the Settings Icon at the far upper right of Touchscreen
Press the access code 888 into the keypad on the Touchscreen
Offset calibration, Firmware Version, product cycles, relay/actuation & other basic usage stats appear

PLC CONFIRMATION / TESTING

With 12V to PLC – the bright BLUE LED will turn ON 1 sec, OFF 1 sec
The 1-sec flashing BLUE LED confirms the code is cycling and processing correctly.
LED indicators above each input and output position light when signaling (Not Touchscreen RX/TX)

TEMPERATURE ERROR TESTING

When the thermocouple wires are disconnected from the PLC, it will beep 1 to 4 times and repeat
The indicator button will turn RED with the beep, and the heater relay will turn off

ACTUATOR ERROR TESTING

Push in and twist the actuator fuse holder (8A)
While holding the fuse holder in manually, touch the 2 Black Activate buttons to begin closing the heater
Pull out the actuator fuse holder while continuing to hold the 2 Black Activate buttons depressed
After 10+ seconds, the actuator error indicator will beep 4 or 5 times and pause and repeat
The fuse must be replaced and machine power cycled to remove the error state

HEATER ERROR TESTING

Unplug one power wire from the heater relay
Press the Product Select or 2 Black Activate buttons every minute to avoid the press going into Sleep mode
After 10 minutes, the Heater Error will beep 3 times and pause and repeat warning the heater is on too long

TROUBLESHOOTING STEPS

PRESS DOES NOT POWER ON

Confirm modular power cord is fully seated into right panel inlet socket
Check if the cord is plugged into a wall socket or power strip and make sure either are not tripped and ON
Check the lower 12A fuse on the power panel panel
Test for A/C power across the “L” and “N” contacts on the power supply module inside. (B&W wires from on/off switch)
Test for 12V power across the “V+” and “V-“ contacts on the power supply, and look for green light on bottom of supply
Confirm Blinking Blue light on PLC

** Replace cord/fuse/socket/on-off-switch/power-supply or PLC based on how far the power is able to reach

HEATER DOES NOT GET HOT

Confirm Sleep mode & E-Stop mode are OFF and screen displays normal Product Selection & GREEN Activate button.
Confirm there is NO Temperature/Actuator/Heater errors beeping and RED button is OFF
Confirm Heater LED indicator on PLC behind wire harness (labeled HTR) is ON
Open back panel and test for 12V at external heater relay across coil contacts
Check heater black wire leading to “V-” on power supply fork connection
Unplug both white fiberglass heater wires from the heater relay & neutral white wire and test for continuity/resistance

** Press Touchscreen leave Sleep Mode and return to active
** Twist Pull E-Stop button out to return to active heating
** Replace 12V external heater relay or Heater band depending on continuity and how far the power is able to reach

PRODUCT PRINTING BROWN / OVERCOOKING

Confirm the correct Product Selection was selected for the printed product

** Adjust Calibration in settings menu to REDUCE heat by 10 degrees & print product. Repeat or fine-tune as necessary.
See “**VERSION DISPLAY & PRESSING CYCLES DISPLAY TEST”** on page 3.

PRODUCT PRINTING LIGHTLY / UNDERCOOKING

Confirm the correct Product Selection was selected for the printed product

** Adjust Calibration in settings menu to INCREASE heat by 10 degrees & print product. Repeat or fine-tune as necessary.
See “**VERSION DISPLAY & PRESSING CYCLES DISPLAY TEST”** on page 3.

HEATER NOT CLOSING / ACTUATOR NOT MOVING

Confirm E-Stop mode is not on & E-Stop button not depressed
Confirm Temperature/Heater/Actuator Error modes not active with RED button & beeping
Confirm Product Selection is responding and products are changing & displaying
Confirm GREEN indicator button is turning TURQUOISE when pressing 2 Black Activate buttons
Check 8A actuator fuse (above 12A main fuse) on right panel for continuity
Unplug actuator connector plug between PLC wire harness & actuator harness and check for 12V on PLC harness
Check that the 4 LED actuator indicators on the PLC circuit board (behind main power connector) are lighting

** Reboot press from Cold Start
** Replace 8A fuse if open continuity
** Replace Actuator if 12V power is present but actuator does not move
** DO NOT replace Actuator or Fuse twice if it trips multiple times – check Limit switches for active continuity upon closure

BEEPER NOT SOUNDING

Confirm the beeper connector is plugged into the PLC 3-pin connector (next to main 12V power connection)
Confirm the beeper connector RED wire faces the power connector and BLACK wire faces the corner nut of PLC board
Confirm the beep indicator LED (behind 3-pin connector on circuit board) is lighting when beeper is supposed to beep

** Reverse beeper connector if backwards
** Replace beeper if not sounding but indicator LED lighting

E-STOP MODE NOT WORKING

Check that E-Stop switch is fully depressed and locked in
Twist and release E-Stop mode to check release action
Check E-Stop switch wire connections from inside of front panel
Confirm continuity between E-Stop button contacts (closed continuity = normal operation)
Confirm E-Stop socket/terminal section is fully locked and engaged with switch section
Confirm E-Stop LED indicator on PLC behind wire harness (labeled EST) is lit (E-Stop OFF) and Not Lit (E-Stop ON)

** Replace E-Stop button if “EST” LED indicator on PLC not responding & no continuity on switch contacts

TOUCHSCREEN NOT LIGHTING / SCREEN NOT DISPLAYING

Confirm 4 wire, 6-position, polarized wire harness plug is fully seated and plugged into Touchscreen display connection
Confirm 5V supply across Black and Red wires on Touchscreen wire harness

** Unplug, Reconnect and Reseat wire harness plug into Touchscreen
** Upload full DWIN folder from Micro SD card with .bin, .icl, .fgc, .h2k config, program, & image files to Touchscreen
** Replace Touchscreen if 5V on Black & RED wires at plug and DWIN upload won’t show a Blue Upload Screen

TEMPERATURE ERROR ALERTING (1 BEEP or 2 BEEPS / PAUSE / with RED LED)

Check thermocouple connection at green 2-screw terminal on side of PLC
Confirm RED thermocouple wire is closer to wire harness connection side of PLC, BLACK wire closer to USB connector

** Remove and then Thoroughly & tightly Reconnect thermocouple wires to green connector terminal

ACTUATOR ERROR ALERTING (4 BEEPS or 5 BEEPS / PAUSE / with RED button)

Check "Heater Not Closing / Actuator Not Moving" troubleshooting steps above
Check Open limit switch (near heater) for continuity between NO/COM when depressed

** Follow "Heater Not Closing / Actuator Not Moving" resolutions above
** Replace limit switch(es) if no continuity when depressed

REPAIR PROCEDURES

REPLACE HEATER

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Remove large shoulder bolt guide bolt that passes through white block and into rear left are of heater
Unscrew and disconnect thermocouple wire leads from green connector on PLC
Unplug White fiberglass power wire from heater relay
Disconnect White fiberglass 12V wire power supply 110V NEUT connection
Remove cup-point (headless) set-screw bolt from center cylinder above heater surface, just under white top frame
Heater can drop onto the rubber padded bottom table.
Remove 2 screws from rear right wire harness strain relief to pass wires down through white top frame
Slide table forward and remove heater from rubber pad.

REPLACE ACTUATOR

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Unplug 12V PLC wire harness connector from actuator connector
Remove shoulder bolt connecting actuator cylinder rod to center heater shaft
Remove back plate from back of actuator (2 set screws)

REPLACE TOUCHSCREEN DISPLAY

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Use a thin small flathead screwdriver or razor to CAREFULLY pry Outer Touchscreen GLASS Cover away from the display
Work around the GLASS Touchscreen cover gently, a little at a time, all the way around to unstick from the panel
Remove 4 hex nuts and whit spacers from the rear 4 corners of the touchscreen

Replace the Touchscreen, noting original orientation, and replace hex nuts and white spacers – do not mix white spacers

REPLACE E-STOP BUTTON

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Unplug molex connector from rear of E-Stop button
Cut the small white wire tie locking the terminal block to the switch body
Unlock the yellow locking lever holding the terminal bock to the switch assembly
Remove the inside terminal block half of the switch assembly & unscrew the plastic nut holding the switch to the panel

REPLACE POWER SUPPLY

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Unscrew all power connections to power supply (take pictures to confirm positions later)
Unscrew the tiny 5-40 allen screws mounting the power supply to the base of the machine
Install new power supply and confirm the voltage selector switch recessed along the top edge is set for 120V
Reattach all power connections

REPLACE PLC CONTROLLER

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Unplug all wire harness connectors from PLC plus thermocouple & USB connections
Unplug Beeper connector and Remove adhered beeper from PLC housing
Unscrew (2) Allen screws from base plate of machine
Install new PLC and plug in beeper & all wire-harness/thermocouple/USB connections

REPLACE ACTIVATE SWITCHES

Remove top hood from press, unplugging Touchscreen plug, switch/e-stop wire harness plug, and USB plug
Unplug PLC wire harness from hood harness connector
Unscrew the 2 screws tightening the inside body of the activate switches to the hood.
The activate switches will easily separate from each other by outer button half and inner contact half.
Reinstall by reversing the above steps

SET CALIBRATION SETTINGS

While powered on and inactive, press the Settings Icon at the far upper left of Touchscreen in individual Product screen
Press the access code 888 into the keypad on the Touchscreen
Offset calibration, Firmware Version, product cycles, relay/actuation & other basic usage stats appear

Example: To reduce browning slightly, try reducing the offset value by 10 degrees, press OK to return to normal screen
Example: To increase darkness slightly, try increasing the offset value by 10 degrees, press OK to return to normal screen

Example: To set the fully UP retracted position of the pressure sensor press the button at the pressure calibration value.