

To: Technical Support

From: Martin Yale Engineering

Date: July 21, 2008, Updated July 16, 2014, March 12, 2019

Subject: Replacement Instructions, 2045 and 2051 main logic board

**Overview:** These instructions will allow an experienced service technician to install a replacement circuit board in a Martin Yale brand paper folder Model 2051 or Model 2045.

**Process:** The process of installing a replacement board in a Model 2051 or Model 2045 paper folder can be broken down into 3 steps. The steps are: A) Retrieving the factory preset fold table settings (offsets) from the board to be removed, B) Replacing the logic board, and C) Programming the new board with the factory presets retrieved in step (A).

**A. Retrieving factory presets** - The 2051 or 2045 has several machine specific presets in it which are custom programmed at the factory for each individual machine. These must be retrieved from the board to be removed before moving on to the actual board replacement. If the board to be removed has a non-functional display and the following steps are not possible to do, please contact Martin Yale Industries technical support at 260-563-0641. Otherwise, the steps to retrieve machine presets are:

- 1) Press 'STOP' while turning the unit ON. That will bring the folder up in diagnostics mode.
- 2) Press '7' Key to go to diagnostic #7 (Output Limits Mode).
- 3) Press the 1st fold table button on display. The display should show Len.=[X.XX] on the second line. Record the numbers displayed for X.XX and press 'ENTER' to go back to the diagnostic #7 screen.
- 4) Press the 2nd fold table button on display. The display should show Len.=[X.XX] on the second line. Record the number displayed for X.XX and press 'ENTER'. The screen will then show 'Diverter Offset', Len.=[X.XX]. Record the number displayed for X.XX and press 'ENTER'. This should take the technician back to the diagnostic #7 screen.
- 5) Press the Paper Length button on display. The display should show 'Fld Tbl Center Offset', Len.=[.XX]. Record the number displayed for .XX and press 'ENTER' to go back to diagnostic #7.
- 6) Press the '#' button on display. The display should show Len.=[.XX] on the second line. Record the number displayed for .XX and press 'ENTER'.
- 7) The necessary preset information has now been all recalled. The unit may now be turned off.

## UNPLUG UNIT AND LOCK OUT POWER

**B. Board replacement** - The wires in the 2051 and 2045 are individually marked. This along with diagram #1 below allow the technician to place all wires in their correct locations.

- 1) Remove the 2nd fold table. Under the 2nd fold table, you will find a large cover held in place with (2) sheet metal screws. This is the circuit board cover. Remove the screws and cover.
- 2) Gently unplug all wires from the circuitboard.
- 3) Using a small pair of needlenose pliers. Release each circuit board mount (standoff) one at a time. When the technician is confident that all circuit board mounts have been released, the board may be removed from the unit.
- 4) Carefully unpack the new board and install it on the circuit board mounts (standoffs) in the unit. Press down on circuitboard until the circuit board mounts snap into place.
- 5) Using the markings on the wires along with diagram #1, hook up all wires to the new board. Don't overlook the short red jumper wire which goes between (2) points on the board itself. This short wire will need to be transferred from the old board to the new.
- 6) Note that 'JBYP' is not used in all machines. Also, new production boards do not have connector JUSB. If your machine has the USB board, it is no longer used. It may be removed from the unit.
- 7) Reinstall circuit board cover and 2nd fold table. Hook power back up to unit.

Bypass Sensor is not present in all units

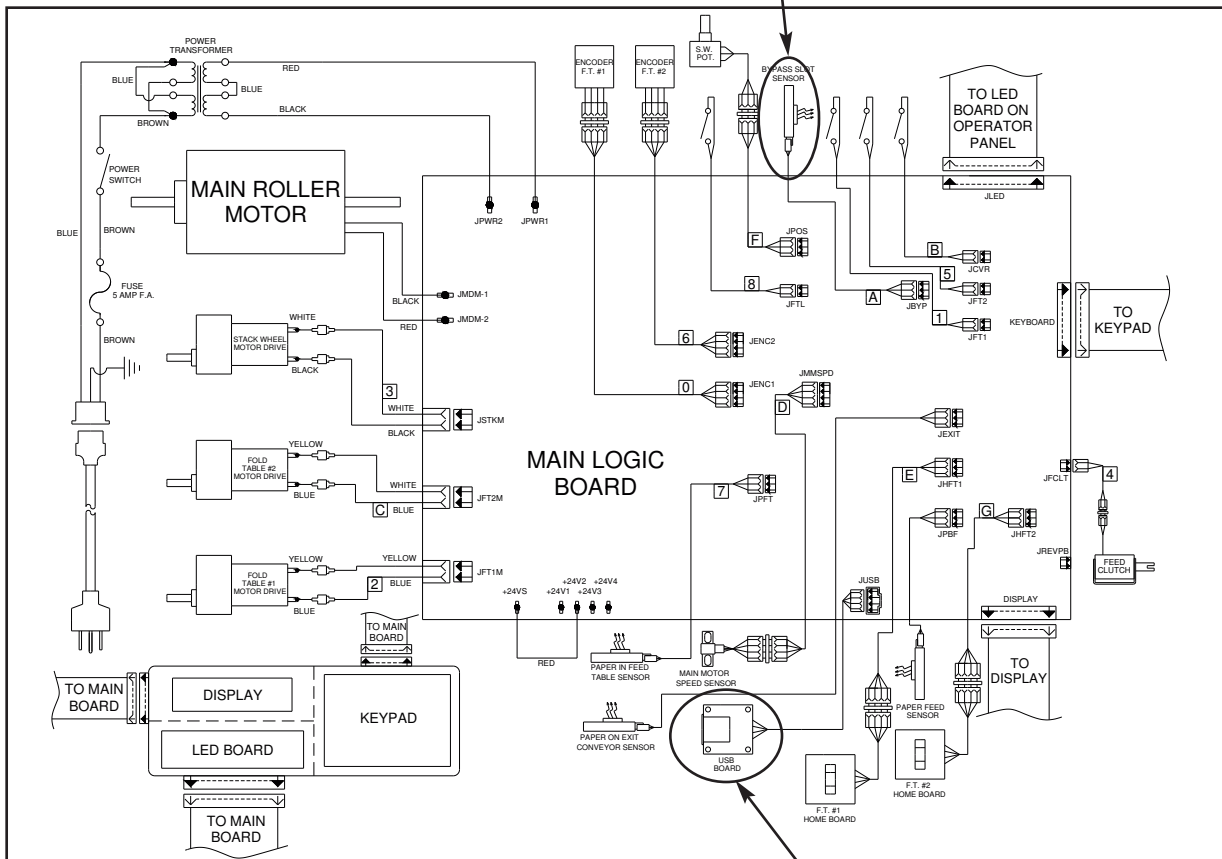


Diagram #1, Wiring Hook Ups on 2051 and 2045 Main Logic Boards

JUSB has been deleted, remove USB board from older machines

**C. Program new board with factory presets** - The factory presets downloaded in step 'A' above may now be programmed into the new board. The steps are:

- 1) Press 'STOP' while turning the unit ON. That will bring the folder up in diagnostics mode.
- 2) Press '7' Key to go to diagnostic #7 (Output Limits Mode).
- 3) Press the 1st fold table button on display. The display should show Len.=[X.XX] on the second line. Type in the number retrieved in step 'A' above for the 1st Fold Table. Press 'Enter' to teach the circuitboard this offset location.
- 4) Press the 2nd fold table button on display. The display should show Len.=[X.XX] on the second line. Type in the number retrieved in step 'A' above for the 2nd Fold Table. Press 'Enter' to teach the circuitboard this offset location. The screen will then show 'Diverter Offset', Len.=[X.XX]. Type in the number retrieved in step 'A' above for Diverter Offset and press 'Enter' to teach the circuitboard this location.
- 5) Press the Paper Length button on display. The display should show 'Fld Tbl Center Offset', Len.=[.XX]. Type in the number retrieved in step 'A' above for Center Offset and press 'Enter' to teach the circuitboard this location.
- 6) Press the '#' button on display. The display should show 'Fld Tbl LFG Value', Len.=[.XX]. Type in the number retrieved in step 'A' above for LFG Value and press 'Enter'.
- 7) Press the Stack Wheel button on display. Press the '-' arrow button until the stack wheel assembly clicks (belt jumps). Record the A/D number at this point. Press the '+' arrow button until the 'A/D' number increments by 2. Press 'Enter' to teach the circuitboard this innermost position. The display will then show the outermost position, press 'Enter' to accept the default.
- 8) Turn the unit off and then back on. Fold sample paper in both letter and half fold to confirm that the folds are within tolerances. If folds are outside of tolerance-contact Martin Yale technical support for further instruction on how to further adjust paper offsets.