



# How to Troubleshoot an IBM ThinkPad T42 Not Displaying Correct or Powering On

When the LCD screen is grainy, has lines and/or the computer doesn't boot or power on with the amber light flashing briefly.

Written By: James Finch



## INTRODUCTION

When I replaced the memory in my IBM Thinkpad T42 the laptop worked fine until I restarted a second time and I started seeing lines on the screen that were the wrong colors and eventually as I pressed on the keyboard the display became extremely grainy. Then the computer wouldn't boot up the subsequent times I tried to start the computer.

I'll document here what I did to get the computer to start working again as usual.

I went through all the connectors to verify clean and seated properly. The last step I performed was to remove the CMOS battery and let the computer sit overnight before re-connecting the CMOS Battery. The systems powered up without any issues from that point on.

## TOOLS:

- Flathead 3/32" or 2.5 mm Screwdriver (1)
- Phillips #0 Screwdriver (1)

## Step 1 — Very connections are Clean, Not Damaged and Connected Properly



- The following steps can be performed in sequential order or one component at a time noting to be very careful when removing and replacing components to assure the connections are clean, not damaged and connected properly.
- The easiest connections to verify are the Hard Drive, UltraBay Slim Device connections and the Memory Module under the memory cover on the bottom side of the laptop.
- You can also try this method and see if that is effective
  - - Unplug the AC adapter.
  - - Take out the battery.
  - - Press the power button 10 times in a row at one second intervals.
  - - Press and hold the power button for 30 seconds.
  - - Replace the battery back and push the power button.

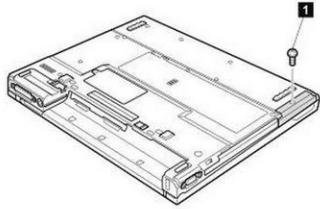
## Step 2 — Disconnect, Inspect, Clean Hard Drive Connection

**Attention**

- Do not drop the hard disk drive or apply any physical shock to it. The hard disk drive is sensitive to physical shock. Improper handling can cause damage and permanent loss of data.
- Before removing the drive, have the user make a backup copy of all the information on it if possible.
- Never remove the drive while the system is operating or is in suspend mode.

For access, remove this FRU:

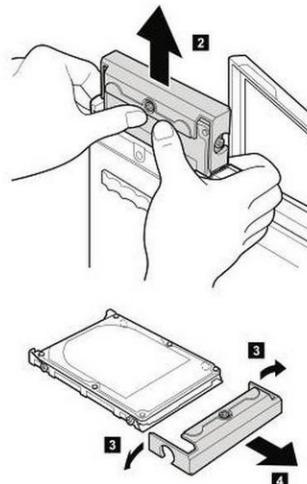
- "1010 Battery pack for 14.1-in. LCD models" on page 71
- "1020 Battery pack for 15.0-in. LCD models" on page 73



Note: The hard disk is attached to the cover.

Step	Screw (quantity)
1	HDD screw (1) or security screw (1)

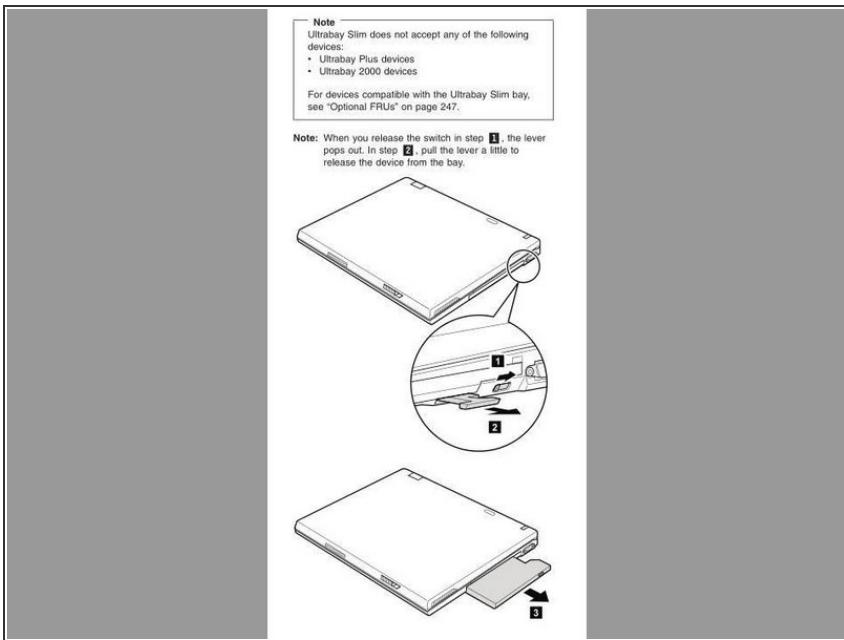
Note: Use a 2.5-mm Allen wrench to remove the security screw.



When installing: Make sure that the hard-disk connector is attached firmly.

- Verify Hard Drive connections are clean, not damaged and connected properly.
- Remove the Hard Drive to inspect and assure the Hard Drive connectors are clean and not damaged. See pgs 75-76, or as noted in the PDF reader as pgs 81-82, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Insert and reconnect the Hard Drive making sure the connection is properly seated.

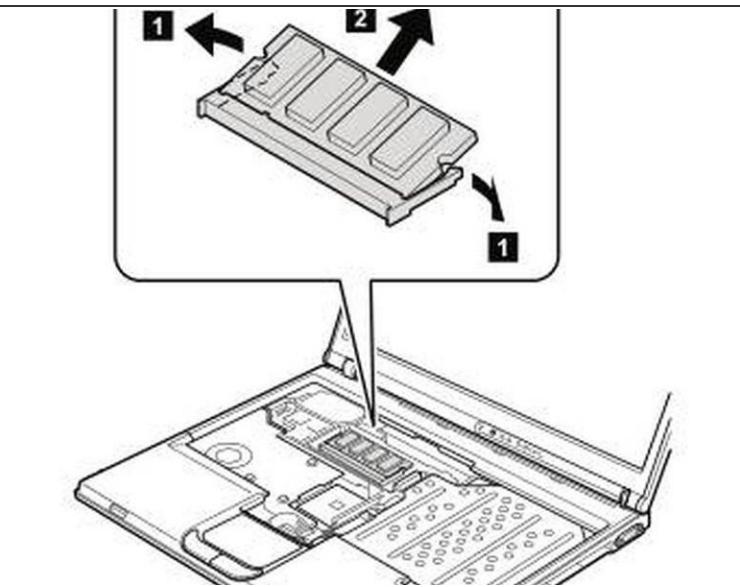
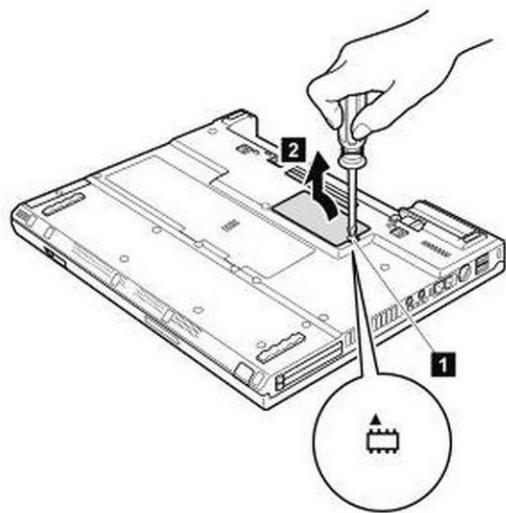
## Step 3 — Disconnect, Inspect, Clean UltraBay Slim Device Connection



- Verify UltraBay Slim Device connector is clean, not damaged and connected properly.
- Remove the UltraBay Slim Device to inspect and assure the UltraBay Slim Device is clean and not damaged. See pg 74, or as noted in the PDF reader as pg 80, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Insert and reconnect the UltraBay Slim Device making sure the connection is properly seated.

## Step 4 — Disconnect, Clean and Reconnect Memory Module

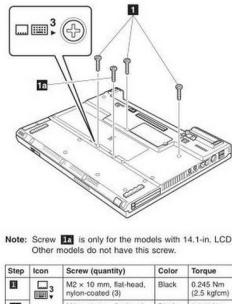
Note: Loosen the screw **1**, but do not remove it.



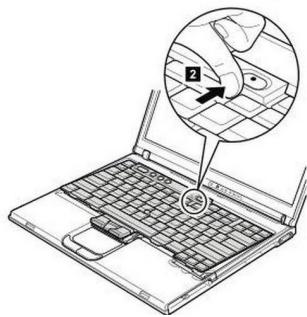
- Verify the memory modules connections are clean and inserted properly.
- Remove the memory module to inspect and assure the memory module connections are clean and not damaged. See pgs 77-78, or as noted in the PDF reader as pgs 83-84, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Insert and reconnect the memory module making sure the connection is even and properly seated.

## Step 5 — Disconnect, Inspect, Clean Keyboard Connection

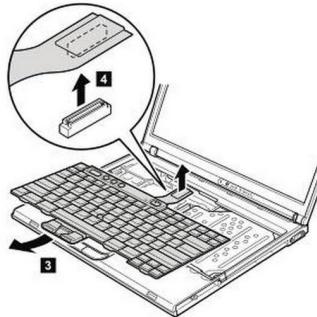
For access, remove this FRU:  
• "1010 Battery pack for 14.1-in. LCD models" on page 71  
• "1020 Battery pack for 15.0-in. LCD models" on page 73



Press the part indicated by the arrow **2** in the direction of the arrow. This releases the latches of the keyboard from the frame, so that the front side of the keyboard pops out.

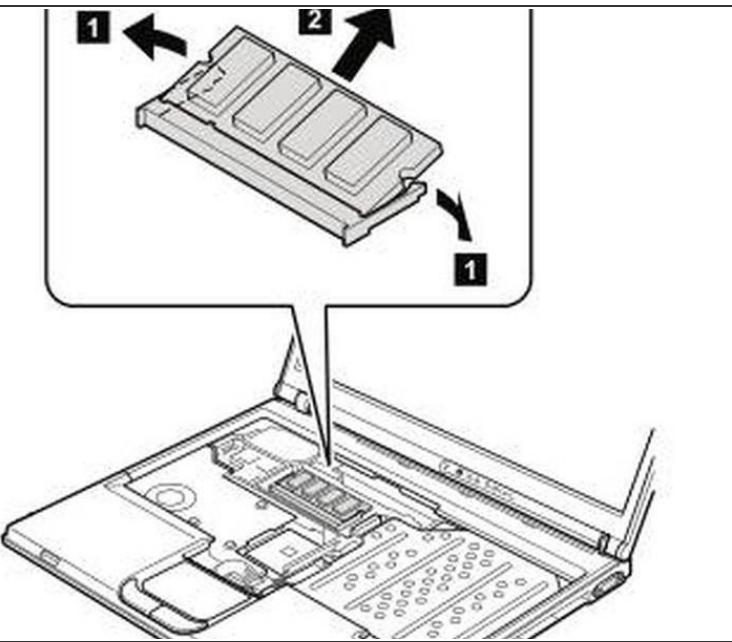


Pull the keyboard a little in the direction of the arrow **3**, and then detach the connector **4**.



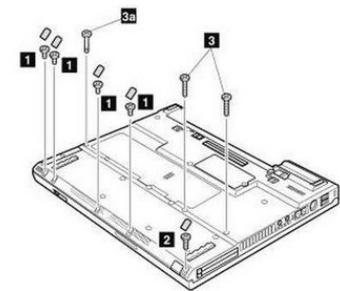
- Verify the Keyboard connectors are clean and no pins are damaged before verifying connected properly.
- Remove the Keyboard to inspect and assure the Keyboard connectors are clean and not damaged. See pgs 79-81, or as noted in the PDF reader as pgs 85-87, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Proceed to the next steps to inspect, clean and reconnect the memory module under the keyboard, palm rest, antenna, fan, LCD screen and CMOS connections before reconnecting the keyboard, otherwise reconnect the keyboard connection and install the keyboard.

## Step 6 — Disconnect, Inspect, Clean Optional Memory Module Connection



- Verify Optional Memory Module Connectors are clean, not damaged and connected properly.
- Remove the Optional Memory Module connector to inspect and assure the Memory Module connectors are clean and not damaged. See pg 83, or as noted in the PDF reader as pg 89, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Insert and reconnect the Optional Memory Module making sure the connection is properly seated.

## Step 7 — Disconnect, Inspect, Clean Palm Rest Connection



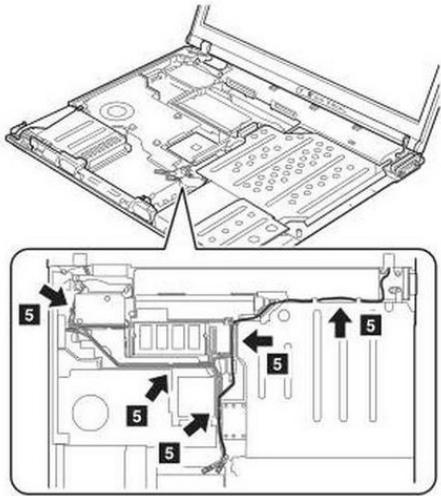
Step	Icon	Screw cap	Screw (quantity)	Color	Torque
1	1	—	M2 x 4 mm, small-head, nylon-coated (4)	Black	0.245 Nm (2.5 kgfcm)
2	2	—	M2 x 5 mm, bind-head, nylon-coated (1)	Silver	0.245 Nm (2.5 kgfcm)
3	3	—	Models with a 802.11a/b wireless LAN Mini PCI adapter		
	4	—	M2 x 14 mm, TR7, nylon-coated (2)	Black	0.204 Nm (2.0 kgfcm)
	4	—	Models with other type of Mini PCI adapter		
	4	—	M2 x 14 mm, bind-head, nylon-coated (2)	Black	0.204 Nm (2.0 kgfcm)
3a	3a	—	Special screw (1)	Black	0.204 Nm (2.0 kgfcm)

Note: Screw 3a is not available in models xxE and xxJ.

- Verify Palm Rest Connectors are clean, not damaged and connected properly.
- Remove the Palm Rest connector to inspect and assure the Palm Rest connectors are clean and not damaged. See pg 89-90, or as noted in the PDF reader as pg 95-96, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Insert and reconnect the Palm Rest connector making sure the connection is properly seated.

## Step 8 — Disconnect, Inspect, Clean WiFi Antenna Connection

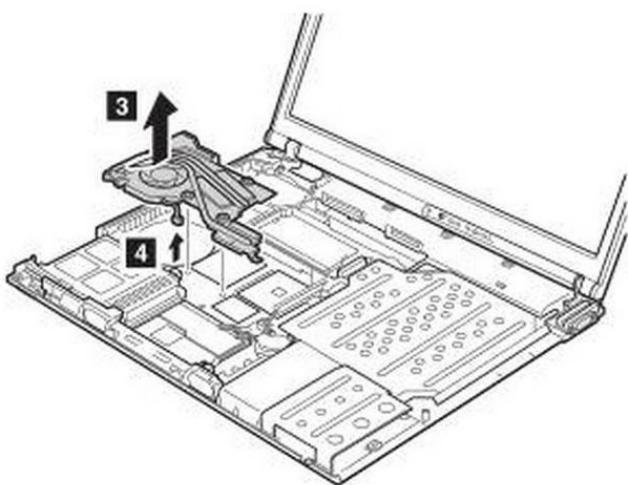
Release the antenna cables from the cable guide 5.



**When installing:** Make sure that the antenna cables are correctly routed and securely in place.

- Verify WiFi Antenna Connectors are clean, not damaged and connected properly.
- Remove the WiFi Antenna connectors to inspect and assure the WiFi antenna connectors are clean and not damaged. See pg 126, or as noted in the PDF reader as pg 132, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Reconnect the WiFi Antenna module making sure the connections are properly seated.

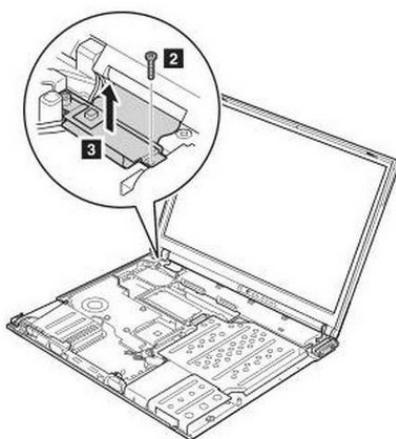
## Step 9 — Disconnect, Inspect, Clean Fan Assembly Connection



**When installing:** Make sure that the connector **4** is firmly attached.

- Verify the Fan Assembly Connectors are clean, not damaged and connected properly.
- Remove the Fan Assembly connector to inspect and assure the Fan Assembly connectors are clean and not damaged. See pg 104, or as noted in the PDF reader as pg 110, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Install and reconnect the Fan Assembly connector making sure the connection is properly seated.

## Step 10 — Disconnect, Inspect, Clean LCD Assembly Connection



Step	Screw (quantity)	Color	Torque
<b>2</b>	M2 x 12 mm, flat-head, nylon-coated (1)	Black	0.245 Nm (2.5 kgfcm)

**When installing:** Make sure that the connector **3** is firmly attached, and then secure it with the screw.

- Verify LCD Assembly Connector is clean, not damaged and connected properly.

- Remove the LCD Assembly connector to inspect and assure the LCD Assembly connectors are clean and not damaged. See pg 124, or as noted in the PDF reader as pg 130, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for

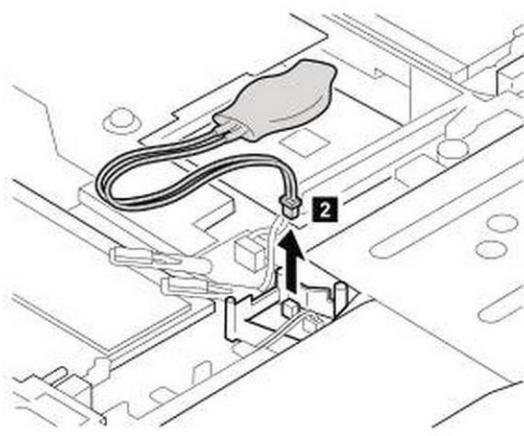
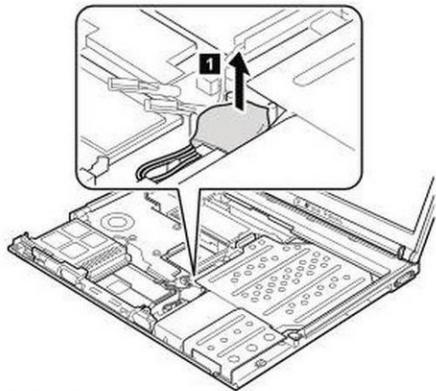
more details if needed. This manual is found in the Attached Documents section at the end of this Guide.

- Insert and reconnect the LCD Assembly connector making sure the connection is properly seated.

## Step 11 — Disconnect, Inspect, Clean CMOS Battery Connection

For access, remove these FRUs in order:

- "1010 Battery pack for 14.1-in. LCD models" on page 71
- "1040 Hard disk drive" on page 75
- "1060 Keyboard" on page 79
- "1100 Palm rest or Palm rest with fingerprint sensor (for 14.1-in. LCD models)" on page 88



**When installing:** Make sure that the battery connector **2** is firmly attached.

- Verify CMOS Battery Connectors are clean, not damaged and connected properly.
- Remove the CMOS Battery connector to inspect and assure the CMOS Battery connectors are clean and not damaged. See pgs 106-109, or as noted in the PDF reader as pgs 112-115, of the "thinkpad t40 t40p t41 t41p t42 t42p Maintenance Manual" for more details if needed. This manual is found in the Attached Documents section at the end of this Guide.
- Insert and reconnect the CMOS Battery connector making sure the connection is properly seated.

To reassemble your device, follow these instructions in reverse order.