

March 11th, 2022

Dynabook Laptop Components Classified as Requiring Selective Treatment

Dynabook would like to communicate the method of identifying and removing components contained in Dynabook notebook products, including but not limited to the **Portege X30L-K** model, that requires selective treatment based on the European WEEE Directive, Directive 2012/19/EU of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE).

All of the instructions provided within this letter can be reviewed in greater detail within the **Portege X30L-K** Series **Maintenance Manual**.

Tools Required

In order to remove internal components of the **Portege X30L-K** some tools from the list below may be required located in **Chapter 4 Replacement Procedures** of the **Dynabook Maintenance Manual**

For your safety and the safety of the people around you, it is important that you use Electrostatic Discharge (ESD) equipment. Correctly utilizing of the equipment increases the percentage of successful repairs and saves on the cost of damaged or destroyed parts. The following equipment is required for disassembly and assembly.

- One Philips screwdriver with type 0 bit (for S-THIN HEAD screws)
- One Philips screwdriver with type 1 bit (for screws other than above)
- One flat-blade screwdriver (for removing the CPU)
- Tweezers (for lifting screws)
- ESD mats (lay on work table or floor)
- An ESD wrist strap and heel grounder
- Anti-static carpet or flooring
- Air-ionizers in highly static sensitive areas
- Antenna coaxial cable disconnector
- Special syringe (for applying grease)

Table of Contents

- (Page 2-4) Removing the Lithium Ion Battery (Main Battery, Nocoin cell battery)
- (Page 5) Removing the SSD
- (Page 6-37) LCD, Printed Circuit / Wiring Boards (PCB/ PWB systemboard)
- (Page 38-39) AC Adapter and external provide cable



1. Removing the Lithium Ion Battery (Main Battery, No coin cell battery)

Please refer to the information below for instructions regarding the identification and removal of the lithium ion battery. Further maintenance instructions can be found in section 4.11 of the **Portege X30L-K Maintenance Manual**. Some tools are required in order to remove this component. Once removed, these components should be recycled as per local requirements.

To remove the battery, the base assembly must be removed first:

4.11.1 Removing the Cover Assembly and Base Assembly

To remove the Base Assembly, follow the steps below.

- 1. Close the display panel and turn the computer face down.
- 2. Remove the following screws securing the Cover Assembly and the Base Assembly.



Figure 4-4 Removing the Base Assembly (1)

1. Separate the **Base Assembly** and **Cover Assembly** while releasing the **latch**.





4.12.1 Removing the Battery pack

To remove the battery pack, follow the steps below.



Take care not to short circuit the terminals when removing the battery pack. Similarly, do not drop, knock, scratch, disassemble, twist, or bend the battery pack.

- 1. Disconnect the **BATTERY HARNESS** from the connector **CN8021** on the System board.
- 2. Remove the following screws and the battery pack.



Figure 4-6 Releasing the battery pack



Dispose of the used/removed battery pack in accordance with the laws and ordinances of your local authority.



2. Removing the SSD

To remove the SSD the **mainboard** must be removed **first**. Please refer to the information listed in section **4.18** of the **Portege X30L-K Series Maintenance Manual** to check how the mainboard is removed.

Please refer to the information below for the removal of the SSD.

One Philips screwdriver with type 1 bit will be required to remove the screws indicated in the locations below. Once removed, these components should be recycled as per local requirements.

4.13.1 Removing the SSD

To remove the SSD, follow the steps below .



Take care not to press on the top or bottom of a SSD. Pressure may cause the data loss or damage to the device.

 Remove the the following screw and disconnect the SSD from the connector CN1900 on the System board. Figure 4-7 Removing the SSD





3. Removing the LCD and Printed Circuit / Wiring Boards

Beside the LCD and the main PCB, there are further **small PCBs and components** which are in the scope of the WEEE Directive. The removal of these components is described in detail in the **chapter 4** of the associated maintenance manual.

Replacement Procedures

| Figure | 4-4 Removing the Base Assembly (1) | 4-10 |
|--------|--|------|
| Figure | 4-5 Removing the Base Assembly (2) | 4-10 |
| Figure | 4-6 Releasing the battery pack | 4-11 |
| Figure | 4-7 Removing the SSD | 4-12 |
| Figure | 4-8 Installing the SSD | 4-13 |
| Figure | 4-9 Removing the Fan | 4-14 |
| Figure | 4-10 Removing the Fin | 4-15 |
| Figure | 4-11 Removing the Smart Card slot (1) | 4-16 |
| Figure | 4-12 Removing the Smart Card slot (2) | 4-16 |
| Figure | 4-13 Removing the Smart Card slot (3) | 4-17 |
| Figure | 4-14 Installing the Smart Card slot | 4-18 |
| Figure | 4-15 Removing the 3G module (1) | 4-18 |
| Figure | 4-16 Removing the 3G module (2) | 4-19 |
| Figure | 4-17 Removing the system board (1) | 4-20 |
| Figure | 4-18 Removing the system board (2) | 4-20 |
| Figure | 4-19 Removing the Power button | 4-22 |
| Figure | 4-20 Removing the W-LAN ANTENNA (1) | 4-23 |
| Figure | 4-21 Removing the W-LAN ANTENNA (2) | 4-23 |
| Figure | 4-22 Installing the W-LAN ANTENNA | 4-24 |
| Figure | 4-23 Installing the wireless antenna | 4-25 |
| Figure | 4-24 Removing the Speaker | 4-26 |
| Figure | 4-25 Removing the dual button unit/Click pad (1) | 4-27 |
| Figure | 4-26 Removing the dual button unit/Click pad (2) | 4-27 |
| Figure | 4-27 Removing the dual button unit/Click pad (3) | 4-28 |
| Figure | 4-28 Removing the dual button unit/Click pad (4) | 4-28 |
| Figure | 4-29 Installing the dual button unit/Click pad (1) | 4-29 |
| Figure | 4-30 Installing the dual button unit/Click pad (2) | 4-29 |
| Figure | 4-31 Installing the dual button unit/Click pad (3) | 4-30 |
| Figure | 4-32 Removing the keyboard (1) | 4-30 |
| Figure | 4-33 Removing the keyboard (2) | 4-31 |
| Figure | 4-34 Removing the keyboard (3) | 4-31 |
| Figure | 4-35 Installing the keyboard (1) | 4-32 |
| Figure | 4-36 Installing the keyboard (2) | 4-32 |
| Figure | 4-37 Removing the LCD unit (1) | 4-33 |
| Figure | 4-38 Removing the LCD unit (2) | 4-34 |
| Figure | 4-39 Removing the LCD unit (3) | 4-34 |
| Figure | 4-40 Removing the LCD unit (4) | 4-35 |
| Figure | 4-41 Removing the LCD unit (5) | 4-35 |
| Figure | 4-42 Installing the LCD unit (1) | 4-36 |
| Figure | 4-43 Installing the LCD unit (2) | 4-37 |
| Figure | 4-44 Installing the LCD unit (3) | 4-37 |
| Figure | 4-45 Installing the LCD unit (4) | 4-38 |
| Figure | 4-46 Removing the camera module (1) | 4-38 |
| Figure | 4-47 Removing the camera module (2) | 4-39 |
| Figure | 4-48 Removing the camera module (3) | 4-39 |
| | | |

4.11 Cover Assembly and Base Assembly

4.11.1 Removing the Cover Assembly and Base Assembly

To remove the Base Assembly, follow the steps below.

- 1. Close the display panel and turn the computer face down.
- 2. Remove the following screws securing the Cover Assembly and the Base Assembly.

Figure 4-4 Removing the Base Assembly (1)



3. Separate the **Base Assembly** and **Cover Assembly** while releasing the **latch**.

Figure 4-5 Removing the Base Assembly (2)





4.11.2 Installing the Base Assembly

To install the Base Assembly, follow the steps below.

- 1. Set the Cover Assembly on the Base Assembly while securing the latch.
- 2. Secure the Cover Assembly and Base Assembly with the screws.



- Do not reuse the removed screws. Be sure to use new screws.
- 3. Turn the computer, and open the display.

4.12 Battery pack

4.12.1 Removing the Battery pack

To remove the battery pack, follow the steps below.



Take care not to short circuit the terminals when removing the battery pack. Similarly, do not drop, knock, scratch, disassemble, twist, or bend the battery pack.

- Disconnect the BATTERY HARNESS from the connector CN8021 on the System board.
- 2. Remove the following screws and the battery pack. *Figure 4-6 Releasing the battery pack*





Dispose of the used/removed battery pack in accordance with the laws and ordinances of your local authority.

4.12.2 Installing the Battery pack

To install the battery pack, follow the steps below.



The lithium ion battery pack may explode if not fitted, operated, handled, or disposed correctly. Dispose always the used battery pack in accordance with the laws and ordinances of your local authority.

Use only the batteries approved by Dynabook.



Check the battery's terminals visually. If they are dirty, wipe them clean with a dry cloth.

- 1. Set the battery pack to the COVER ASSY and secure it with the screws.
- 2. Connect the **BATTERY HARNESS** to the connector **CN8021** on the System board.

4.13 SSD

4.13.1 Removing the SSD

To remove the SSD, follow the steps below .



Take care not to press on the top or bottom of a SSD. Pressure may cause the data loss or damage to the device.

 Remove the the following screw and disconnect the SSD from the connector CN1900 on the System board. Figure 4-7 Removing the SSD



4.13.2 Installing the SSD

To install the SSD, follow the steps below.



To avoid damage, always hold the SSD only by its sides.

To prevent the SSD from being distorted when installing the SSD pack into the computer, do not press the center of the SSD pack. Always hold the SSD pack by its sides.

- 1. Insert the **SSD** to the connector **CN1900** on the **System Board** slantwise.
- 2. Push down the **SSD** and secure it with the screw. *Figure 4-8 Installing the SSD*



4.14 Fan

4.14.1 Removing the Fan

To remove the Fan, follow the steps below.

- 1. Disconnect the **Fan harness** from the connector **CN3380** on the **System Board**.
- 2. Remove the following screws and the **Fan** from the Cover Assembly.

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Figure 4-9 Removing the Fan



4.14.2 Installing the Fan

To install the Fan, follow the steps below.

- 1. Set the **Fan** in place on the Cover Assembly and secure it with the screws.
- 2. Connect the **Fan harness** to the connector **CN3380** on the **System Board**.

4.15 Fin

4.15.1 Removing the Fin

To remove the Fin, follow the steps below.

1. Remove the following screws and then the **Fin**.

Figure 4-10 Removing the Fin





When removing the Fin, be sure to remove the screws in the reverse order of the number marked on the Fin.

4.15.2 Installing the Fin

To install the Fin, follow the steps below.

1. Set the **Fin** in place and secure it with the screws.



When installing the Fin, be sure to install the screws in the order of the number marked on the Fin.

4.16 Smart Card slot

4.16.1 Removing the Smart Card slot

To remove the Smart Card slot unit, follow the steps below.

1. Remove the WLAN MAIN holder.

Figure 4-11 Removing the Smart Card slot (1)



- 2. Disconnect the **Smart Card slot FFC** from the connector **CN2170** on the system board.
- 3. Remove the following screw, and then slide and lift the Smart Card slot unit shown in the following figure to remove the Smart Card slot. *Figure 4-12 Removing the Smart Card slot (2)*



4. Disconnect the **Smart Card slot FFC** from the connector on the Smart Card slot.

Figure 4-13 Removing the Smart Card slot (3)



4.16.2 Installing the Smart Card slot



When replacing the Smart Card slot with a new one, stick two pieces of **SQUARE CHUSION** on the Smart Card slot.



To install the Smart Card slot, follow the steps below.

- 1. Connect the **Smart Card slot FFC** to the connector on the Smart Card slot.
- 2. Set the **Smart Card slot** in place and secure it the with the screw.
- 3. Connect the **Smart Card slot FFC** to the connector **CN2170** on the system board.
- 4. Install the WLAN MAIN holder in place.

Figure 4-14 Installing the Smart Card slot



4.17 3G module

4.17.1 <u>Removing the 3G module</u>

To remove the 3G module, follow the steps below.

- 1. Peel off the **INSU LTE**.
- 2. Disconnect the **3G ANTENNA cables** from the connectors on the 3G MODULE. (red tube from "**MAIN**")

Figure 4-15 Removing the 3G module (1)



3. Remove the following screw and disconnect the **3G MODULE** from the connector **CN2610** on the **System Board**.

Figure 4-16 Removing the 3G module (2)



4.17.2 Installing the 3G module

To install the 3G module, follow the steps below.

- 1. Insert the **3G MODULE** to the connector **CN2610** on the system board. Secure the 3G MODULE with the screw.
- 2. Connect the **3G ANTENNA cables** to the connectors on the 3G MODULE. (red tube to "MAIN")
- 3. Stick a new **INSU LTE** in place.

4.18 System board



- If replacing with a new system board, update the DMI information as described in Chapter 3, *Tests and Diagnostics*. Also update with the latest BIOS and EC/KBC as described in Appendix F, *BIOS Rewrite Procedures*, and Appendix G, *EC/KBC Rewrite Procedures*.
 - 2. When replacing the system board with a new one, the ProductKey (MBR-DPK) must be written on the system board.
 - 3. When removing/installing the system board, do not handle with the handling prohibition area.



4.18.1 Removing the System board

To remove the system board, follow the steps below.

 Disconnect the Speaker harness, 3G Harness, Keyboard FPC, Fingerprint FFC, Click Pad FFC and Keyboard Backlight Harness from the System Board.

Figure 4-17 Removing the system board (1)



- 2. Disconnect the LCD harness from the connector CN5390 on the System Board.
- 3. Peel off the INSU WLAN. Disconnect the **Wireless LAN antenna cable** from the connector on the Wireless LAN module (black cable from "AUX and white cable from "Main").
- 4. Remove the following the screws. Carefully lift up the system board. *Figure 4-18 Removing the system board (2)*



4.18.2 Installing the System board



When replacing the System board with a new one, stick five pieces of **GUM CHUSION** on one side of the system board in place.



When replacing the System board with a new one, stick four pieces of **GUM CUSHION** on the other side of the system board in place.



To install the system board, follow the steps below.

- 1. Set the system board in place.
- 2. Secure the system board with the screws.
- 3. Connect the Wireless LAN antenna cables to the connectors (black cable to "AUX" and white cable to "Main") on the Wireless LAN module, and stick the INSU WLAN.
- 4. Connect the LCD harness to the connector **CN5390** on the System Board .
- 5. Connect the Speaker harness, 3G Harness, Keyboard FPC, Fingerprint FFC, Click Pad FFC and Keyboard Backlight Harness to the System Board.



(For KB w/BL models) Stick one piece of INSU SQUARE (GM9042990131) in place.



4.19 Power button

4.19.1 Removing the Power button

To remove the Power button, follow the steps below.

- 1. Release the latch from the slot on the Cover Assembly.
- 2. Remove the Power button from the Cover Assembly. *Figure 4-19 Removing the Power button*



4.19.2 Installing the Power button

To install the Power button, follow the steps below.

1. Align the Power button with the guide pins on the Cover Assembly and set the Power button in place.

4.20 Wireless LAN module

4.20.1 <u>Removing/Insatalling the Wireless LAN module</u>

The Wireless LAN module cannot be removed, please replace it with a new System Board.

4.20.2 Removing the W-LAN ANTENNA

- 1. Remove the the following screws and disconnect **CORNER CAP R** (W-LAN ANTENNA MAIN (white cable).
- 2. Open the **INSU** and release the **W-LAN ANTENNA CABLE (**W-LAN ANTENNA AUX (black cable).
- 3. Disconnect **CORNER CAP L**.

Figure 4-20 Removing the W-LAN ANTENNA (1)



4. Peel off the W-LAN ANTENNA MAIN (white cable) from the CORNER CAP R and W-LAN ANTENNA AUX (black cable) from the CORNER CAP L.

Figure 4-21 Removing the W-LAN ANTENNA (2)



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4.20.3 Installing the W-LAN ANTENNA

To install the W-LAN ANTENNA, follow the steps below.

- 1. Stick the W-LAN ANTENNA MAIN (white cable) to the **CORNER CAP R** and WLAN ANTENNA AUX (black cable) to the **CORNER CAP L**.
- 2. Arrange the Wireless LAN antenna cables as below and fix them with the INSU.
- 3. Set the **CORNER CAP L** and **CORNERCAP R** to the COVER ASSY and secure them with the screws.



Figure 4-22 Installing the W-LAN ANTENNA

4.21 3G antennas

4.21.1 Removing the 3G antennas

To remove the 3G antennas , follow the steps below.

- 1. Peel off the insulators securing the 3G antennas cables and 3G harness.
- 2. Release the 3G antenna cables from the guides on the Cover Assembly.
- 3. Peel off the 3G antennas from the Cover Assembly.



Do not reuse the removed 3G antennas. Be sure to use new 3G antenna.



4.21.2 Installing the 3G antennas

To install the 3G antennas, follow the steps below.

- 1. Stick new 3G antennas (Aux/Main) in place.
- 2. Arrange the 3G antenna cables and 3G harness in place, and fix them with the insulators.

Figure 4-23 Installing the wireless antenna



4.22 Speaker

4.22.1 Removing the Speaker

To remove the Speaker, follow the steps below.

1. Open the INSU and stick tapes. Release the **Speaker harness** from the guides.

Figure 4-24 Removing the Speaker



2. Remove the Speakers from the Cover Assembly.

4.22.2 Installing the Speaker

To install the Speaker, follow the steps below.

- 1. Set the speakers to the slots of the Cover Assembly.
- 2. Arrange the **Speaker harness** under the guides and fix it with the INSU and stick tapes.
- 3. Connect the **Speaker harness** to the connector **CN6290** on the system board.

4.23 Dual button unit/Click pad

4.23.1 Removing the dual button unit/Click pad

To remove the dual button unit and click pad, follow the steps below.

 Disconnect the Click Pad FFC, Fingerprint FFC and Accupoint FPC from the connectors on the Click Pad.

Figure 4-25 Removing the dual button unit/Click pad (1)



- 2. Peel off the **DUAL BUTTON INSU**, and disconnect the **Dual button FPC** from the connector on the Click Pad.
- 3. Remove the following screws and then remove the click pad plat. *Figure 4-26 Removing the dual button unit/Click pad (2)*



4. Remove the following screws and then release the **Dual button FPC** from the hole on the Click pad plat.

Figure 4-27 Removing the dual button unit/Click pad (3)



5. Remove the **Dual button** and **Click Pad RIM ASSY** from the Cover Assembly.





4.23.2 Installing the dual button unit/Click pad

To install the dual button unit and Click pad, follow the steps below.

- 1. Set the **Dual button** to the Cover Assembly in place.
- 2. Set the Click Pad RIM ASSY to the Cover Assembly.

Figure 4-29 Installing the dual button unit/Click pad (1)



- 3. Set the **Dual button FPC** to the hole on the Click Pad plat and secure it with the screws.
- 4. Set the **Click Pad Plat** to the Cover Assembly and secure it with the screws.
- 5. Stick the Click Pad CAPD MYLAR to the new Click Pad.
- 6. Peel off the separator on the new Click Pad RIM ASSY and stick a new **Click pad** to the Cover Assembly.

Figure 4-30 Installing the dual button unit/Click pad (2)



7. Stick a new **conductive cloth tape** to the Click pad and Click Pad RIM ASSY.

Figure 4-31 Installing the dual button unit/Click pad (3)



- 8. Stick a new **DUAL BUTTON INSU** to the dual button plat in place.
- 9. Connect the **Dual button FPC** to the connector on the Click Pad.
- 10. Connect the **Click Pad FFC**, **Fingerprint FFC** and **Accupoint FPC** to the connector on the Click Pad.

4.24 Keyboard

4.24.1 Removing the Keyboard

To remove the keyboard, follow the steps below.



As the keytop may fall out, when handling the keyboard, always hold it by the frame and do not touch the key top.

1. Peel off the INSU KB.

Figure 4-32 Removing the keyboard (1)





2. Remove the following screws. *Figure 4-33 Removing the keyboard (2)*



3. Remove the KEYBOARD. *Figure 4-34 Removing the keyboard (3)*



4.24.2 Installing the Keyboard

To install the keyboard, follow the steps below.

1. Align the locating pins and set the KEYBOARD to the COVER ASSY in place.

Figure 4-35 Installing the keyboard (1)



 Secure the KEYBOARD with the following screws. Be sure to secure the screws follow the arrow order on below figure. *Figure 4-36 Installing the keyboard (2)*



3. Stick a new INSU KB to the COVER ASSY in place. Make sure the whole INSU KB is flatly sticked including the four corners.



When the COVER ASSY is replaced with a new one, stick two pieces of INSU BOSS to the COVER ASSY in place.



4.25 LCD Assembly

4.25.1 Removing the LCD unit

To remove the LCD unit, follow the steps below.

1. Release the following screws and separate the LCD Assembly and Cover Assembly.

Figure 4-37 Removing the LCD unit (1)



2. Remove both hinge caps.

Figure 4-38 Removing the LCD unit (2)



- 3. Release the latches and remove the LCD MASK ASSY from the LCD COVER ASSY.
- 4. Release the following screws and remove the left & right hinges. *Figure 4-39 Removing the LCD unit (3)*





The Web Camera Shutter is attached to the LCD mask by magnet. Please be care not to lose it during removing the LCD mask.

Web Camera Shutter



5. Grasp the bound & detach tapes and pull out the tapes slowly and parallelly from the LCD cover.

Figure 4-40 Removing the LCD unit (4)



- Take out the LCD unit.
 Be careful that the LCD harness is connected to the connector on the back of the LCD unit.
- 7. Peel the pull tape and disconnect the LCD harness from the connector on the LCD unit.

Figure 4-41 Removing the LCD unit (5)



4.25.2 Installing the LCD unit

To install the LCD unit, follow the steps below.

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When the LCD unit is Sharp LCD, please check the FW Rev. first. Make sure to install a Sharp LCD of FW Rev.04 or later.



1. Connect the LCD harness to the connector on the LCD unit and secure it with the pull tape and glass tape.



When connect the LCD harness, make sure to connect the right and left side at the same time as shown in the figure below.



2. Peel off the separators on the bound & detach tapes on the LCD cover. Figure 4-42 Installing the LCD unit (1)



- 3. Set the LCD unit in place.
- 4. Arrange the LCD harness under the guides of the LCD cover.



Figure 4-43 Installing the LCD unit (2)



5. Set the left & right hinges and secure them with the screws. *Figure 4-44 Installing the LCD unit (3)*



6. Peel off the separator on the LCD mask and then set the LCD mask on the LCD cover while engaging the latches.

Figure 4-45 Installing the LCD unit (4)



- 7. Set both hinge caps while engaging the latches.
- 8. Set the **LCD Assembly** on the Cover Assembly and secure them with the screws.

4.26 Camera module

4.26.1 Removing the Camera module

To remove the camera module, follow the steps below.

1. Peel off two pieces of **GASKET** and **AL TAPE** on the camera module. *Figure 4-46 Removing the camera module (1)*



- 2. Peel off the HD web CAM FPC/IR CAM FPC from the LCD cover.
- 3. Disconnect the FPC from the connector on the camera module.



Figure 4-47 Removing the camera module (2)



Peel off the camera module from the slot of the LCD cover. Figure 4-48 Removing the camera module (3)





Do not reuse the removed camera module. Be sure to use new camera module.

4.26.2 Installing the Camera module

To install the camera module, follow the steps below.

- 1. Peel off a protection sheet from a new camera module.
- 2. Stick the new camera module to the LCD cover.
- 3. Connect the HD web CAM FPC/IR CAM FPC to the connector on the camera module and stick the HD web CAM FPC/IR CAM FPC to the LCD cover in place.
- 4. Stick two pieces of **AL TAPE** and **GASKET** on the **new camera module**.

4.



AC Adapter, External cables provided with the AC adapter and USB cables

The AC adapter as well as all external cables provided with the notebook including the AC adapter cables and USB cables should be segregated and sent for shredding.

The following components contained within the AC adapter potentially contain hazardous substances and require special handling:

- Printed Circuit Board >10 cm²
- Capacitor >25 mm in height

Photos of the AC adapter and the components noted above are included below. The notebook has one of two types of AC adapter.

USB connection type



AC adapter





AC Adapter printed circuit board



AC adapter capacitor



Conventional type



AC adapter



AC Adapter with casing removed



AC adapter printed circuit board



AC adapter capacitor