Product: 1996 HP OmniBook 300, 425, 430, 530 PC Service Repair Workshop Manual
Full Download: https://www.arepairmanual.com/downloads/1996-hp-omnibook-300-425-430-530-pc-service-repair-workshop-manual/

HEWLETT PACKARD

# Service Manual

## HP OmniBook 300, 425, 430, 530

Sample of manual. Download All 86 pages at:
https://www.arepairmanual.com/downloads/1996-hp-omnibook-300-425-430-530-pc-service-repair-workshop-manual/

Product: 1996 HP OmniBook 300, 425, 430, 530 PC Service Repair Workshop Manual
Full Download: https://www.arepairmanual.com/downloads/1996-hp-omnibook-300-425-430-530-pc-service-repair-workshop-manual/

# Notice

In a continuing effort to improve the quality of our products, technical and environmental information in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Hewlett-Packard assumes no responsibility for the use or reliability of its software on equipment that is not furnished by Hewlett-Packard.

As an ENERGY STAR partner, HP has determined that these products meet the ENERGY STAR guidelines for energy efficiency.

All Certifications may not be completed at product introduction. Please check with your HP reseller for certification status.

This equipment is subject to FCC rules. It will comply with the appropriate FCC rules before final delivery to the buyer.

ENERGY STAR is a service mark of the U.S. Environmental Protection Agency. IBM and OS/2 are registered trademarks of International Business Machines Corporation. Pentium and the Intel Inside logo are registered trademarks of Intel Corporation. LapLink Remote Access is a trademark of Traveling Software, Inc. Microsoft, MS-DOS, and Windows are registered trademarks, and the Genuine Microsoft Products logo is a trademark of Microsoft Corporation in the United States of America and in other countries.

© Hewlett-Packard Company 1996.

All Rights Reserved. Reproduction, adaptation, or translation without prior written permission is prohibited except as allowed under copyright laws.

Printed in U.S.A.
5965-0244

Sample of manual. Download All 86 pages at:
https://www.arepairmanual.com/downloads/1996-hp-omnibook-300-425-430-530-pc-service-repair-workshop-manual/

# Table of Contents


Table of Figures ..... iv
Introduction ..... v
Product Overview ..... 1
  Product Features ..... 2
    OmniBook 300, 425, and 430 ..... 2
    OmniBook 530 ..... 3
  Product Comparisons ..... 4
  Product at a Glance ..... 6
Troubleshooting ..... 9
  OmniBook Self-Test ..... 10
    Loop Back Connectors ..... 10
  Troubleshooting Flowchart ..... 12
    Main Troubleshooting Flowchart ..... 13
    Power Source Problems ..... 15
    Boot-Up Problems ..... 18
    Display Problems ..... 19
    Hard Disk Problems ..... 20
    Memory Problems ..... 23
    Power Management Problems ..... 25
    Pop-Out Mouse Problems ..... 28
    Floppy Drive Problems ..... 32
    Parallel Port Problems ..... 35
    Serial Port Problems ..... 37
    PCMCIA Problems ..... 39
    IR Port Problems ..... 43
Hardware Repair ..... 45
  Battery (End User Replaceable) ..... 46
  Memory (End User Replaceable) ..... 48
  Hard Disk Drive/Flash Card and System ROM (End User Replaceable) ..... 50
  Mouse (End User Replaceable) ..... 52
  Small Parts (End User Replaceable) ..... 53
    Battery Door ..... 53
    Battery Door Latch ..... 53
    Blank Modem Door ..... 53
    Memory Door ..... 53
    I/O Door ..... 53
    Rubber Feet ..... 53
    PCMCIA Card Tray ..... 53
  Display (HP Authorized Service Providers Only) ..... 54
  Keyboard (HP Authorized Service Providers Only) ..... 62
  Logic PCA Board (HP Authorized Service Providers Only) ..... 63
  Paw Carrier (Paw Active) (HP Authorized Service Providers Only) ..... 65
  Other Components (HP Authorized Service Providers Only) ..... 66
Appendix A - Technical and Resource Specifications ..... 67
  Mass Storage Specifications ..... 67
  Card Services and Socket Services Version Matrix ..... 67
  Memory Map ..... 68
  Upper Memory Block Space ..... 68
  DOS Conventional Memory ..... 68
Appendix B - Power On Self Test Codes ..... 69
  Beep Codes ..... 69
  Display Codes ..... 70
Appendix C - Password Policy ..... 75

Appendix D - Part Numbers.....77

# Table of Figures

Figure 1 - OmniBook 300, 425, and 430 Features ..... 2
Figure 2 - OmniBook 530 Features ..... 3
Figure 3 - Serial Loop Back Connector ..... 11
Figure 4 - Parallel Loop Back Connector ..... 11
Figure 5 - OmniBook Memory Modules ..... 48
Figure 6 - Removing the Memory Module ..... 49
Figure 7 - Removing Card Slot Tray ..... 51
Figure 8 - Removing the Mouse ..... 52
Figure 9 - Outer Bottom Case Components ..... 54
Figure 10 - Backplane Standoffs ..... 55
Figure 11 - Bottom Case Tabs ..... 55
Figure 12 - Bottom Case Prying Locations ..... 56
Figure 13 - I/O Port Prying Location ..... 56
Figure 14 - Disconnecting Display Cable ..... 57
Figure 15 - Keyboard Flex Cables ..... 58
Figure 16 - Display Grounding Eyelets ..... 58
Figure 17 - Display Cable Probe Position ..... 60
Figure 18 - Reconnecting Display Cable ..... 60
Figure 19 - I/O Port Eyelets (all present) ..... 61
Figure 20 - I/O Port Eyelets (two matched sets) ..... 61
Figure 21 - I/O Port Eyelets (only one matched set) ..... 61
Figure 22 - I/O Port Eyelets (no eyelet in position one) ..... 61
Figure 23 - Logic Board PCA Removal ..... 63
Figure 24 - Paw Carrier Removal ..... 65

# Introduction

This document provides reference information for the HP OmniBook 300, HP OmniBook 425, HP OmniBook 430, and HP OmniBook 530. It is intended to be used by HP-qualified service personnel to help with the installation, servicing, and repair of these HP OmniBook PCs.

It is a self-paced guide designed to train you to install, configure, and repair the OmniBook Notebook PC. You can follow it without having any equipment available.

The following table lists additional sources where supplementary information can be obtained:

| Resource | Number/Address | Comments |
|---|---|---|
| HP External Web | http://hpcc998.external.hp.com/mcd/ | No usage restriction |
| HP-MCD Internal Web | http://webmcd.cv.hp.com | Restricted to HP internet access only |
| HP MCD Service Engineer | svc-eng_mcd@om.cv.hp.com | Email address for service related questions and issues |

# Part 1

## Product Overview

- Product Features
- Product Comparisons
- Product at a Glance

# Product Features

## OmniBook 300, 425, and 430

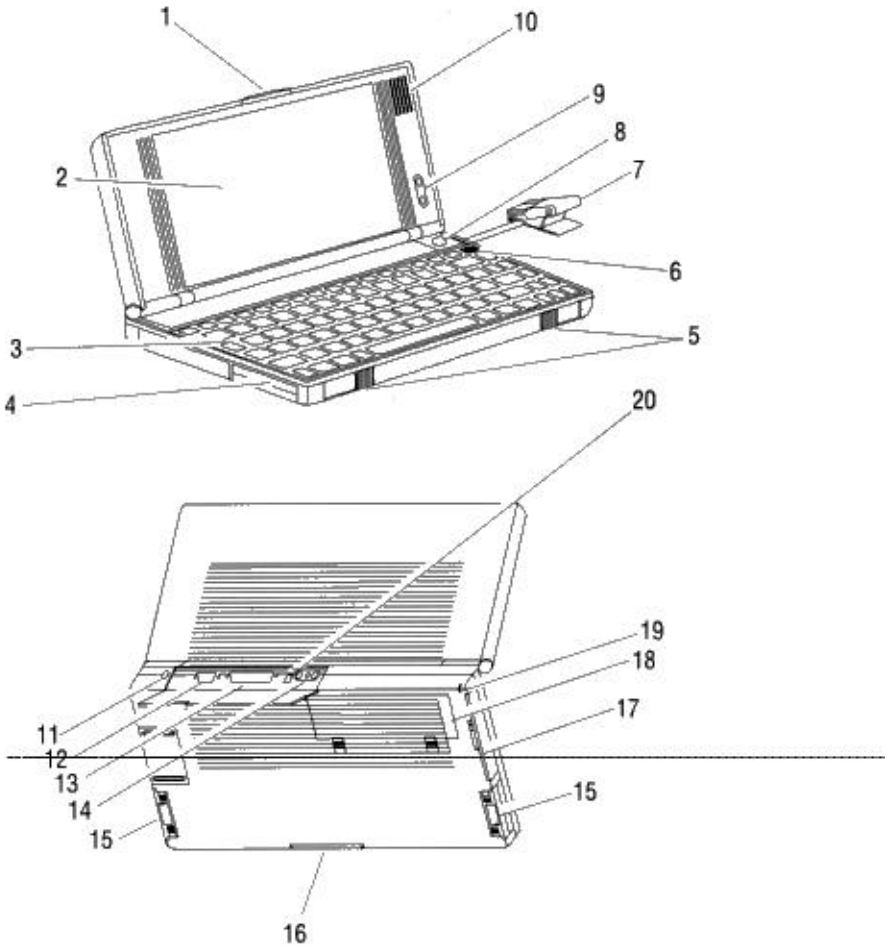



**Figure 1 - OmniBook 300, 425, and 430 Features**

1. Latch
2. Display
3. Keyboard
4. Card slot A
5. Card-eject levers
6. On/Off key
7. Mouse
8. Mouse-eject button
9. Display contrast buttons
10. Speaker
11. AC adapter socket
12. Serial port connector
13. Parallel port connector
14. Infrared port
15. System slots (C and D)
16. Memory-expansion slot
17. Modem port
18. Battery compartment
19. Security ring
20. Reset button

## OmniBook 530

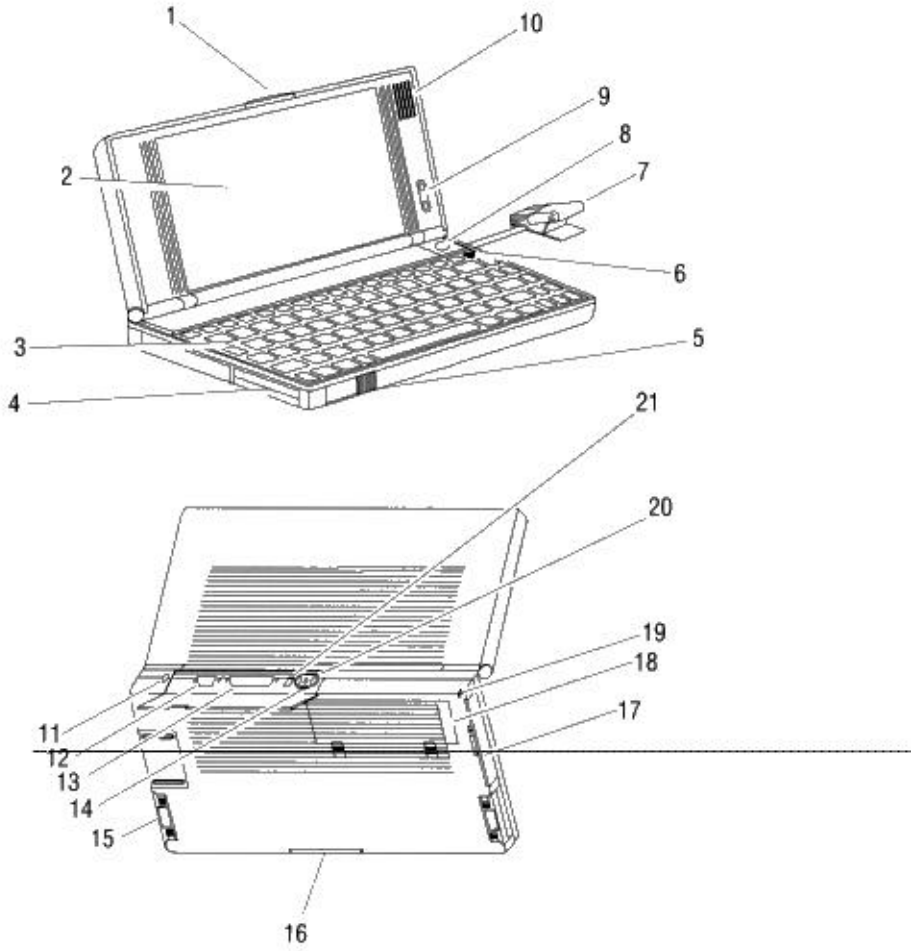



**Figure 2 - OmniBook 530 Features**

1. Latch
2. Display
3. Keyboard
4. Card slots
5. Card-eject levers
6. On/Off key
7. Mouse
8. Mouse-eject button
9. Display contrast buttons
10. Speaker
11. AC adapter socket
12. Serial port connector
13. Parallel port connector
14. VGA output connector
15. System slots
16. Memory-expansion slot
17. Modem port
18. Battery compartment
19. Security ring
20. Infrared port
21. Reset button

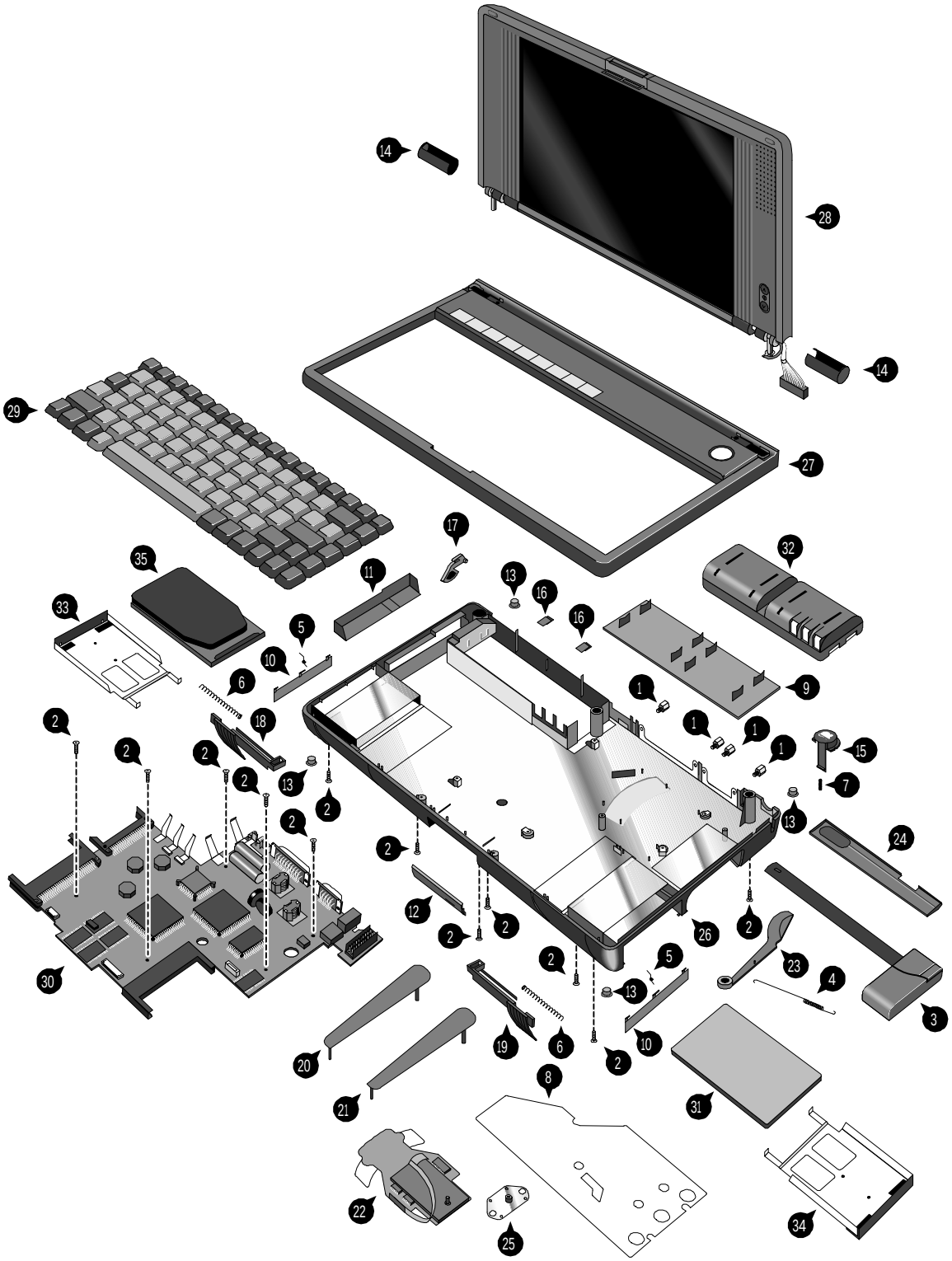
## Product Comparisons

| | *OmniBook 300* | *OmniBook 425* | *OmniBook 430* | *OmniBook 530* |
|---|---|---|---|---|
| **Size Closed** | 16.3 x 28.2 x 3.6 cm (6.4 x 11.1 x 1.4 in) | 16.3 x 28.2 x 3.6 cm (6.4 x 11.1 x 1.4 in) | 16.3 x 28.2 x 3.6 cm (6.4 x 11.1 x 1.4 in) | 16.3 x 28.2 x 3.6 cm (6.4 x 11.1 x 1.4 in) |
| **Weight** | 1.31 kg (2.888 lb) w/flash<br>1.36 kg (2.998) w/hdd | 1.31 kg (2.888 lb) w/flash<br>1.36 kg (2.998) w/hdd | 1.36 kg (2.998 lb) | 1.36 kg (2.998 lb) |
| **Processor** | 386SXLV | 486SLC/e | 486SLC/e | Intel© 486SX |
| **Clock Speed** | 20 MHz | 25 MHz | 25 MHz | 33 MHz |
| **Display** | 640 x 480 VGA<br>9-inch diagonal LCD<br>16 shades of gray | 640 x 480 VGA<br>9-inch diagonal LCD<br>16 shades of gray | 640 x 480 VGA<br>9-inch diagonal LCD | 640 x 480 VGA<br>9-inch diagonal LCD |
| **VGA-out Support** | none | none | none | 640 x 480, 16 or 256 colors<br>800 x 600, 16 colors |
| **Battery** | 4.8 Vdc nickel-metal-hydride rechargeable<br>1.5 V alkaline AA (flash version only) | 4.8 Vdc nickel-metal-hydride rechargeable<br>1.5 V alkaline AA (flash version only) | 4.8 Vdc nickel-metal-hydride rechargeable<br>1.5 V lithium AA | 4.8 Vdc nickel-metal-hydride rechargeable |
| **Battery Life** | 5 hours w/hdd<br>9 hours w/flash | 4.5 hours w/hdd<br>8 hours w/flash | 4.5 hours | 4 hours |
| **AC Adapter** | 100 to 240 Vac (50 to 60 Hz) input<br>12 Vdc output | 100 to 240 Vac (50 to 60 Hz) input<br>12 Vdc output | 100 to 240 Vac (50 to 60 Hz) input<br>12 Vdc output | 100 to 240 Vac (50 to 60 Hz) input<br>12 Vdc output |
| **Recharge Time** | less than 1.5 hours w/ac adapter | less than 1.5 hours w/ac adapter | less than 1.5 hours w/ac adapter | less than 1.5 hours w/ac adapter |
| **Operating Temperature** | 0 to 40 C (32 to 104 F) | 0 to 40 C (32 to 104 F) | 0 to 40 C (32 to 104 F) | 0 to 40 C (32 to 104 F) |
| **Storage Temperature (with data retention)** | 0 to 55 C (32 to 131 F) | 0 to 55 C (32 to 131 F) | 0 to 55 C (32 to 131 F) | 0 to 55 C (32 to 131 F) |
| **Operating and Storage Humidity** | 90% relative humidity at 40 C (104 F) maximum | 90% relative humidity at 40 C (104 F) maximum | 90% relative humidity at 40 C (104 F) maximum | 90% relative humidity at 40 C (104 F) maximum |
| **Mass Storage Available** | 40-MB hard disk<br>10-MB flash disk | 40-MB hard disk<br>10-MB flash disk | 105-MB hard disk<br>40-MB hard disk | 130-MB hard disk |
| **Memory** | 2 MB RAM | 2 MB RAM | 2 MB RAM on 40-MB version<br>4 MB RAM on 105-MB version | 4 MB RAM |
| **Memory Expansion Available** | 2-MB, 4-MB | 2-MB, 4-MB | 2-MB, 4-MB | 4-MB, 8-MB |
| **Input/Output** | 9-pin, 115K baud, RS-232 port<br>25-pin parallel port<br>115K baud, bidirectional infrared port<br>Communication port for optional fax/modem | 9-pin, 115K baud, RS-232 port<br>25-pin parallel port<br>115K baud, bidirectional infrared port<br>Communication port for optional fax/modem | 9-pin, 115K baud, RS-232 port<br>25-pin parallel port<br>115K baud, bidirectional infrared port<br>Communication port for optional fax/modem | 9-pin, 115K baud, RS-232 port<br>25-pin parallel port<br>115K baud, bidirectional infrared port<br>Communication port for optional fax/modem |
| **Keyboard and Mouse** | 85 keys<br>Industry-standard, full-sized key spacing<br>Embedded numeric keypad<br>9 Fn keys<br>Built-in pop-up mouse | 85 keys<br>Industry-standard, full-sized key spacing<br>Embedded numeric keypad<br>12 Fn keys<br>Built-in pop-up mouse | 85 keys<br>Industry-standard, full-sized key spacing<br>Embedded numeric keypad<br>12 Fn keys<br>Built-in pop-up mouse | 85 keys<br>Industry-standard, full-sized key spacing<br>Embedded numeric keypad<br>12 Fn keys<br>Built-in pop-up mouse |
| **Expandability** | PCMCIA, Type II, Version 2.0 card slots<br>Two slots available with | PCMCIA, Type II, Version 2.0 card slots<br>Two slots available with | PCMCIA, Type II, Version 2.0 card slots<br>One slot available with | Two PCMCIA Type II slots (one Type III slot)<br>Optional floppy disk |

| | *OmniBook 300* | *OmniBook 425* | *OmniBook 430* | *OmniBook 530* |
|---|---|---|---|---|
| | the flash disk version<br>One slot available with the hard disk version | the flash disk version<br>One slot available with the hard disk version | the hard disk version | drive |
| **Pre-installed Software** | MS© Windows 3.1*<br>MS DOS© 5.0*<br>MS Word 2.0*<br>MS Excel 4.0*<br>LapLink Remote Access™<br>Phone Book<br>Appointment Book<br>HP Financial Calculator | MS© Windows 3.1*<br>MS DOS© 5.0*<br>MS Word 2.0*<br>MS Excel 4.0*<br>LapLink Remote Access™<br>Phone Book<br>Appointment Book<br>HP Financial Calculator | MS© Windows 3.1<br>MS DOS© 6.2<br>LapLink Remote Access™<br>Phone Book<br>Appointment Book<br>HP Financial Calculator | MS© Windows 3.11<br>MS DOS© 6.2<br>LapLink Remote Access™<br>Phone Book<br>Appointment Book<br>HP Financial Calculator |

*(Note: All components not included can be installed from a retail copy. License for full Microsoft Word, Microsoft Excel, MS-DOS, and Microsoft Windows is included with purchase.)

## Product at a Glance



| | Description | Part Number | OB300 | OB425 | OB430 | OB530 |
|---|---|---|---|---|---|---|
| 1 | Standoff | 0380-4060 | ✓ | ✓ | ✓ | ✓ |
| 2 | Screw M2x4.6mm (T6) | 0515-2396 | ✓ | ✓ | ✓ | ✓ |
| 3 | Mouse | 5061-4390 | ✓ | ✓ | ✓ | ✓ |
| 4 | Arm Eject Mouse Spring | F1030-00016 | ✓ | ✓ | ✓ | ✓ |
| 5 | Pivot Door Spring | F1030-00026 | ✓ | ✓ | ✓ | ✓ |
| 6 | Spring Card Eject | F1030-00029 | ✓ | ✓ | ✓ | ✓ |
| 7 | Mouse Latch Spring | F1030-00030 | ✓ | ✓ | ✓ | ✓ |
| 8 | Mylar Mouse Shield | F1030-20001 | ✓ | ✓ | ✓ | ✓ |
| 9 | Door Battery | | | | | |
| | Door Battery (10 pack) | F1030-60912 | ✓ | ✓ | ✓ | |
| | Door Battery (silver) | F1052-40012 | | | | ✓ |
| 10 | Pivot Door | | | | | |
| | Pivot Door (PCMCIA) A | F1030-40013 | ✓ | ✓ | ✓ | |
| | Pivot Door (PCMCIA) B | F1030-40014 | ✓ | ✓ | ✓ | |
| | Pivot Door (PCMCIA) Left | F1052-40007 | | | | ✓ |
| 11 | Door Modem Blank | F1030-40016 | ✓ | ✓ | ✓ | ✓ |
| 12 | Door RAM | F1030-40017 | ✓ | ✓ | ✓ | ✓ |
| 13 | Rubber Foot | F1030-40018 | ✓ | ✓ | ✓ | ✓ |
| 14 | Hinge Cap | F1030-40019 | ✓ | ✓ | ✓ | ✓ |
| 15 | Mouse Button Latch | F1030-40021 | ✓ | ✓ | ✓ | ✓ |
| 16 | Battery Door Latch | F1030-40025 | ✓ | ✓ | ✓ | ✓ |
| 17 | Security Latch | F1030-40033 | ✓ | ✓ | ✓ | ✓ |
| 18 | Eject Button A | F1030-40044 | ✓ | ✓ | ✓ | ✓ |
| 19 | Eject Button B | F1030-40045 | ✓ | ✓ | ✓ | |
| 20 | Eject Arm Left | F1030-40046 | ✓ | ✓ | ✓ | ✓ |
| 21 | Eject Arm Right | F1030-40047 | ✓ | ✓ | ✓ | |
| 22 | Paw Carrier Srvc Assy | F1030-60901 | ✓ | ✓ | ✓ | ✓ |
| 23 | Arm Eject Mouse | F1030-40050 | ✓ | ✓ | ✓ | ✓ |
| 24 | Door I/O | F1030-60908 | ✓ | ✓ | ✓ | ✓ |
| 25 | Pivot Bracket | F1030-60909 | ✓ | ✓ | ✓ | ✓ |
| 26 | Bottom Case | | | | | |
| | Bottom Case | F1030-60910 | ✓ | ✓ | ✓ | |
| | Bottom Case (silver) | F1052-60908 | | | | ✓ |
| 27 | Top Case | | | | | |
| | Top Case | F1030-60911 | ✓ | ✓ | ✓ | |
| | Top Case (silver) | F1052-60907 | | | | ✓ |
| 28 | LCD Display Assy (new) | F1030-60904 | ✓ | ✓ | ✓ | ✓ |
| 29 | Keyboard | | | | | |
| | Keyboard USA | F1030-80013 | ✓ | ✓ | ✓ | ✓ |
| | Keyboard German | F1030-80031 | ✓ | ✓ | ✓ | ✓ |
| | Keyboard Spanish | F1030-80032 | ✓ | ✓ | ✓ | ✓ |
| | Keyboard French | F1030-80033 | ✓ | ✓ | ✓ | ✓ |
| | Keyboard International English | F1030-80057 | ✓ | ✓ | ✓ | ✓ |
| 30 | Logic PCA | | | | | |
| | Logic PCA (new) | F1030-60907 | ✓ | | | |
| | Logic PCA (new) | F1033-60907 | | ✓ | ✓ | |
| | Logic PCA (new) | F1052-60906 | | | | ✓ |
| | Logic PCA (exchange) | F1052-69008 | | | | ✓ |
| 31 | System ROM | | | | | |
| | System ROM (ABA) - US English | F1033-60908 | ✓ | ✓ | | |
| | System ROM (ABB) Int. English | F1033-60909 | ✓ | ✓ | | |
| | System ROM (ABD) German | F1033-60910 | ✓ | ✓ | | |
| | System ROM (ABF) French | F1033-60911 | ✓ | ✓ | | |
| | System ROM (ABE Spanish) | F1033-60912 | ✓ | ✓ | | |
| | System ROM (ABA) US English | F1037-60903 | | | ✓ | |
| | System ROM (ABB) Int. English | F1037-60904 | | | ✓ | |
| | System ROM (ABD) German | F1037-60905 | | | ✓ | |
| | System ROM (ABE) Spanish | F1037-60906 | | | ✓ | |
| | System ROM (ABF) French | F1037-60907 | | | ✓ | |
| 32 | Battery Pack | F1045-60901 | ✓ | ✓ | ✓ | ✓ |
| 33 | Hard Drive Tray | F1065-60029 | ✓ | ✓ | ✓ | ✓ |
| 34 | Flash Tray | F1030-60923 | ✓ | ✓ | ✓ | ✓ |
| 35 | Mass Storage | | | | | |
| | 5 MB Flash Disk Card | F1012-60902 | ✓ | ✓ | ✓ | ✓ |
| | 10 MB Flash Disk Card | F1013-60901 | ✓ | ✓ | ✓ | ✓ |
| | 20 MB Flash Disk Card | F1014-60901 | | | ✓ | ✓ |
| | 40 MB Hard Drive (DOS/Win/PIM) | F1035-60901 | | | ✓ | |
| | 40 MB Hard Drive (unprogrammed) | F1050-60901 | ✓ | ✓ | ✓ | ✓ |
| | 105 MB Hard Drive (DOS/Win/PIM) | F1037-60908 | | | ✓ | |
| | 105 MB Hard Drive (Word/Excel) | F1037-60909 | | | ✓ | |
| | 105 MB Hard Drive (unprogrammed) | F1039-60901 | | | ✓ | ✓ |
| | 130 MB Hard Drive (unprogrammed) | F1057-60901 | | | | ✓ |
| | 130 MB Hard Drive (programmed) | F1052-60909 | | | | ✓ |

Note, this is a partial parts list. For a complete parts list, please refer to Appendix D or the current Product Support Plan.

# Part 2

# Troubleshooting

- OmniBook Self Test
- Troubleshooting Flowchart

## OmniBook Self-Test

The OmniBook Self-Test provides on-board hardware and firmware diagnostics. To operate the self-test, perform the following steps:

1. Save all files and close all applications: The OmniBook is reset at the end of the self-test.
2. Turn the OmniBook OFF.
3. Press and hold the [Esc] key and press [ON]. You will hear a short three-tone beep.
4. Self Test will initialize and start.
5. To run a test:
   Highlight the test name and press [ENTER].
   Highlight the test name and press [Ctrl][ENTER] to run a longer and more extensive version of a test--not available for all tests.
   The test runs and its results are reported.
6. To run several tests in a continuous loop:
   Highlight one or more using [ space bar ] and press [ENTER].
   Each test runs and its results are reported.
   Press [Backspace] to stop the loop.
7. To exit the self-test, press [Esc].

**Interpretation of test results**

A result of “OK” on any test indicates that the test did not find problems while the unit was operating in its current state. A “BAD” result indicates that the test found a problem while the unit was operating in its current state. A “BAD” result should always be confirmed by running the test in a loop for several iterations or running the long version of the test. Further inspection of the unit to rule out configuration or installation conflicts is necessary prior to diagnosing the unit as needing repair.

Any test that is halted by [Backspace] is shown as “aborted” and no results are displayed.

The OmniBook will not enter sleep mode while the self-test is executing.

## Loop Back Connectors

In order to run the RS232 serial port or parallel port self-test, a loop back connector is needed. The loop back may be placed on either the OmniBook port or at the end of the corresponding cable. This feature is also helpful in diagnosing a defective serial or parallel cable.

Loop back connectors may be purchased or can easily be constructed. The following illustrations identify the correct pin-out configurations for the serial and parallel loop back connectors.

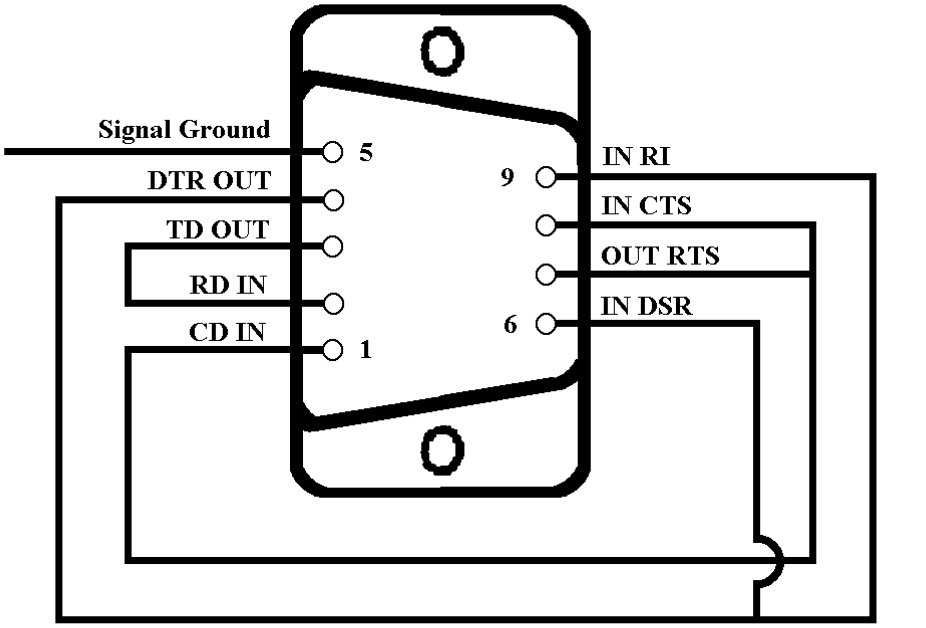



**Figure 3 - Serial Loop Back Connector**

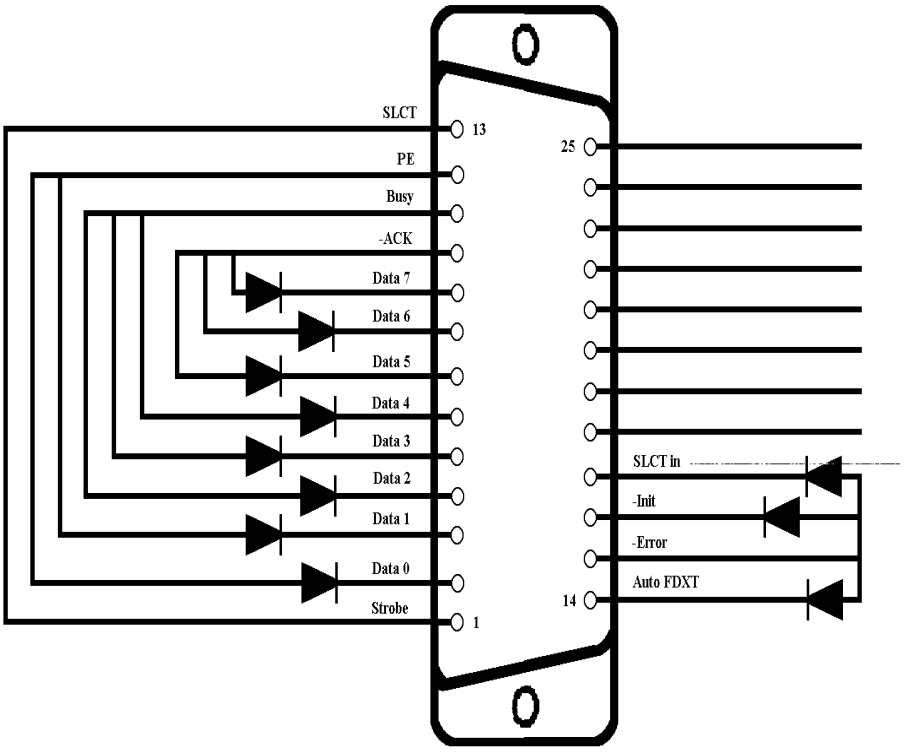



**Figure 4 - Parallel Loop Back Connector**

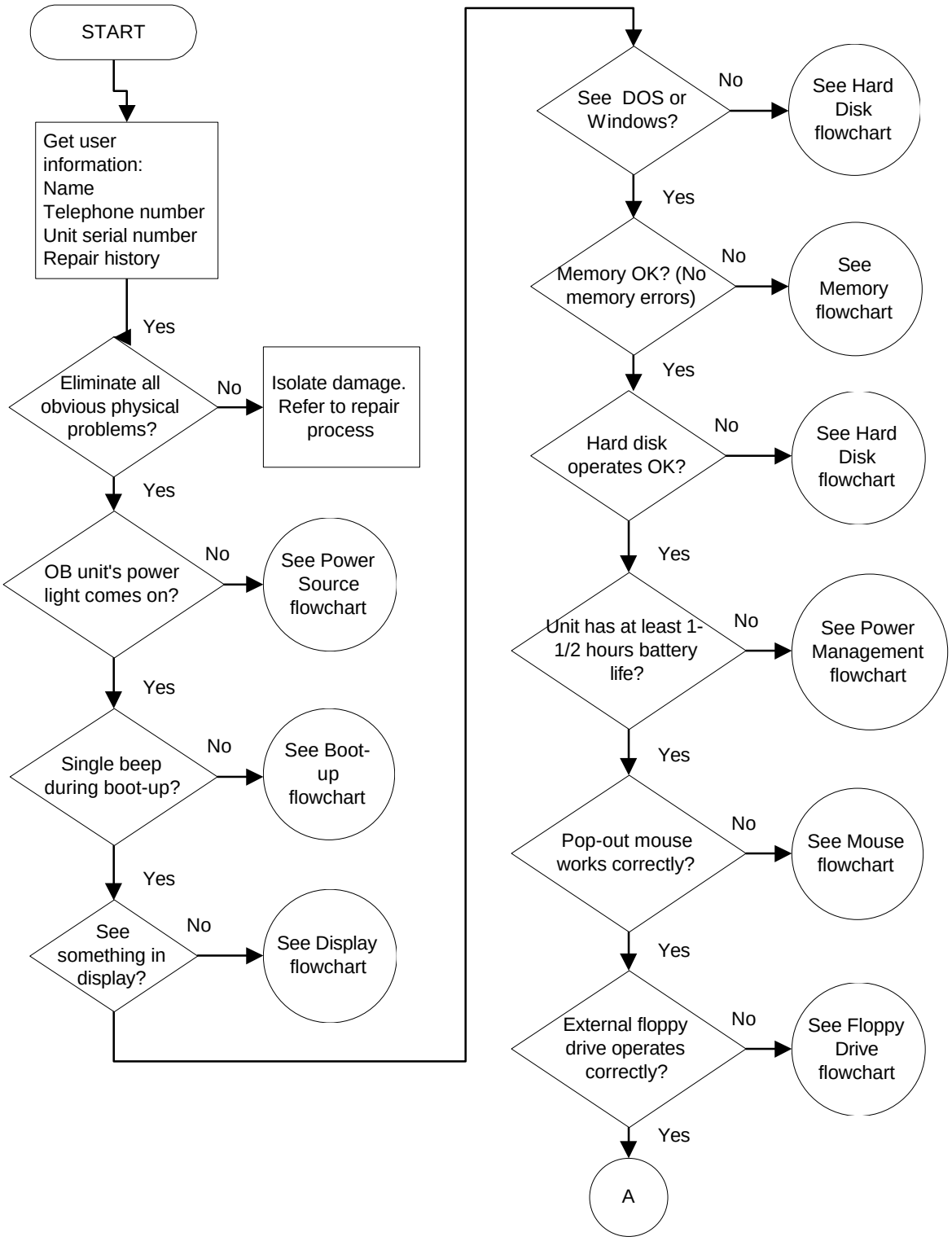
## Troubleshooting Flowchart

The following series of flowcharts is intended as a guide for troubleshooting the OmniBook 300, 425, 430, and 530. Each technician should still rely on personal experience and supplemental knowledge when diagnosing a problem.

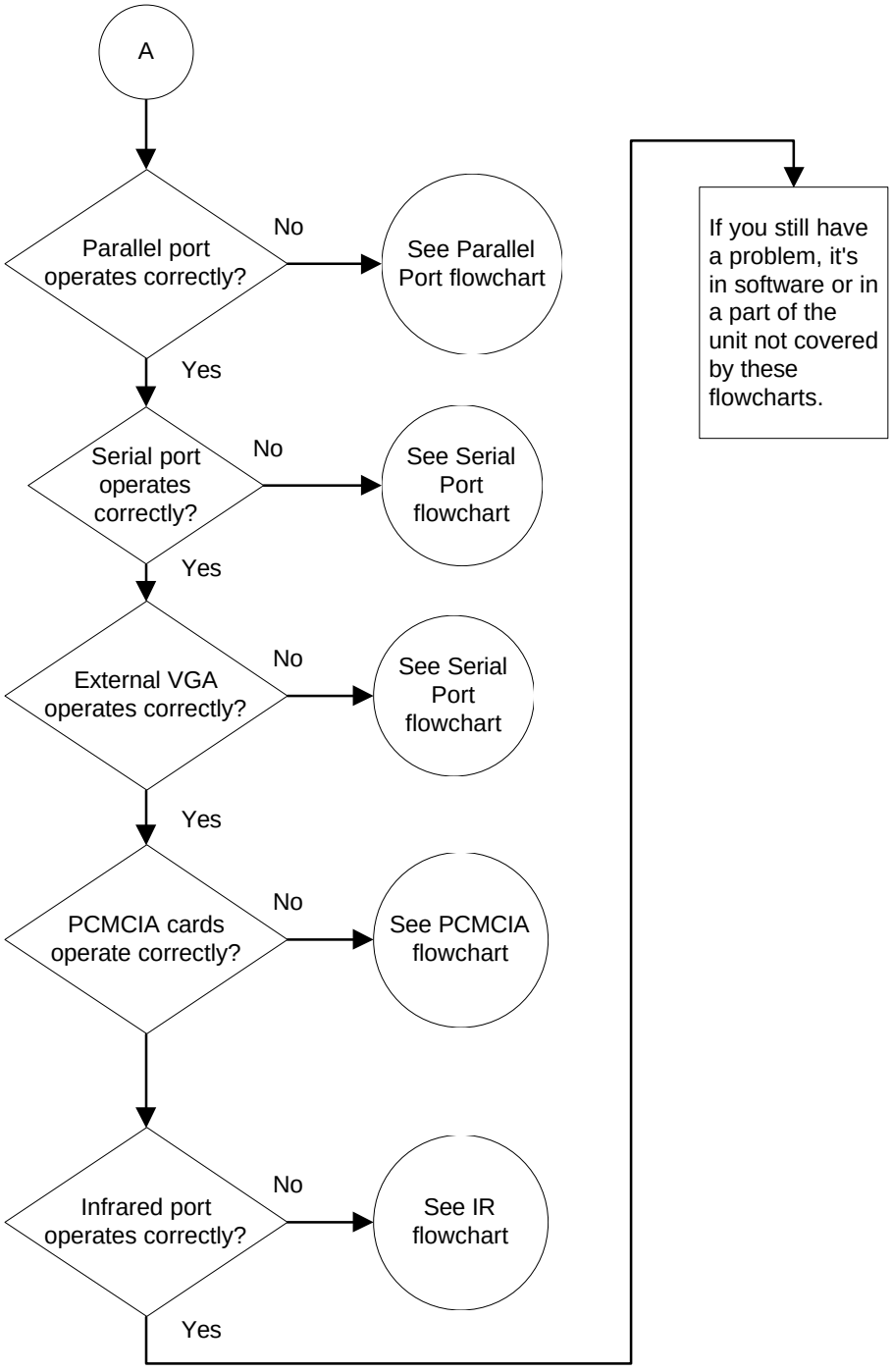
These tips should be kept in mind when referencing the troubleshooting flowcharts:

- Use the Main Troubleshooting Flowchart to isolate the problem to a particular area.
- Use the additional individual troubleshooting flowcharts to narrow down the problem to a specific component or item.
- Always use supplemental information resources, including the Product Support Plan, Service Notes, and the World Wide Web, to aid in diagnosing problem areas.

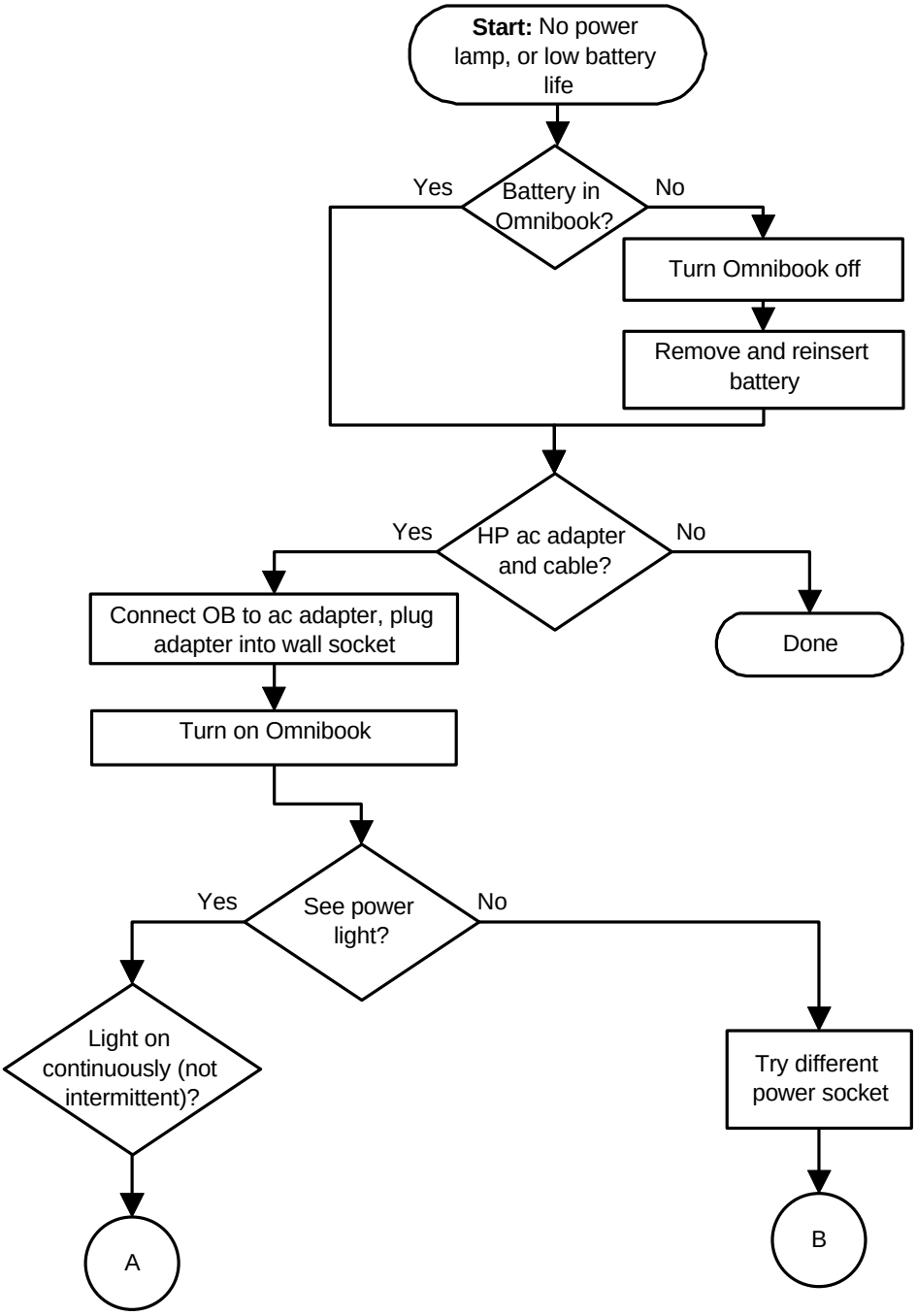
## Main Troubleshooting Flowchart



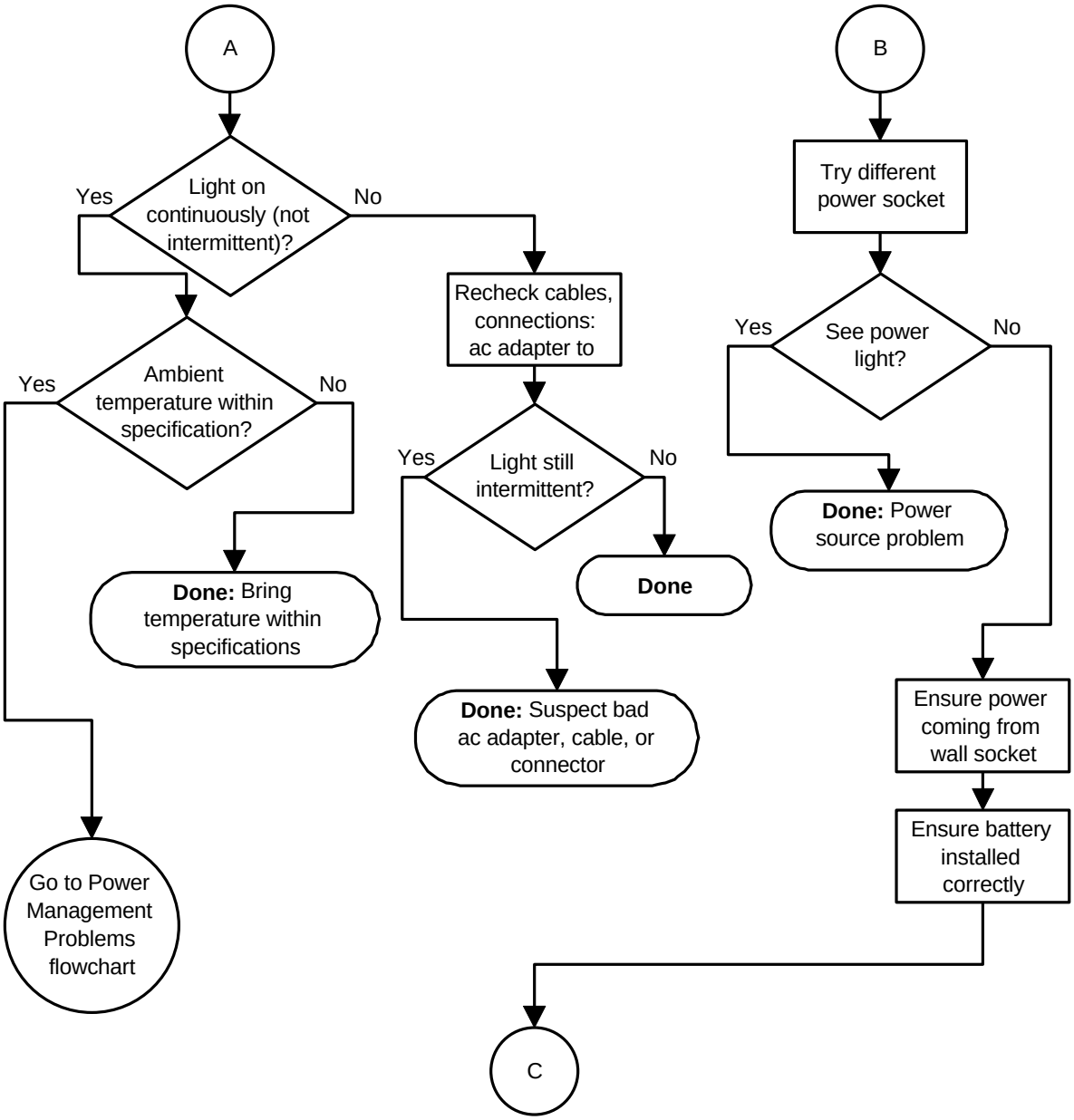
## Main Troubleshooting Flowchart (continued)



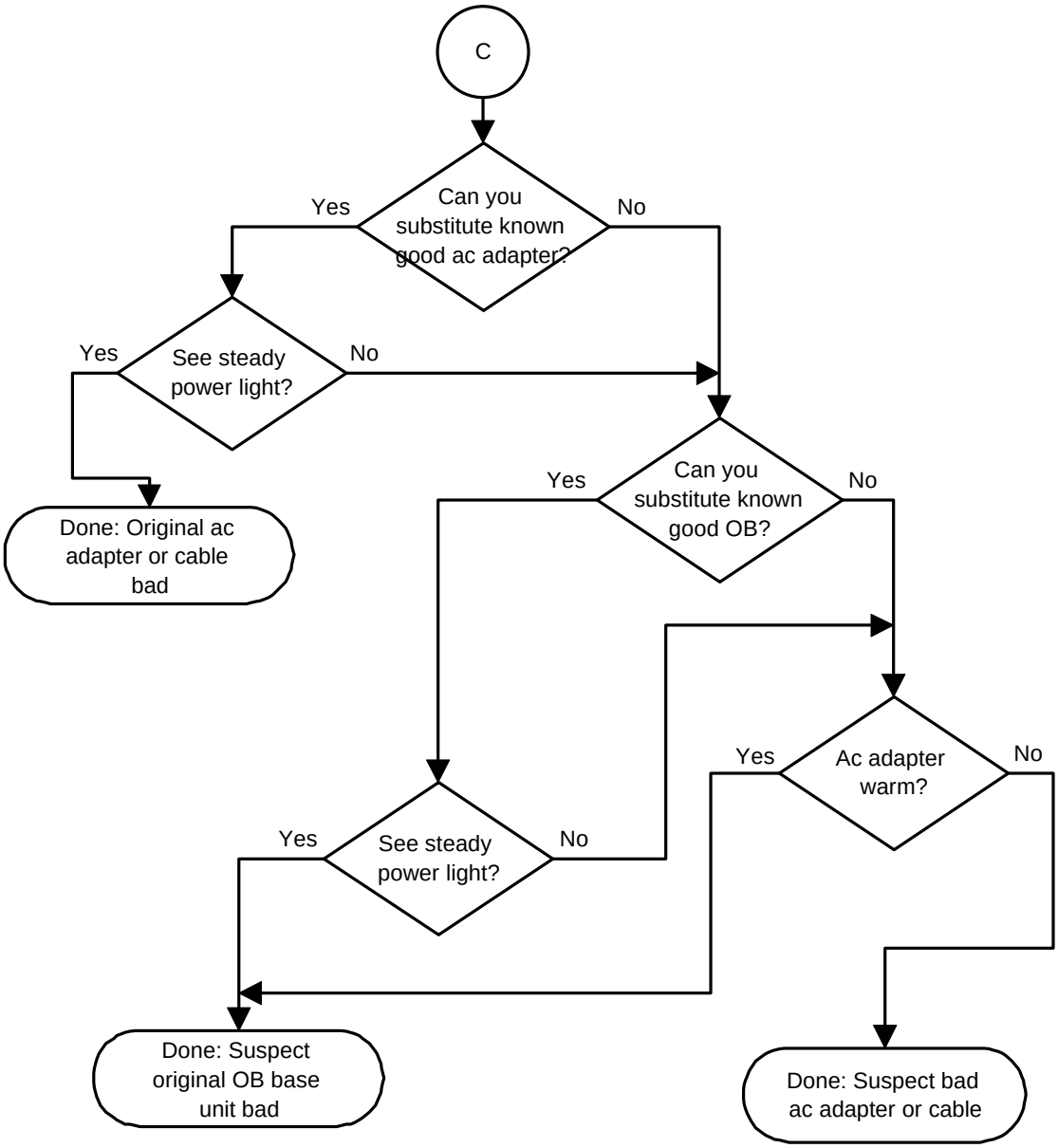
## Power Source Problems



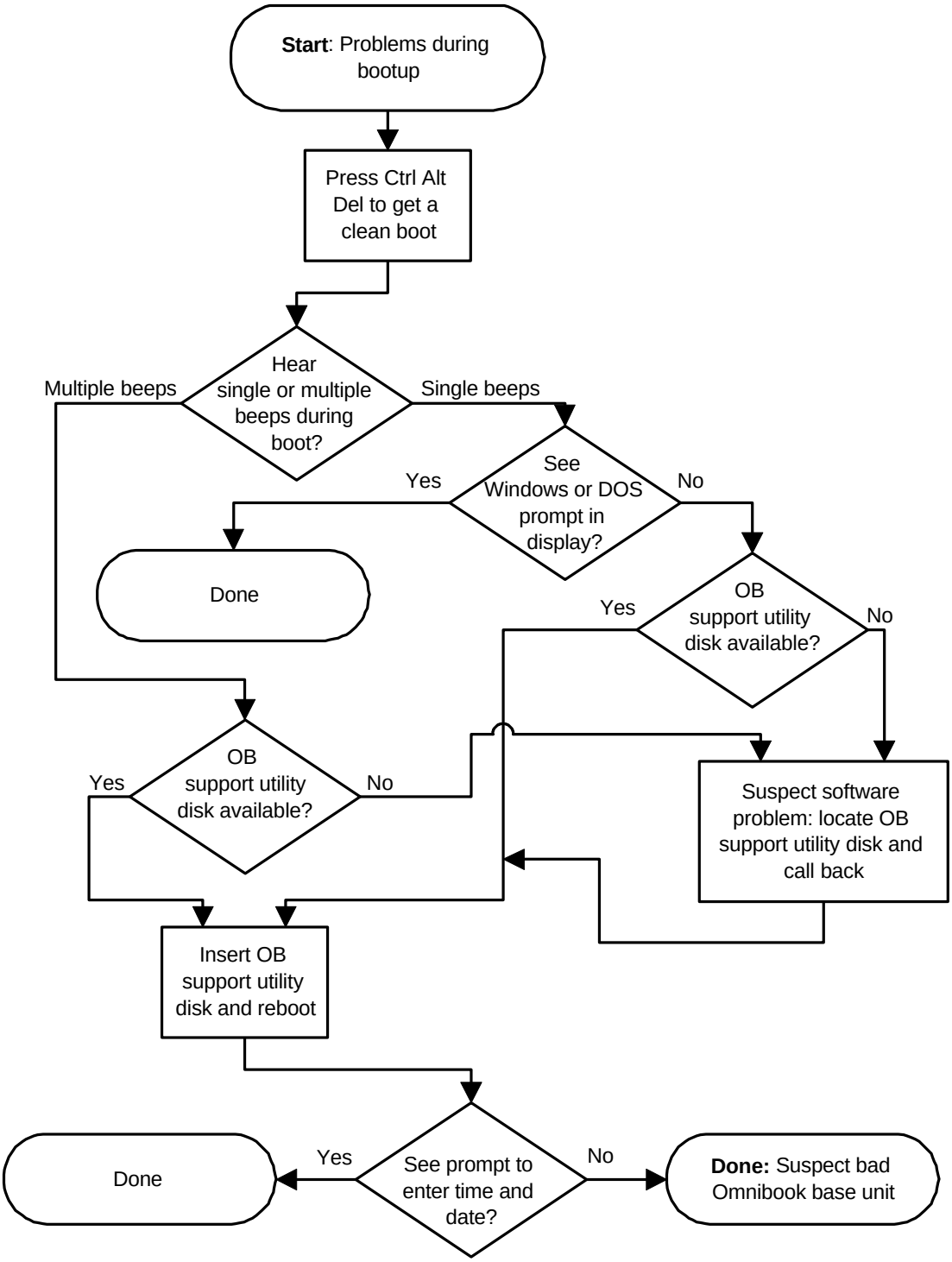
## Power Source Problems (continued)



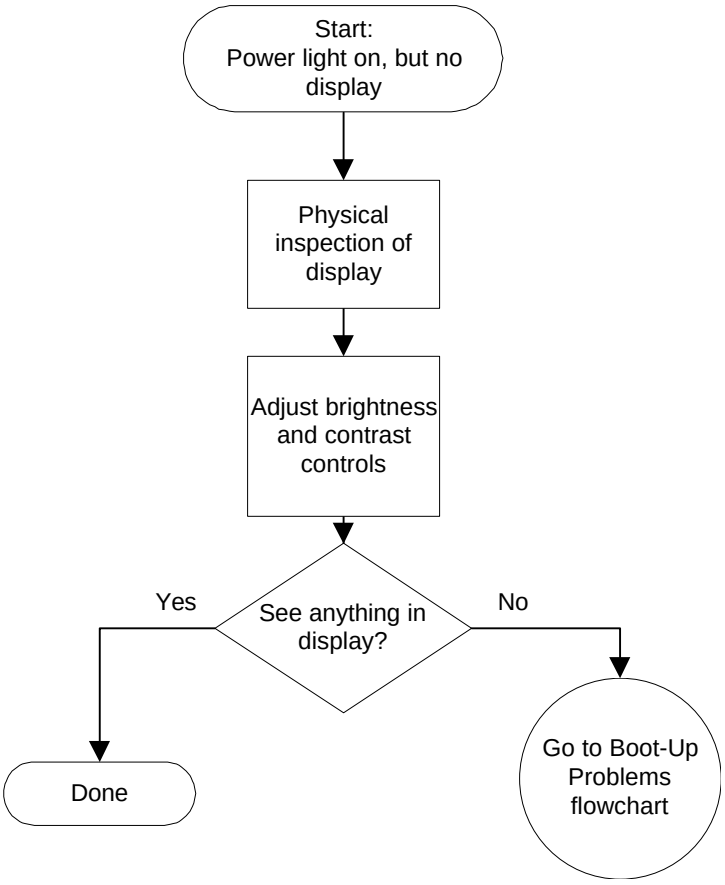
## Power Source Problems (continued)



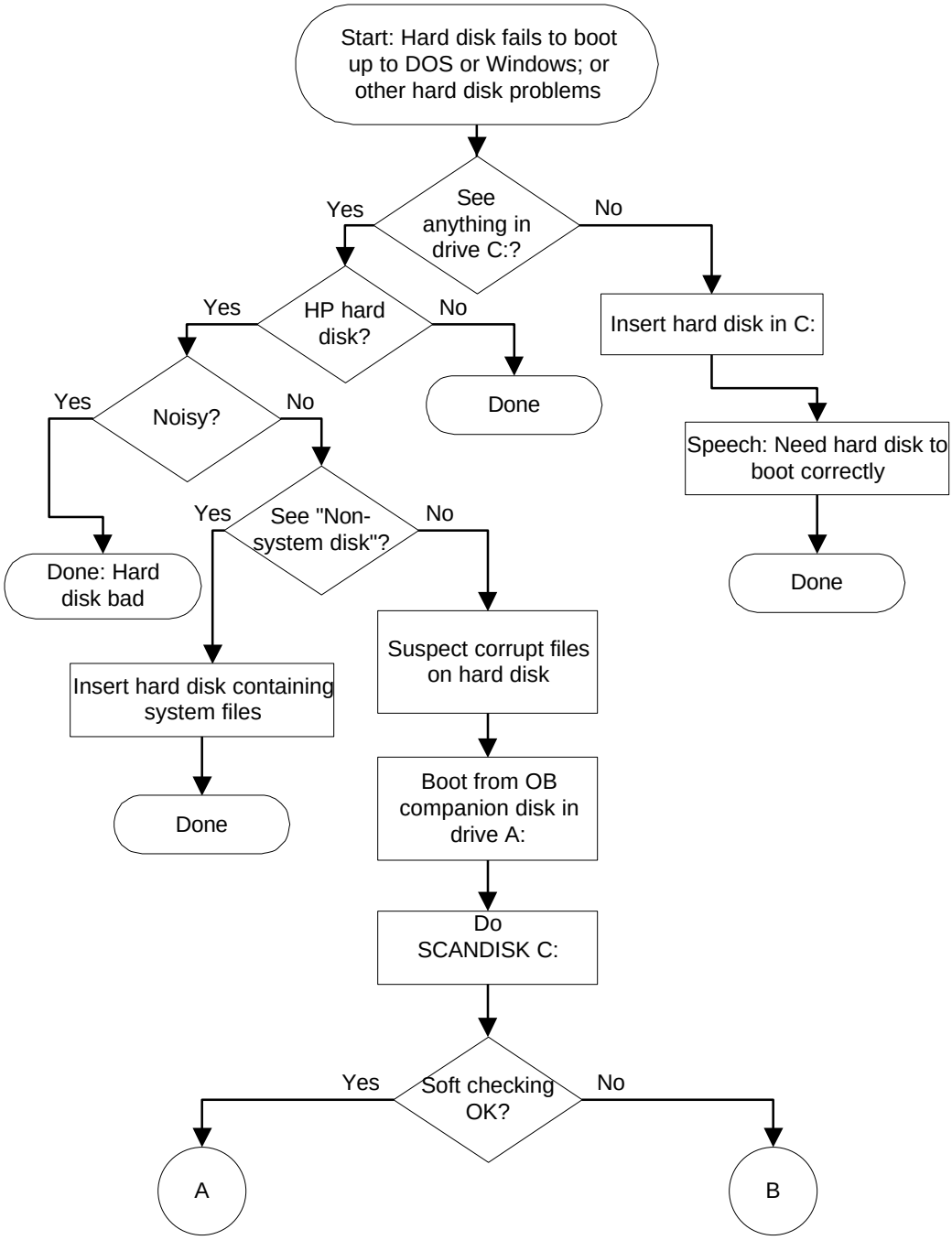
## Boot-Up Problems



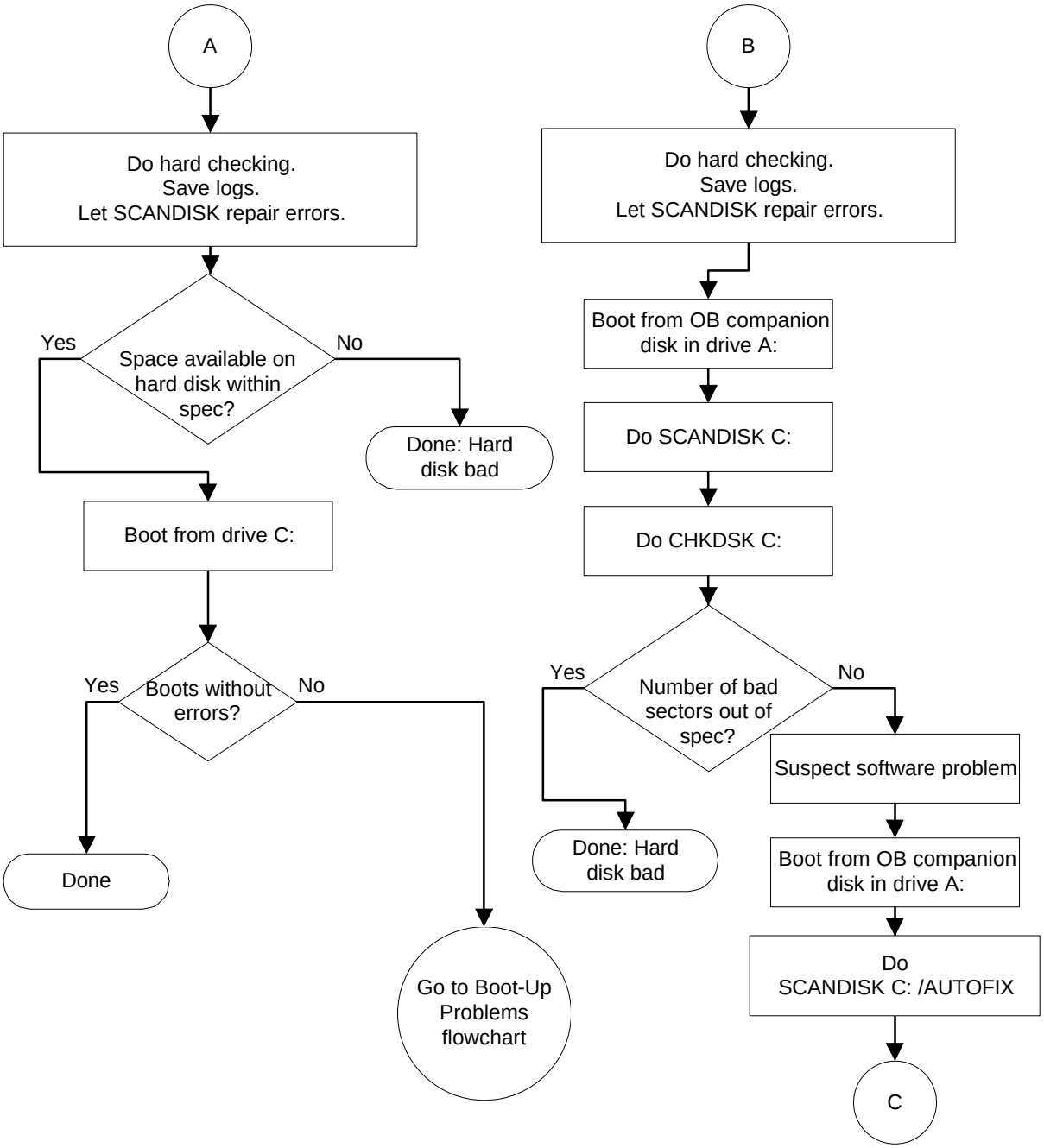
## Display Problems



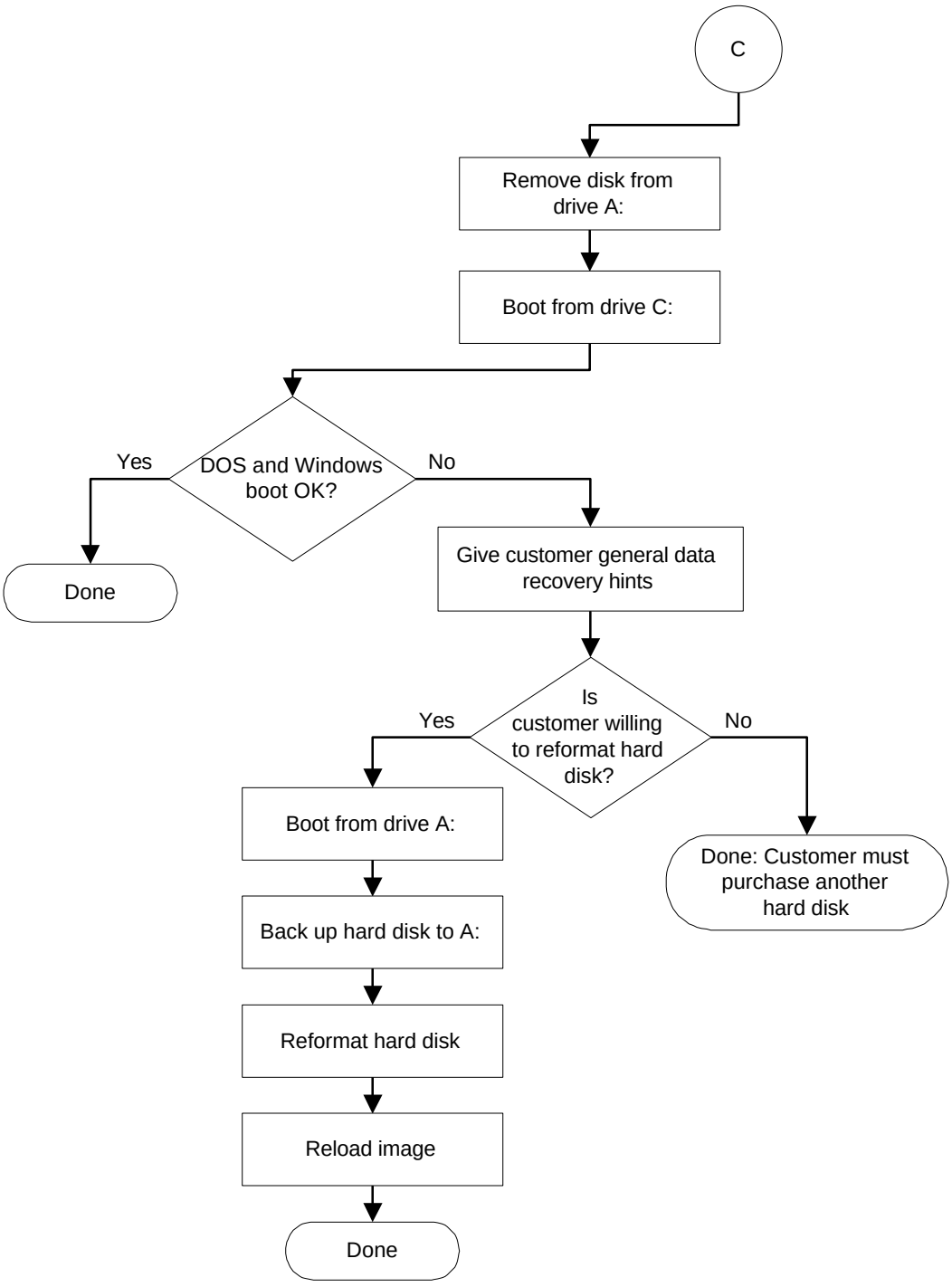
## Hard Disk Problems



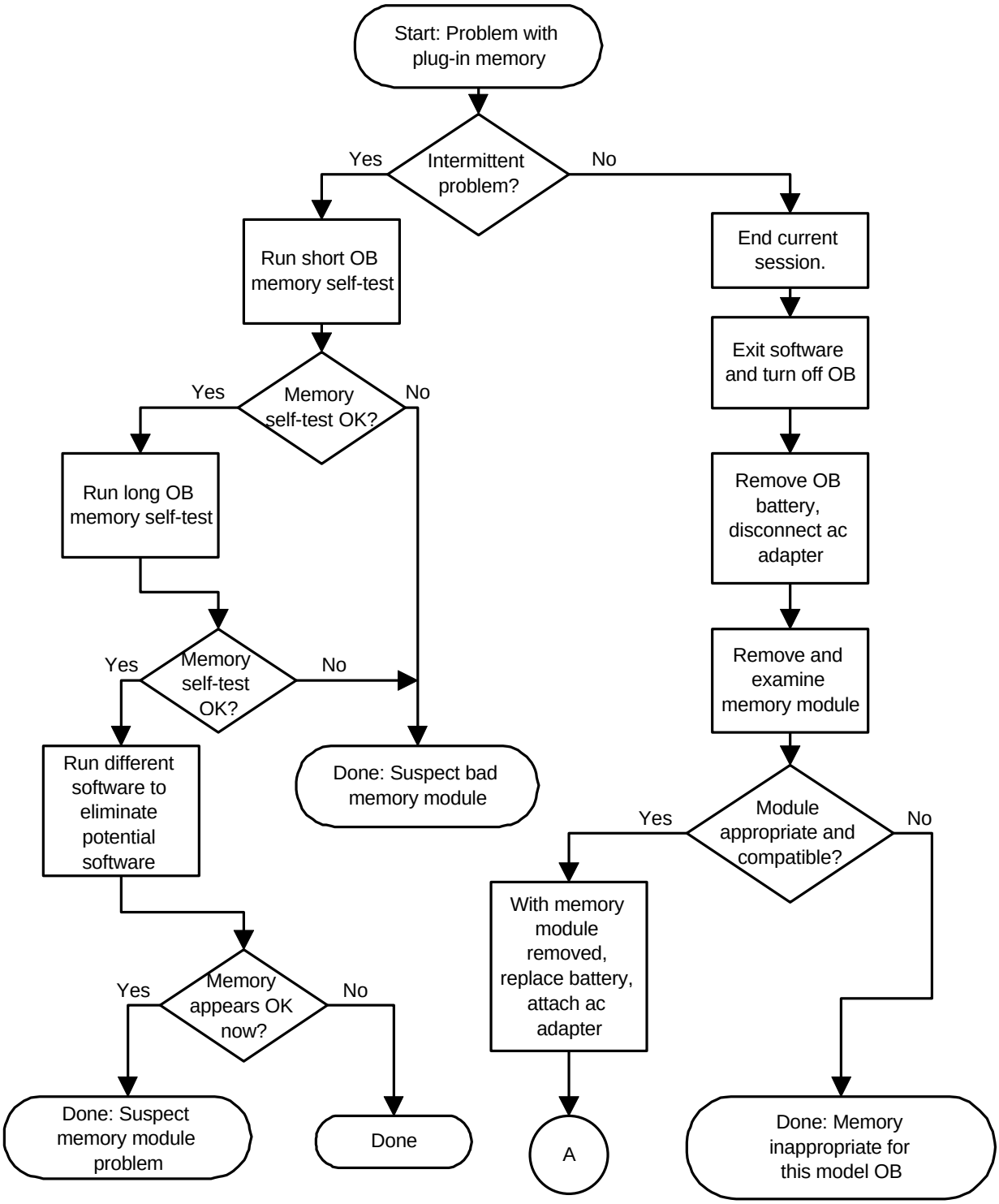
## Hard Disk Problems (continued)



## Hard Disk Problems (continued)

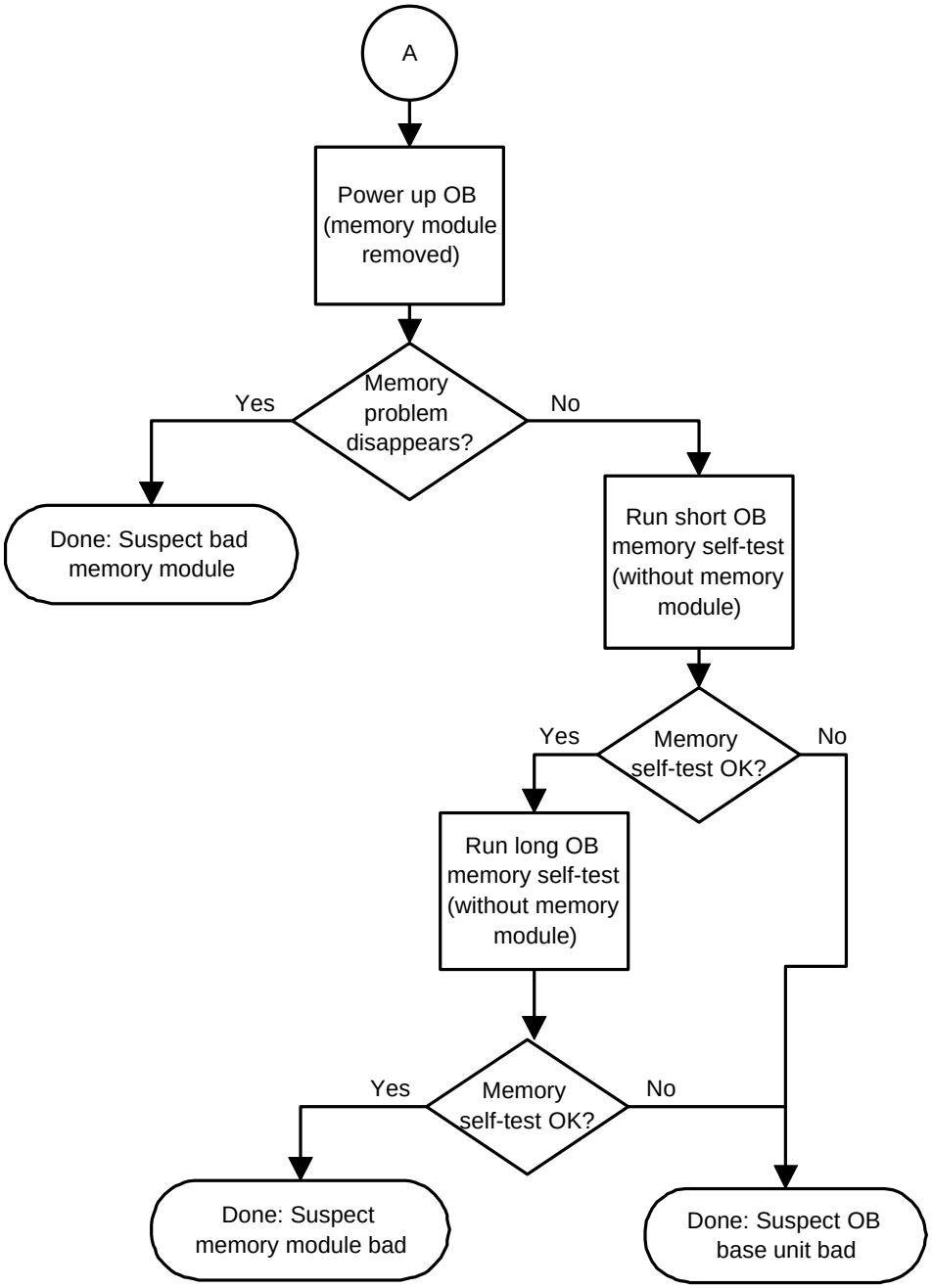


## Memory Problems



Product: 1996 HP OmniBook 300, 425, 430, 530 PC Service Repair Workshop Manual
Full Download: https://www.arepairmanual.com/downloads/1996-hp-omnibook-300-425-430-530-pc-service-repair-workshop-manual/

## Memory Problems (continued)




Sample of manual. Download All 86 pages at:
https://www.arepairmanual.com/downloads/1996-hp-omnibook-300-425-430-530-pc-service-repair-workshop-manual/