Xerox FaxCentre 7042 style …
The Fax side of things (continued).
7041, 7042 (4010, 4011)

In a recent article, we explored the Pro645 style and the Pro665 style… two groups of related Xerox brand fax machines. This month, let's take a look back at the predecessor of these newer machines. The 7042 and the 7041 are two models which were strictly fax machines… no printer capability like the newer machines. Then there were also the 4010 and 4011 which share the same toner cartridges as the 7042 but are not covered in the same manual (my understanding is that the 4010 and 4011 are billed more as the printers of the group). The reason I've taken an interest is because in spite of the many differences from the Pro645's and Pro665's, there are also some similarities. They don't look the same outside, but inside they look quite familiar.

Overall, the differences out-weigh the similarities. The status codes are different, the diagnostics are quite different… the parts are in some instances interchangeable but most parts have changed, some in subtle ways.

For example, the fuser module is different although the two machines share the same fuser roller, fuser drive gear, fuser bearings, and press roll (the thermistor and fuser lamp are different). The drum cartridge is also similar but instead of using a fuse on the cartridge to reset the drum count, the 7042 machine's drum cartridge comes with a "Counter" which is a little card with a chip on it. When you replace the drum, you replace the "counter". There is a "Service Drum Counter" available which is designed to be installed while you are working on the machine to make sure you don't use up a bunch of the customer's drum count pages (that Service Drum Counter is also necessary if you are using the "Setup Tool" which is explained below).

The drum cartridge also has two contacts on the top which are positioned differently for each 'style' of machine, so they can not be interchanged. The Drum and blade however have not changed, fortunately for folks who like reconditioning these things. The difference in the Developer Unit lies in the tabs which limit which toner cartridge will fit on the unit. The 7042 toner cartridges are sold in cases of 2 under the reorder number 6R287. They are shorter in height and hold about ½ the volume of toner compared to the Pro645 etc. Interestingly, the 7042 cartridge will fit directly onto the Pro645 developer unit… so you could use it in the Pro

machines in a pinch (the Pro645 toner cartridge would be too tall to use in the 7042 however).

Now, lets see about those Error Messages… There are a bunch of messages which come up on the display, many of them are pretty straight forward and self explanatory. Below are a few which could use some further explaining:

ERROR MESSAGES:
MEMORY FULL: The image memory is full…
FILE FULL: The memory has reached its capacity of 32 files.
NO COUNTER: The drum counter card is missing or not seated.
MAINTENANCE: The machine has reached 100,000… read below about this.
MROM: System Rom error…
MRAM: RAM read / write error
MA00 – MA08: Bus failure on main board.
MD00-MD03: image memory read/write error (bad segment in memory)
LB10: Driver memory error.
LB11: Laser error
LB12: Fuser error
LB13: Fan error
LB14: High voltage error
LB15 – LB18: Data error
LB19: Processor status error.
ND: No Document

In addition to the Error Codes above, there are Communication error codes which appear on error reports when sending or receiving problems occur. These are numeric codes with three digits ranging from 001 to 157… they are too numerous to cover here and generally don't figure in where us technicians are concerned unless they become repetitive.

When it comes to diagnostic adjustments, this machine is actually rather limited unless you have a special "Setup Tool" in hand. You would need the Setup Tool to adjust the Registration, Fuser Temperature, or to reset the 100K Maintenance Counter. The setup tool's part number is 600T91808 in case you ever actually need one… it looks like a board with an LCD display and a wiring harness which plugs into a jack on the machine.   The Setup Tool sells for around $42.- if you went direct to Xerox, so it's not unattainable.

Now for some diagnostics which you actually can get to… the test codes, reports and memory clear features in Service Mode. Most of the codes you'll want to know about are reached using "Service Diagnostic Tests" (or the '1101' mode)… this is accessed by opening the Access Cover and pressing the [Service] key, then entering "1101" from the keypad followed by 'Start'. Next you'll enter the two digit code of the test you want to run. Following is a list of the "Service Diagnostic Tests" available from the '1101' menu.

Code	Test Name	Description / Explanation…
00	Printer Test	Runs test patterns (enter the number of patterns you want printed (0-9)
01	Modem transmit test	
02	Printer ROM/RAM test	Will show an "OK" or an error code…
03	Console Key Test	Choose '1', then any key you press on the console will change the character displayed.
04	Sensor / Interlock Test	See the explanation below of how this works.
05	Scan Motor / ADF Test	If you select '1', the Document Scan Motor will turn on and stay on for 5 minutes or until you press 'Stop'… If you select '2', followed by 'Start', the machine will scan however many documents you have placed on the feeder and the document count will be displayed.
06	Console LED Test	Each LED will light for 1 second in sequence. Press 'Stop' twice to end the test.
07	PIX ROM/RAM Test	Will result in "OK" or an error code.
10	Fax ROM/RAM Test	Will show either "OK" or an error code.
11	DTMF Transmit Test	
12	Print Options Report	Report is printed out which shows all of the user parameters as well as the service parameters.
13	RAM Initialization	This clears all image RAM… also resets all user and service parameters to defaults. You must enter '1234' to confirm.

| 15 | Dialing Test | |
| 16 | Image Memory Test | Error code will result if the test fails. |

The "04" code for Testing Sensors and Interlocks will bring up an array of numbers on the display as shown below:

SENSOR TEST: 1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	1	0	0

The top row is a list of numbers which each represent one of the sensors… the '0' or '1' below each show the state of that particular sensor. Below is a chart of which sensors are which, and what each value would represent.

#:	Sensor Name:	Status meanings:
1	Document Width Sensor 1	Actuate and de-actuate to see change of state
2	Document Width Sensor 2	Actuate and de-actuate to see change of state
3	Scan Sensor (sees the document lead edge)	Actuate and de-actuate to see change of state
4	Access Panel Interlock	'0' = Panel is closed '1' = Panel is open
5	Top Cover Interlock	'0' = Interlock closed '1' = Interlock open
6	Scanner Interlock	'0' = Interlock closed '1' = Interlock open
7	Auxillary Tray Installed?	'0' = Auxillary Tray is installed '1' = Auxillary Tray is not installed
8	Paper Present in Cassette?	'0' = No Paper sensed '1' = Paper is present
9	Paper Present in Aux Tray?	'0' = No Paper in Auxillary Tray (or no Aux. Tray present) '1' = Paper is present in Auxillary Tray

There are also three other Service Modes in addition to the "Service Diagnostic Tests" of the '1101' mode. First of all, you can perform an "Image Memory Initialization" (using service mode '7777'). This is done by opening the Access Cover, and pressing [Service] followed by '7777' from the keypad. The machine will print out any documents stored in the Image Memory and then clear the memory.

There is also something called "Protocol Monitor" (or '0618' mode). From this mode, you can watch the communication back and forth with another fax… To do this, open the Access Cover, press the [Service] key and then enter '0618' from the keypad. Press 'Start', then press and hold down the [Job Status] key until the display returns to a normal state. The display will then show a '0' or '1' to indicate which direction the signal is going at that moment during communication ('1' for incoming and '0' for outgoing). To exit this mode, you'll need to do the same procedure you used to get into the mode.

Another mode gives you access to the 'Service Parameters' for tweaking the way the machine communicates with other fax machines. You'd want to first print out the "Options Report" (as explained above using code 12 from the '1101' Service Diagnostic Tests) … then you can see a list of the codes and their current settings.

Finally, there are the User Parameter Options which are meant to be accessible by the customer. Again it'd be wise to first print out the "Options Report" to get a full view of the current settings. To access the User Parameters, open the Access Panel, press the [Program] key. Then press the [Redial/] once to display "Parameter Set", then press 'Start'… The LCD prompts for an option number but you can scroll through by pressing the [Redial/] or the [Pause/] key. Press '*' or '#' to change the setting of whichever option you are looking at, then press 'Start' to lock in your selection. You can then press the [Report] key to print the User Options Report… to verify your new setting.

That should do it… Now you can welcome one of these in for repair and feel somewhat comfortable.

Happy New Year everyone! Next month I plan to revisit the DC265 style… There's some new info which will come in handy regarding the Customer Tools menus … adjustments, reports, etc.