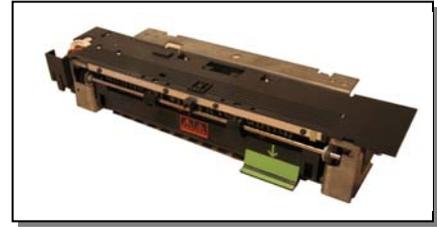


## Xerox® DC 212 / 214 FUSERS... Worth fixing.

Repairing the Fuser Modules of the Xerox DocumentCentre 212, 214.



A few years ago... Xerox® came out with the DocumentCentre 212 and 214 models. These serve as small desktop sized copier / printers. Toshiba also released the same engine as their models DP1250 / 1450 (judging by the Toshiba® part numbers for this particular machine, which look like Xerox® part numbers, they bought it from Xerox® and not the other way around). The machines have a fuser module which Xerox® has elected to sell only as a complete assembly. The parts List shows none of the parts within the fuser as being spared. Fortunately, the aftermarket has kicked in pretty well on these... the fuser drive gears, heat rolls, & press rolls, as well as alternatives for the fuser lamps and thermostats have made it possible to service what would've otherwise been an unserviceable unit.

These fusers are sold under a few reorder numbers here in the U.S.. Following are the part numbers and current List Prices: 600K62927: \$415.-, 600k72103: \$469.-, 126K09444: \$402.-, 126K13151: \$550.-. The 220 volt version is 600k62936. As you can see, there is a lot of room to turn a tidy profit on these things. The stated yield according to the Service Manual is 250K pages although experience tells us that something usually goes wrong long before that yield is met.

When the fuser fails... the machine will usually call a "U4" status code. Most often it is a Fuser Lamp failure or an overheat condition which blows the Thermal Fuse (thermostat). The Thermostat is a bi-metal fuse which does not have a reset button on it. When the fuse blows, it results in the U4 Status Code. There is also a Status Code: U5 which indicates that the machine detected a low fuser temperature during a copy run. The U4's need to be reset from diagnostics after you repair the cause for the code. Another rather common trouble which can be traced to the fuser would be fuser jams. Either the problem is physical (a broken fuser drive gear most often), or it turns out to be a failure in Exit Switch which is mounted and wired on the fuser module. It tends to cook, resulting in jams which often start off being intermittent. The E1 Status Code means that the paper made it as far as the Registration Sensor, but that it was never seen coming through the fuser Exit Switch. The E3 Status Code means that the machine saw the fuser exit switch actuate but never saw the paper leave the switch (watch for a binding actuator in this case).

You can test the Exit Switch from Diagnostics. To get into Diagnostic Mode: Hold down '0' while turning on the Power...the console will light up. Press 'Stop/Clear', the lights will shut off & --- will appear in the display... Wait 30 seconds for the optics to complete a self-test before you enter any diagnostic test codes. Never turn off the power before the optics stop moving (or you'll get a U2 code & possibly some unpleasant noises from the Scan Drive Motor). Once the optics are done initializing, enter the number '3', followed by 'Print', then go and manually actuate and deactuate the Exit Switch actuator. The display should increment each time you actuate / deactuate the switch if the circuit is working properly. Watch for intermittent behavior.

Rebuilding one of these involves replacing the Heat and Press Rolls, and possibly the Fuser Drive Gear, Fuser Lamp, and / or Thermal Fuse. There are no stripper fingers in this machine. The Heat Roll Bearings are plastic... naturally they will wear some, but if you want

to get another cycle out of them, you can switch their position from front to rear (they are interchangeable). This changes which part of the bearing takes the pressure of the heat roll and presents a new, relatively unworn surface for the heat roll to continue riding on.

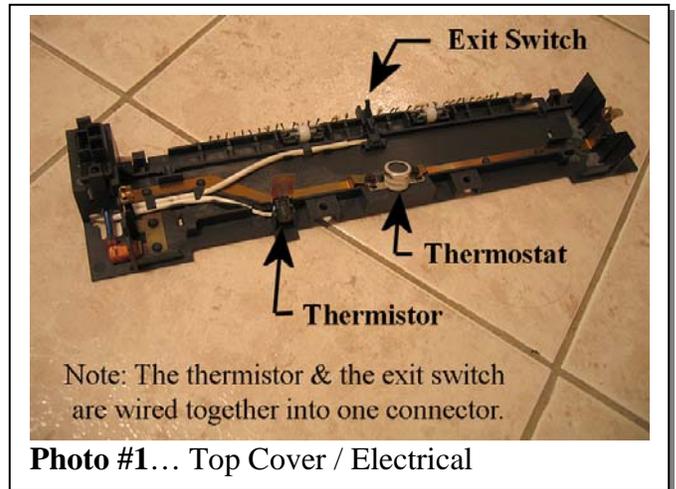
To remove the fuser from the machine, first open the Right Door Assembly and take out the Print / Copy Cartridge. Then take off the Fuser Cover which is held by one screw on the top center... lift the center of the cover to release the locking tab at the front end. With the Fuser Cover off, you can easily get to the two screws which hold the metal mounting flange of the fuser to the machine (the screws are from the top). Lift the fuser straight up to get it out.

Now... with the fuser out of the machine, measuring or replacing the Fuser Lamp is a piece of cake. It is right out in the open. Flexing the contact at the front end (opposite the gear end) gives you enough room to disengage the lamp and it can then slide out that end easily. The Fuser Drive Gear is likewise easily replaced... a snap-ring needs to come off the end of the roller, then the roller can shift towards the front end to give clearance to take off the gear.

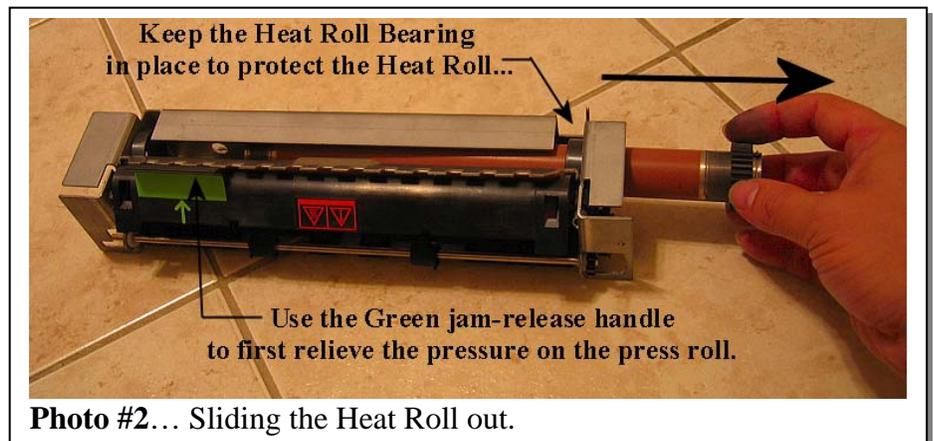
I was pleasantly surprised to find out just how easy this fuser is to work on. There's only one important trick involved which will help avoid some headaches and scratched fuser rolls.... You'll see what I mean in the procedure.

### **Procedure:**

- 1.) Start by removing the Fuser Lamp to keep it safe. Flip the fuser assembly upside down and flex the front contact forward to release the lamp, then slide the lamp out.
- 2.) Turn the fuser assembly right-side-up again and remove the Top Cover (2 screws from the top... 5.5mm hex or Phillips head). The Top Cover houses all of the electrical components of the fuser module (how convenient!). You'll find the Thermal Fuse (Thermostat), Thermistor, and Exit Switch (See Photo #1). The Exit Switch and the Thermistor share one connector going into the Main Connector. There is a little metal heat shield covering the Exit Switch which is supposed to help protect it from the fuser's heat (that shield is not in place in the photo). Make sure that piece doesn't get lost (it is loosely clipped in place and falls off easily).
- 3.) Now for the one trick worth mentioning. To get the heat roller out, you'll want to leave the Heat Roll Bearings in place in the frame. This keeps the pressure off of the Heat Roll while you're sliding it out, and keeps it from getting scratched on the metal frame. So... to remove the Heat Roll, relieve the pressure on the press



**Photo #1... Top Cover / Electrical**



**Photo #2... Sliding the Heat Roll out.**

roll using the green jam clearance lever. Then, remove the snap ring from the front end (opposite the fuser drive gear). You can now slide the fuser roll out towards the rear end (remember to take care that the plastic Heat Roll Bearings remain seated in the metal frame to protect the Heat Roll). See Photo #2

4.) Now you can get the Heat Roll Bearings out with a little jiggling. Keep track of which you had on the rear and which was on the front because you'll want to swap them to give them more longevity. You'll want to compress the press roll springs to get the pressure off of the bearings because the front and rear cams on the Pressure Release Arm press against the outside of the Heat Roll Bearings. When you go to re-install the Heat Roll Bearings, you'll definitely need to compress the pressure springs to slip the bearings back into place.

5.) Once the Heat Roll Bearings are out of the way, the Pressure Roll, its bearings and its springs can slide out of their rightful place in the metal frame. Take note of how the metal swing plate is positioned with its indexing pins since it will fall off quite easily at this point. (See Photo #3).

6.) Reassemble the module... Remember to put the Heat Roll Bearings in place before sliding the Heat Roll into place (once again protecting the roller from getting scratched on the metal frame).

That's about it !

Whenever you go to install your handiwork back in the machine, there are a few things to check out before you reset the fuser code and allow it to attempt to warm up again. First off... the left side door has a set of connections on the large Transport Door Connector which commonly get damaged or oxidized. Check the flat pins on that large connector, looking to make sure they are all straight and aligned together (sometimes one or more gets pushed in so that it is not in line with the others). If any of the pins look scorched or damaged, repair or replace that "Transport Door Connector". Also look at the metal contacts on the board on the machine side which the Transport Door Connector closes onto (they look like staples on that board). If those look dark or scorched, burnish them with a scouring pad to make them nice and shiny again.

Also... make sure that all of the covers are back on the machine before you reset the code and start it up. The reason being; this machine's ductwork relies on the covers being in place for the fuser cooling fan to be effective. Fuser temperature problems can result if the covers are off of the machine.

Once you've repaired or replaced the fuser module, you'll need to reset the U4 Status Code from Diagnostics. **To enter diagnostics:** Hold down '0' while turning on the Power...the console will light up. Press 'Stop/Clear', the lights will shut off & --- will appear in the display... Wait 30 seconds for the optics to complete a self-test before you enter any

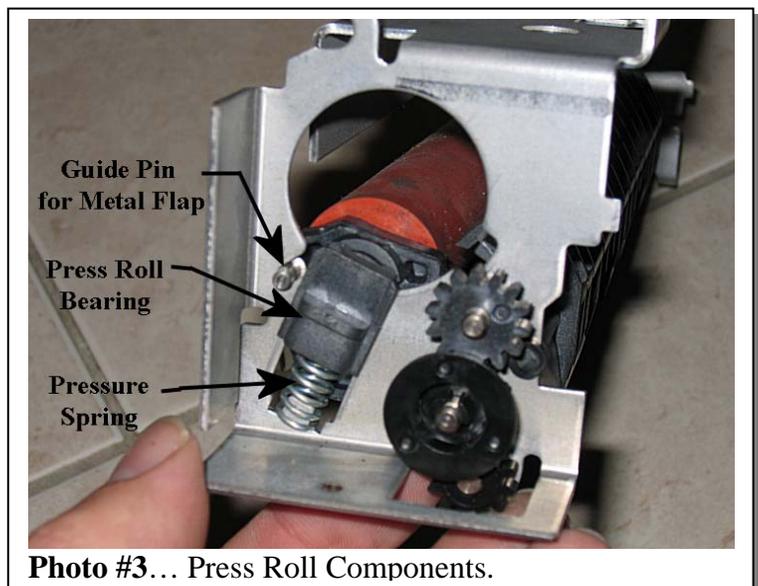
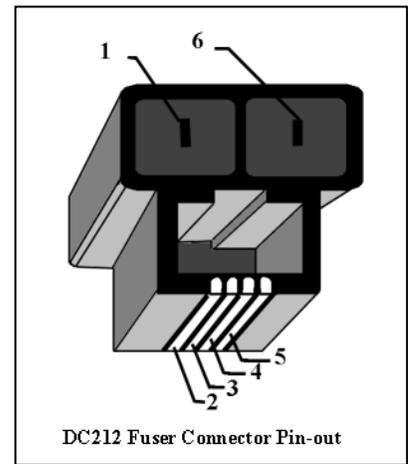


Photo #3... Press Roll Components.

diagnostic test codes. Never turn off the power before the optics stop moving (or you'll get a U2 code & possibly some unpleasant noises from the Scan Drive Motor). Once the optics are done initializing, enter '401' followed by 'Print', then shut down the power and wait 10 seconds before switching the power back on. When you turn the power on, watch to see if the Fuser Lamp is actually lighting and make sure that once the machine comes to Ready, the lamp cycles back off. Otherwise, there could be a problem where the lamp stays on constantly, in which case it will blow the thermal fuse again if you don't shut it down in time. Make sure the customer is leaving at least 4 inches at the rear of the machine so that it can breathe properly.

If problems persist, check the Tag Matrix to make sure the machine has Tag / Modification 009, 012, or 013 installed... these tags included improvements to the fuser heat control software on the Main Board. The Tag Matrix is a sticker on the inside of the Rear Drives Plate on the back of the machine. The matrix is a sticker with a grid of numbers on it. If a number is "blacked out" or marked or punched out, then the machine has had that particular "Tag" or modification done to it.

One other bit of info which might be handy relates to the Fuser Connector's pin-out. The Fuser Connector has a total of 6 pins. Pins 1 & 6 are the large pins... they are the Fuser Lamp / Thermal Fuse (thermostat) circuit. You should normally measure between 1-6 ohms of resistance through that circuit if all's well. Then, pins 4 & 5 are for the thermistor circuit which should measure high resistance (160-300K ohms) when cool and then the resistance should drop as you warm the thermistor's face. Pins 2 & 3 are the Exit Switch.



I think that covers it... Don't turn these away, they're worth fixing. Happy Repairs !

*Britt works for The Parts Drop, a company whose primary business is providing parts, supplies and information for Xerox brand copiers, printers and fax machines. You can find more information on their website [www.partsdrop.com](http://www.partsdrop.com). If you'd like to read more about Xerox brand office equipment, there's a complete listing of past articles under contributing writers on the ENX website ([www.ENXMAG.com](http://www.ENXMAG.com)).*