



Appendix 3 Product End-of-Life Disassembly instructions

Product Identification:

Marketing Name / Model	Description
HP Compaq Business Desktop dc5100 Series, version 2 - SFF	HP business desktop PC – Small Form Factor

Purpose: The document is intended for use by end-of-life recyclers or treatment facilities. It provides the basic instructions for the disassembly of HP products to remove components and materials requiring selective treatment.

1.0 Items Requiring Selective Treatment

- 1.1 Items listed below are classified as requiring selective treatment.
 1.2 Enter the quantity of items contained within the product which require selective treatment in the right column, as applicable.

Item Description	Notes	Qty items in product.
Printed Circuit Boards (PCB) or Printed Circuit Assemblies (PCA)	With a surface greater than 10 square cm	2 (sys bd, power supply PCA)
Batteries	All types including standard alkaline & lithium coin/button style	1
Mercury containing components	For example, mercury in lamps, display backlights, scanner lamps, switches, batteries	
Liquid Crystal Displays (LCD) with a surface greater than 100 square cm	Includes background illuminated displays with gas discharge lamps	
Cathode Ray Tubes (CRT)		
Capacitors / condensers (PCB / PCT)		
Electrolytic Capacitors / Condensers measuring greater than 2.5 cm in diameter or height		0
External electrical cables and cords	PSU, IDE, SATA cables.	
Gas Discharge Lamps		
Plastics containing Brominated Flame Retardants		
Components and parts containing toner and ink, including liquids, semi-liquids (gel/paste) and toner	Include the cartridges, print heads, tubes, vent chambers, and service stations.	
Components and waste containing asbestos		
Components, parts and materials containing refractory ceramic fibers		
Components, parts and materials containing radioactive substances		



2.0 Tools Required

List the type and size of the tools that would typically be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

Tool Description	Tool Size (if applicable)
Flat blade screwdriver	
Phillips screwdriver	
Pry bar	6 to 8-inch
Diagonal cutters (dikes)	

3.0 Product Disassembly Process

3.1 List the basic steps that should typically be followed to remove components and materials requiring selective treatment:

SFF CHASSIS IDENTIFICATION	
There are two different Small Form Factor chassis types. Use the following information to determine which chassis you have.	
- The Type I chassis uses a drive cage that slides out from the front of the chassis (see Figure 1 below).	
- The Type II chassis uses a drive cage that rotates up from the chassis (see Figure 2 below).	
SYSTEM BOARD – Type 1 SFF Chassis	
1	To remove the computer cover (see Figure 3 below): a) Press the buttons on the left and right sides of the computer b) Slide the computer cover towards the front of the computer until it stops 2 then, lift it up and off the chassis.
2	Remove all expansion cards, cables, and any other devices connected to the system board.
3	Remove the fan shroud from the chassis (see Figure 4 below).
4	Slide the drive tray forward and disconnect the drive and power cables from the system board (see Figure 5 below).
5	If applicable, remove the security clip (see Figure 6 below). NOTE: The security clip is an optional feature and is not installed on all computers.
6	Rotate the power supply to its upright position (see Figure 7 below).
7	Disconnect the serial port from the system board (see Figure 8 below).
8	Remove the long mounting screw that secures the system board tray to the chassis (see Figure 9 below).
9	Slide the system board tray assembly toward the front of the chassis, about 1/4 inch, and then lift the system board up and out of the chassis (see Figure 10 below).



POWER SUPPLY - Type 1 SFF Chassis	
1	If applicable, remove the security clip (see Figure 11 below). NOTE: The security clip is an optional feature and is not installed on all computers.
2	Rotate the power supply to its upright position.
3	Pull the drive cage forward and disconnect the power cables from all of the drives.
4	Release the power supply cable from the cable retaining clip at the front of the chassis below the drive cage and from the clip on the side of the chassis in front of the hard drive.
5	Lift the power supply up and out of the chassis (see Figure 12 below).
SYSTEM BOARD – Type 2 SFF Chassis	
1	To remove the computer cover (see Figure 13 below): a) Press the buttons on the left and right sides of the computer b) Slide the computer cover towards the front of the computer until it stops 2 then, lift it up and off the chassis.
2	Remove all expansion cards from the system board.
3	Remove the fan shroud from the chassis (see Figure 14 below).
4	Rotate the drive cage to its full upright position.
5	If applicable, remove the security clip and rotate the power supply to its full upright position (see Figure 15). NOTE: The security clip is an optional feature and is not installed on all computers.
6	Disconnect the data and power cables from the system board (see Figure 16 below).
7	Disconnect the serial port from the system board (see Figure 17 below).
8	Disconnect the balance of the cables from the system board.
9	Remove the long mounting screw that secures the system board tray to the chassis (see Figure 18 below).
10	Slide the system board tray assembly toward the front of the chassis, about 1/4 inch, and then lift the system board up and out of the chassis (see Figure 19 below).
POWER SUPPLY - Type 2 SFF Chassis	
1	If applicable, remove the security clip (see Figure 20 below).
2	Rotate the drive cage up and disconnect the power cables from all of the drives.
3	Release the power supply cable from the cable retaining clips on the bottom of the chassis under the drive cage.
4	If applicable, disconnect the hood sensor from the system board and remove the sensor from the power supply (see Figure 21 below).
5	Rotate the power supply to its full upright position, and then lift the power supply straight up and out of the chassis (see Figure 22 below).



POWER SUPPLY PRINTED CIRCUIT ASSEMBLY	
HP uses two different power supplies from two different vendors in these computers. Use the following steps to determine which power supply you have and its required disassembly procedures.	
Power supply 1	
1	Remove the six screws that secure the covers to the power supply (see Figures 23 and 24 below). NOTE: You do not need to remove the screws from the fan guard or the power connector.
2	Cut the plastic cable clamp that secures the wires to the power supply cover (see Figure 25 below).
3	Remove the covers from the power supply: <ul style="list-style-type: none"> a) Slide the top cover to disengage the clips, and then remove the cover from the power supply chassis. b) Lift the side cover from the chassis.
4	Cut the following wires (see Figure 26 below): <ul style="list-style-type: none"> - green/yellow wire - blue and brown wires to the power outlet - black fan wire (or unplug) - main mass of wires (to gain access to capacitors)
5	Remove the three screws that secure the PCA to the power supply chassis (see Figure 27 below).
6	Lift the PCA from the power supply chassis.
Power supply 2	
1	Remove the nine screws that secure the covers to the power supply (see Figures 28 & 29 below). NOTE: You do not need to remove the screws from the fan guard or the power connector.
2	Cut the two plastic cable clamps that secure the wires to the power supply cover (see Figure 29 below).
3	Remove the covers from the power supply: <ul style="list-style-type: none"> a) Lift the top cover and slide to disengage the clips on the back. b) Lift the side cover and slide back to disengage the clips on the bottom.



Power supply 2 (cont)	
4	Cut the following wires (see Figure 30 below): <ul style="list-style-type: none"> - green wire - black wire - white wire to power outlet - fan wire - main mass of wires (to gain access to capacitors)
5	Remove the four screws that secure the PCA to the power supply chassis (see Figure 31 below).
6	Lift the PCA from the power supply chassis.
BATTERY	
Locate the battery and battery holder on the system board. Depending on the type of battery holder on the system board, complete the following instructions to remove the battery:	
TYPE 1 BATTERY HOLDER (see Figure 32 below)	
Lift the battery out of the holder.	
TYPE 2 BATTERY HOLDER (see Figure 33 below)	
To release the battery from its holder, squeeze the metal clamp that extends above one edge of the battery. When the battery pops up, lift it out.	
TYPE 3 BATTERY HOLDER (see Figure 34 below)	
Pull back on the clip that holds the battery in place, and then remove the battery.	

3.2 ILLUSTRATIONS

Figure 1: Type 1 SFF Chassis



Figure 2: Type 2 SFF Chassis

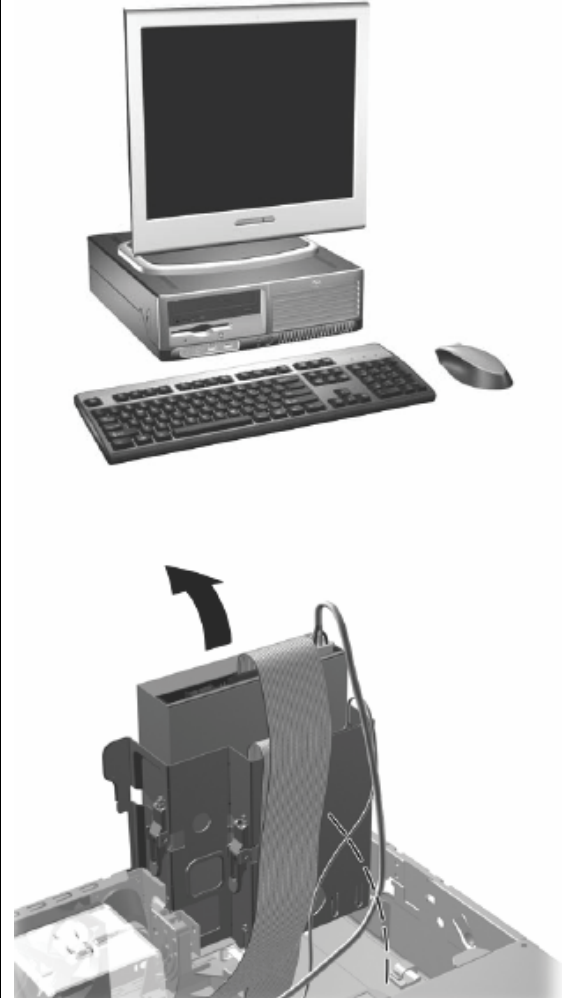




FIGURE 3: Removing the computer cover (SFF 1)

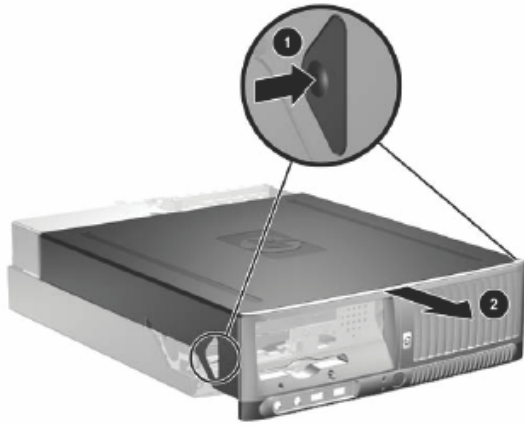


FIGURE 4: Removing the fan shroud (SFF 1)

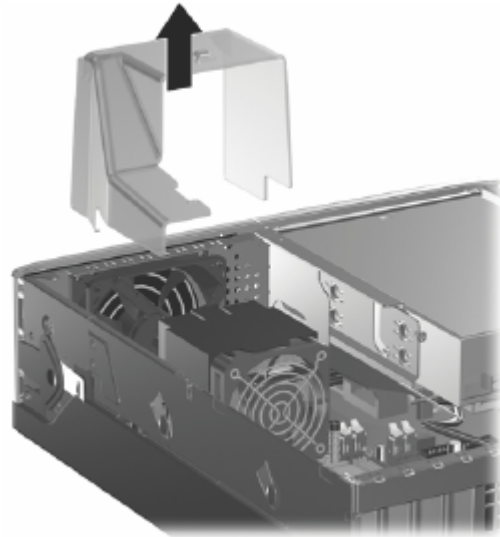


FIGURE 5: Disconnecting cables from the system board (SFF 1)

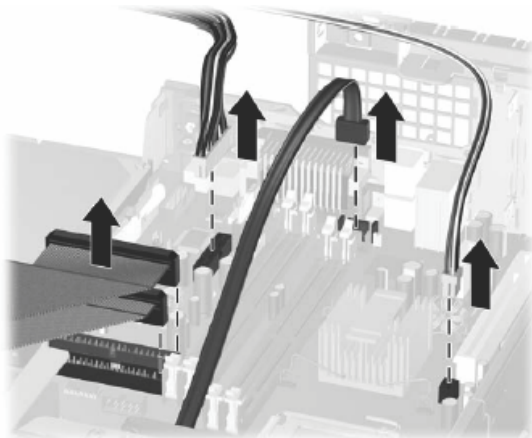


FIGURE 6: Removing the security clip (SFF 1)

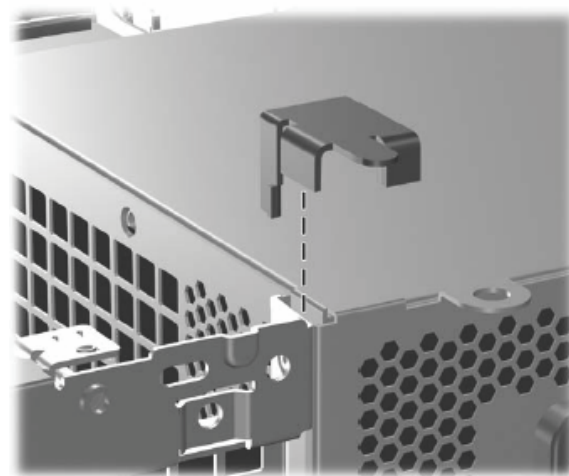




FIGURE 7: Rotating the power supply (SFF 1)

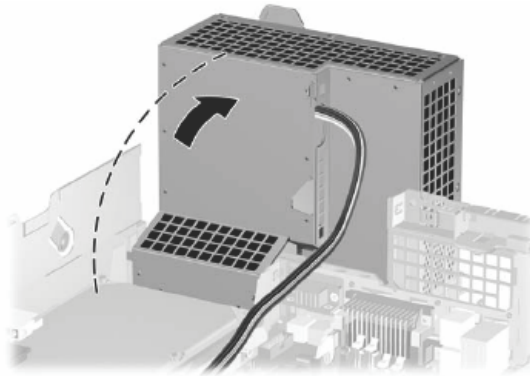


FIGURE 8: Disconnecting the serial port from the system board (SFF 1)

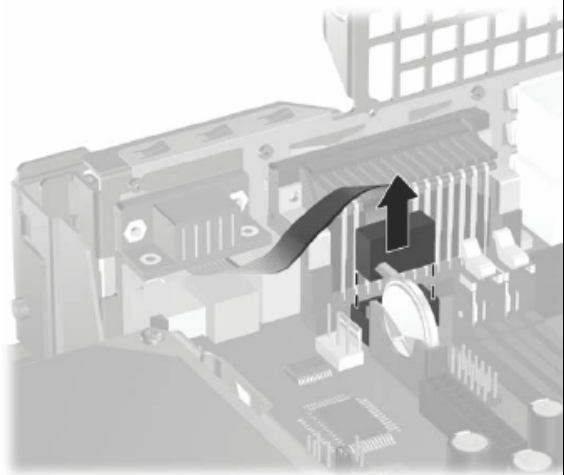


FIGURE 9: Removing the system board mounting screw (SFF 1)

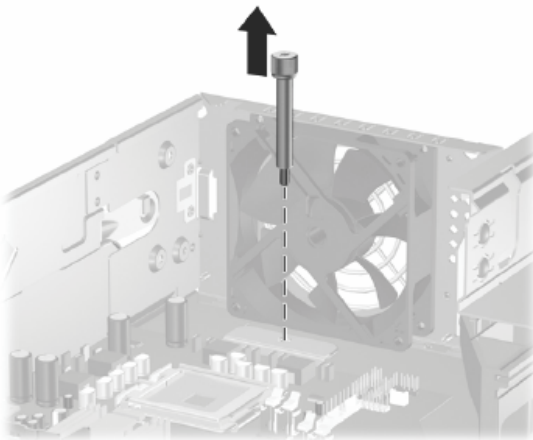


FIGURE 10: Removing the system board (SFF 1)





FIGURE 11: Removing the security clip (SFF 1)

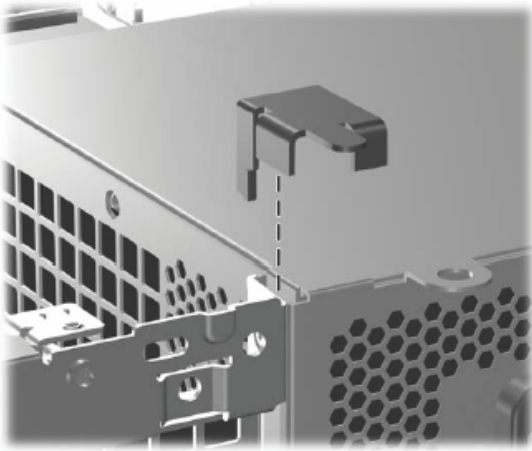


FIGURE 12: Removing the power supply (SFF 1)

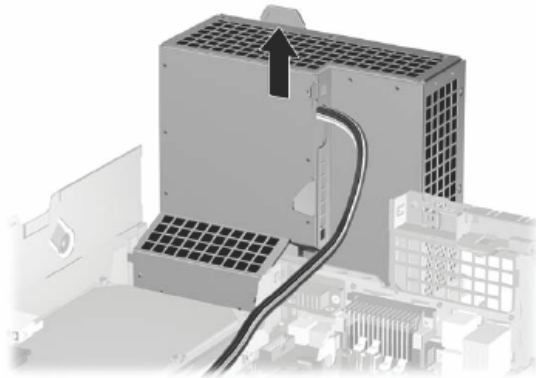


FIGURE 13: Removing the computer cover (SFF 2)



FIGURE 14: Removing the fan shroud (SFF 2)

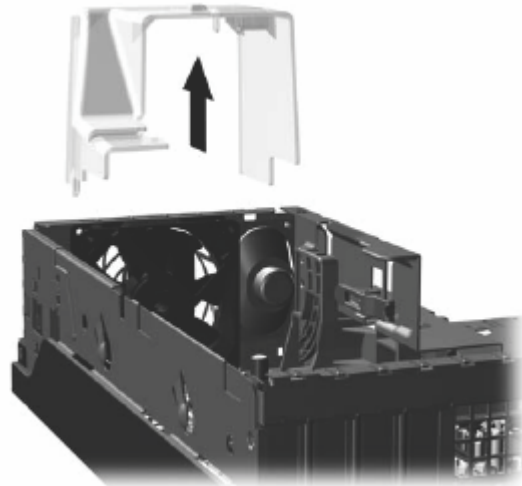




FIGURE 15: Removing the security clip (SFF 2)

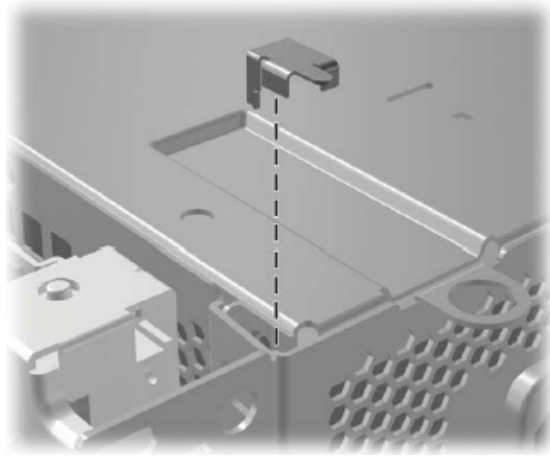


FIGURE 16: Disconnecting data and power cables (SFF 2)

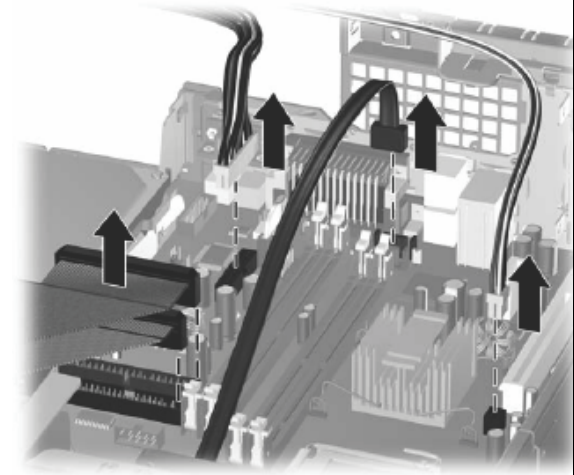


FIGURE 17: Removing the serial port (SFF 2)

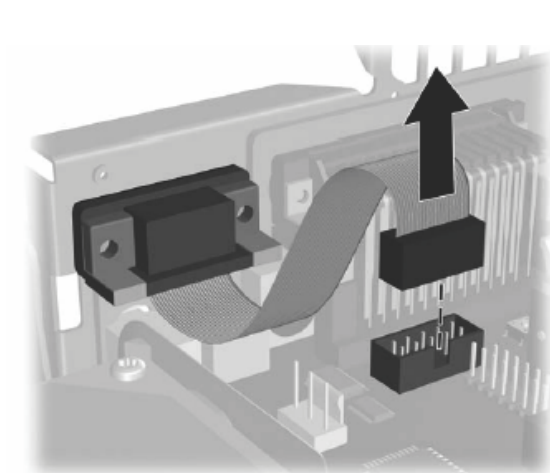


FIGURE 18: Removing the long mounting screw (SFF 2)

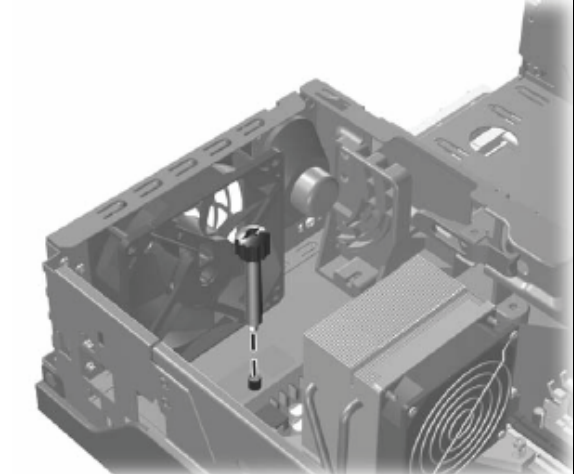




FIGURE 19: Removing the system board (SFF 2)

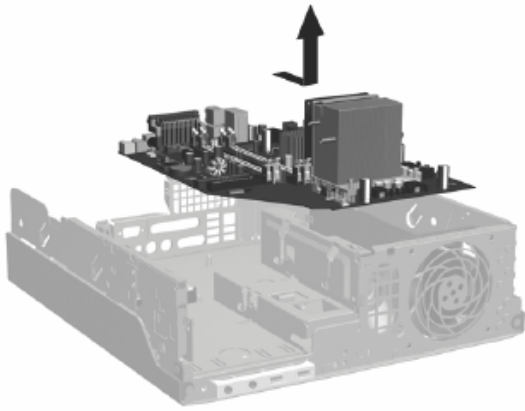


FIGURE 20: Removing the security clip (SFF 2)

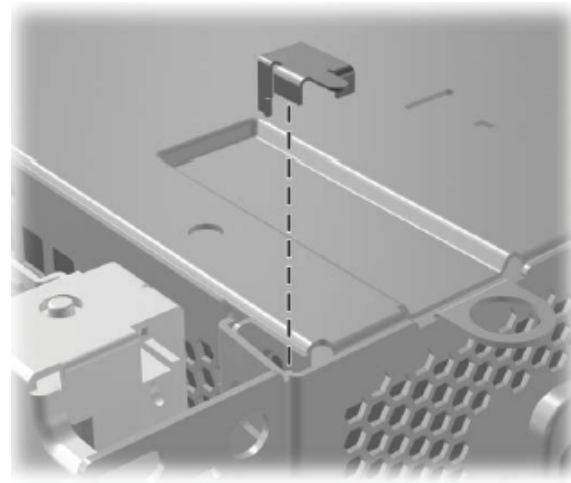


FIGURE 21: Removing the hood sensor (SFF 2)

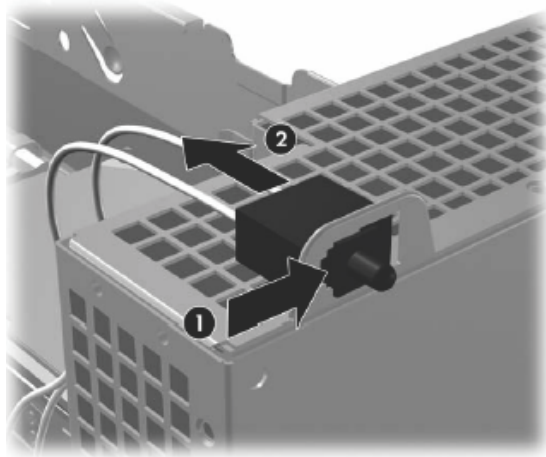


FIGURE 22: Removing the power supply (SFF 2)

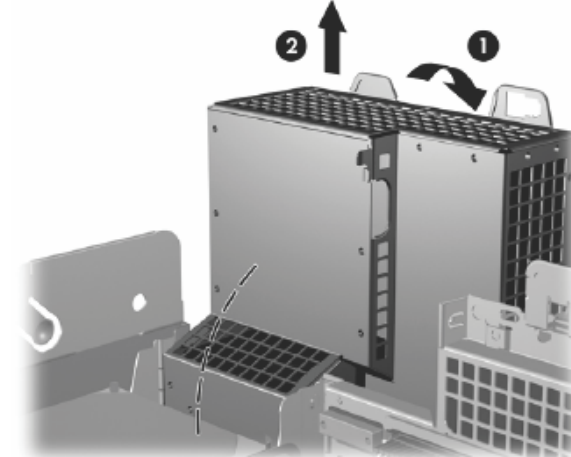




FIGURE 23: Power supply screw locations (Power supply 1)



FIGURE 24: Power supply screw locations (Power supply 1)

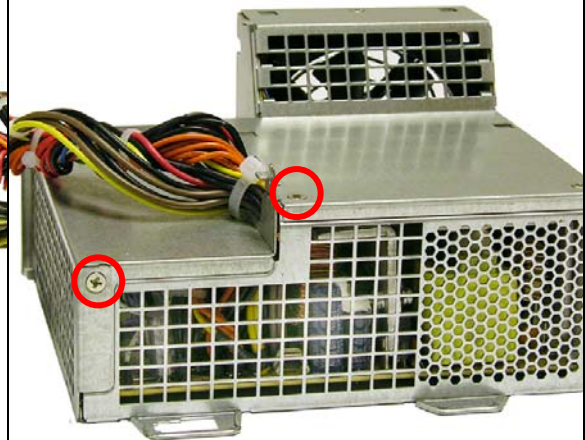


FIGURE 25: Cut plastic cable clamp (Power supply 1)



FIGURE 26: Cut wires (Power supply 1)

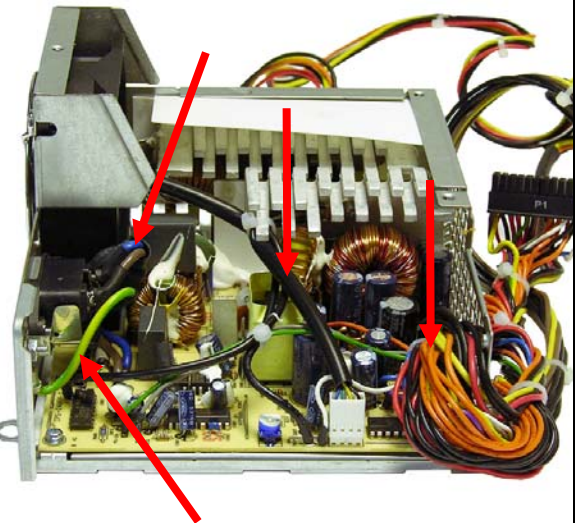


FIGURE 27: PCA screw locations (Power supply 1)

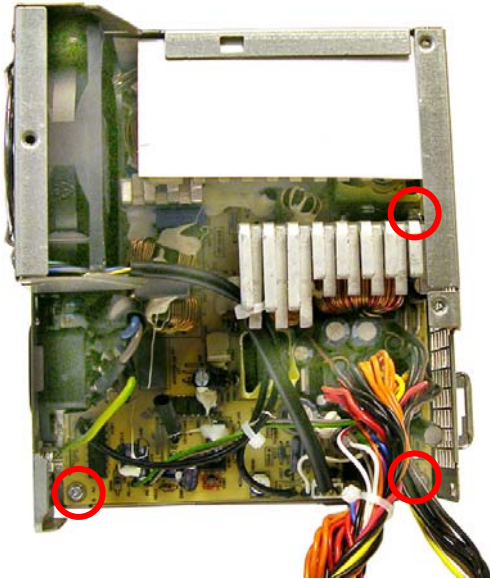


FIGURE 28: Power supply screw locations (Power supply 2)



FIGURE 29: Power supply screw locations (Power supply 2)

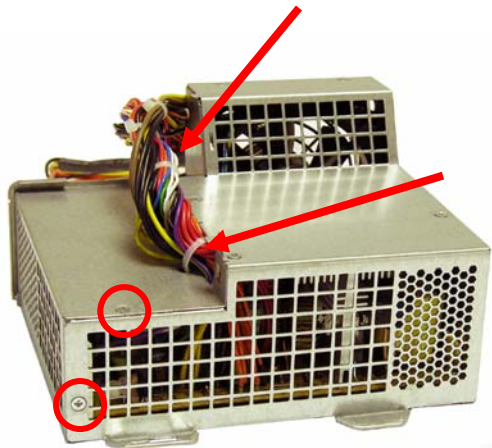


FIGURE 30: Cut wires (Power supply 2)

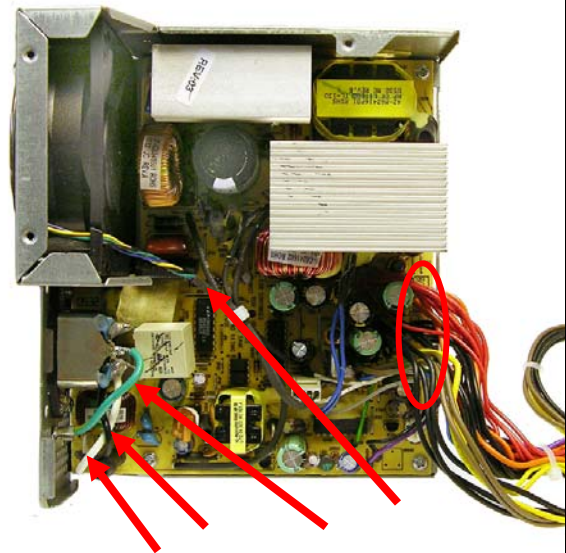




FIGURE 31: PCA screw locations
(Power supply 2)



FIGURE 32: Type 1 battery holder

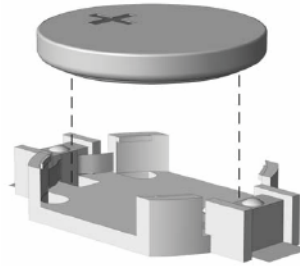


FIGURE 33: Type 2 battery holder



FIGURE 34: Type 3 battery holder

