

Service Manual

HP OmniBook 300, 425, 430, 530



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

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)..... | 61 |
| Logic PCA Board (HP Authorized Service Providers Only) | 62 |
| Paw Carrier (Paw Active) (HP Authorized Service Providers Only)..... | 64 |
| Other Components (HP Authorized Service Providers Only) | 65 |
| Appendix A - Technical and Resource Specifications..... | 66 |
| Mass Storage Specifications | 66 |
| Card Services and Socket Services Version Matrix | 66 |
| Memory Map..... | 67 |
| Upper Memory Block Space | 67 |
| DOS Conventional Memory | 67 |
| Appendix B - Power On Self Test Codes | 68 |
| Beep Codes | 68 |
| Display Codes..... | 69 |
| Appendix C - Password Policy | 74 |

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..... | 57 |
| Figure 16 - Display Grounding Eyelets..... | 58 |
| Figure 17 - Display Cable Probe Position..... | 59 |
| Figure 18 - Reconnecting Display Cable..... | 59 |
| Figure 19 - I/O Port Eyelets (all present)..... | 60 |
| Figure 20 - I/O Port Eyelets (two matched sets) | 60 |
| Figure 21 - I/O Port Eyelets (only one matched set) | 60 |
| Figure 22 - I/O Port Eyelets (no eyelet in position one)..... | 60 |
| Figure 23 - Logic Board PCA Removal | 62 |
| Figure 24 - Paw Carrier Removal | 64 |

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

OmniBook 300, 425, and 430

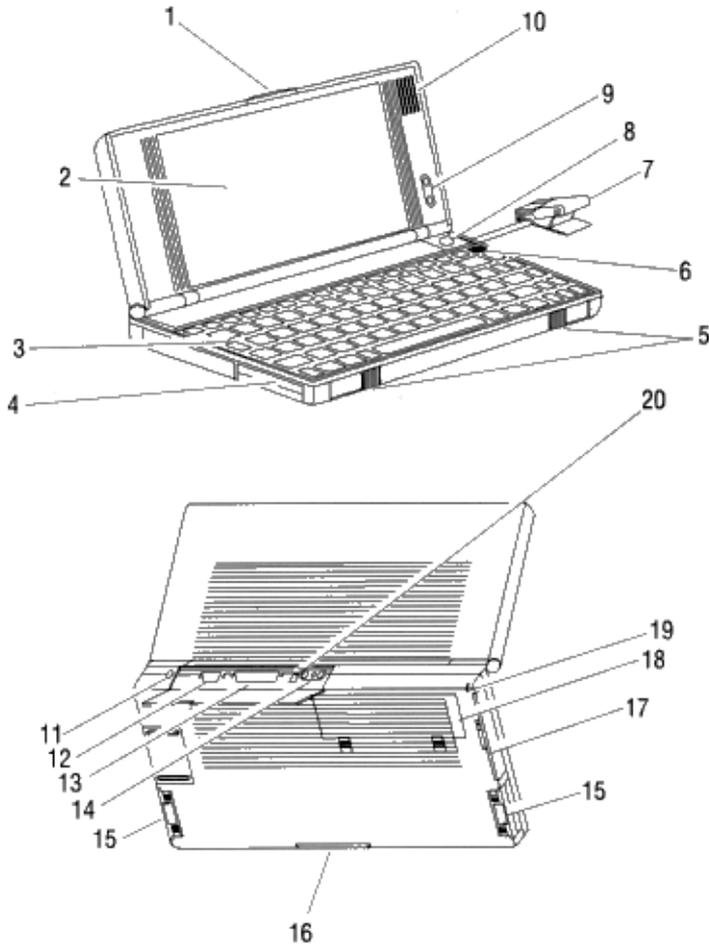


Figure 1 - OmniBook 300, 425, and 430 Features

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

OmniBook 530

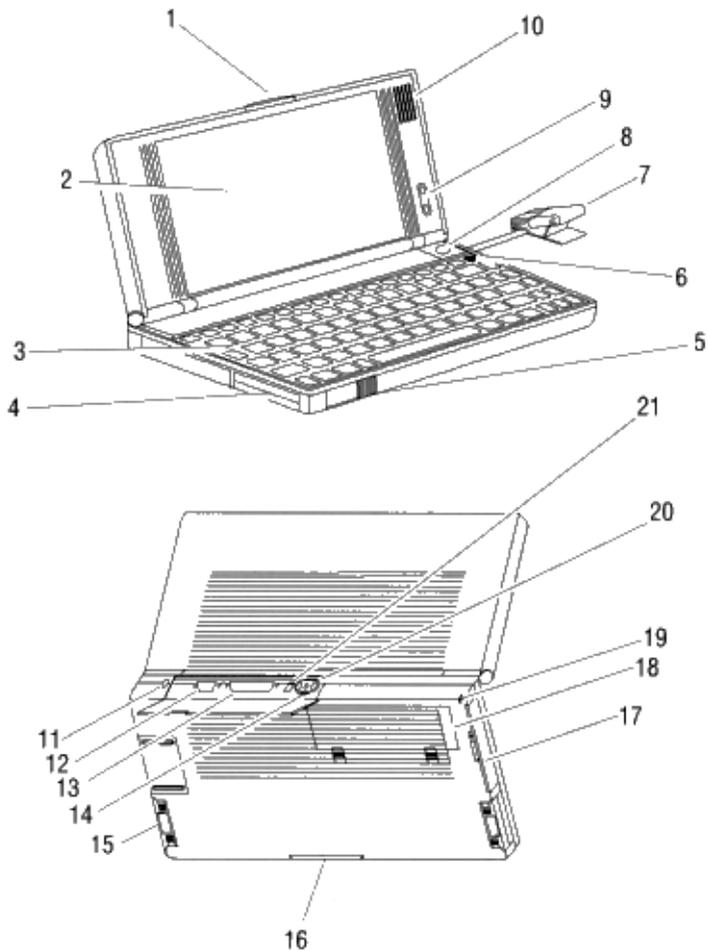


Figure 2 - OmniBook 530 Features

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

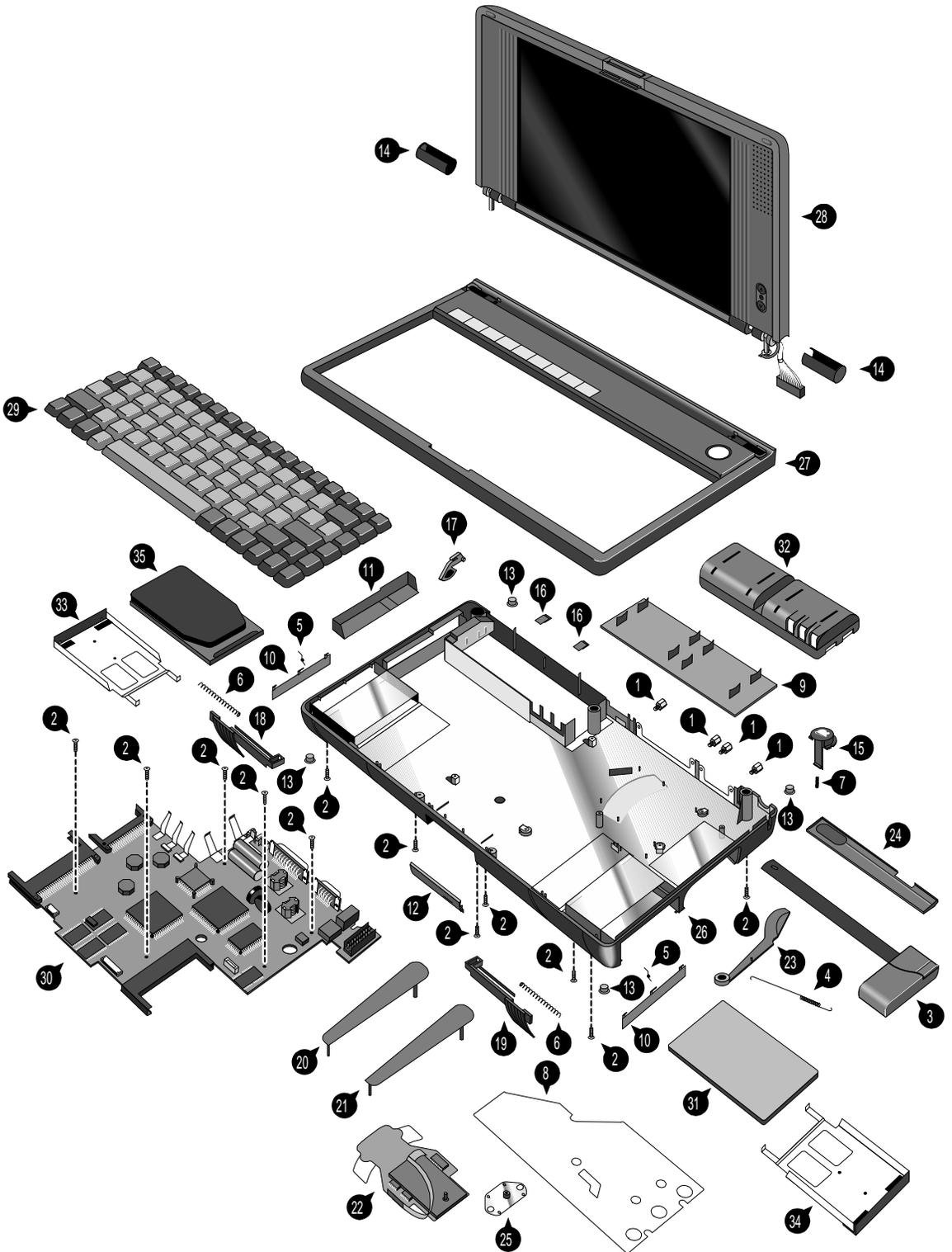
Product Comparisons

| | <i>OmniBook 300</i> | <i>OmniBook 425</i> | <i>OmniBook 430</i> | <i>OmniBook 530</i> |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 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 1.36 kg (2.998 lb) w/hdd | 1.31 kg (2.888 lb) w/flash 1.36 kg (2.998 lb) 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 9-inch diagonal LCD 16 shades of gray | 640 x 480 VGA 9-inch diagonal LCD 16 shades of gray | 640 x 480 VGA 9-inch diagonal LCD | 640 x 480 VGA 9-inch diagonal LCD |
| VGA-out Support | none | none | none | 640 x 480, 16 or 256 colors 800 x 600, 16 colors |
| Battery | 4.8 Vdc nickel-metal-hydride rechargeable 1.5 V alkaline AA (flash version only) | 4.8 Vdc nickel-metal-hydride rechargeable 1.5 V alkaline AA (flash version only) | 4.8 Vdc nickel-metal-hydride rechargeable 1.5 V lithium AA | 4.8 Vdc nickel-metal-hydride rechargeable |
| Battery Life | 5 hours w/hdd 9 hours w/flash | 4.5 hours w/hdd 8 hours w/flash | 4.5 hours | 4 hours |
| AC Adapter | 100 to 240 Vac (50 to 60 Hz) input 12 Vdc output | 100 to 240 Vac (50 to 60 Hz) input 12 Vdc output | 100 to 240 Vac (50 to 60 Hz) input 12 Vdc output | 100 to 240 Vac (50 to 60 Hz) input 12 Vdc output |
| Recharge Time | 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 | 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) |
| Temperature (with data retention) | | | | |
| 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 10-MB flash disk | 40-MB hard disk 10-MB flash disk | 105-MB hard disk 40-MB hard disk | 130-MB hard disk |
| Memory | 2 MB RAM | 2 MB RAM | 2 MB RAM on 40-MB version 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 25-pin parallel port 115K baud, bidirectional infrared port Communication port for optional fax/modem | 9-pin, 115K baud, RS-232 port 25-pin parallel port 115K baud, bidirectional infrared port Communication port for optional fax/modem | 9-pin, 115K baud, RS-232 port 25-pin parallel port 115K baud, bidirectional infrared port Communication port for optional fax/modem | 9-pin, 115K baud, RS-232 port 25-pin parallel port 115K baud, bidirectional infrared port Communication port for optional fax/modem |
| Keyboard and Mouse | 85 keys Industry-standard, full-sized key spacing Embedded numeric keypad 9 Fn keys Built-in pop-up mouse | 85 keys Industry-standard, full-sized key spacing Embedded numeric keypad 12 Fn keys Built-in pop-up mouse | 85 keys Industry-standard, full-sized key spacing Embedded numeric keypad 12 Fn keys Built-in pop-up mouse | 85 keys Industry-standard, full-sized key spacing Embedded numeric keypad 12 Fn keys Built-in pop-up mouse |
| Expandability | PCMCIA, Type II, Version 2.0 card slots Two slots available | PCMCIA, Type II, Version 2.0 card slots Two slots available | PCMCIA, Type II, Version 2.0 card slots One slot available with | Two PCMCIA Type II slots (one Type III slot) Optional floppy disk |

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

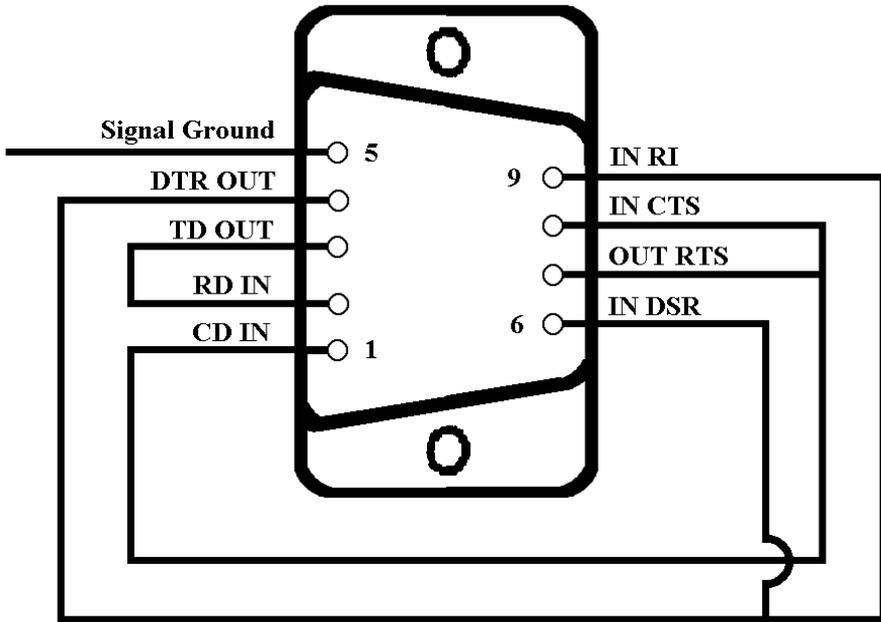


Figure 3 - Serial Loop Back Connector

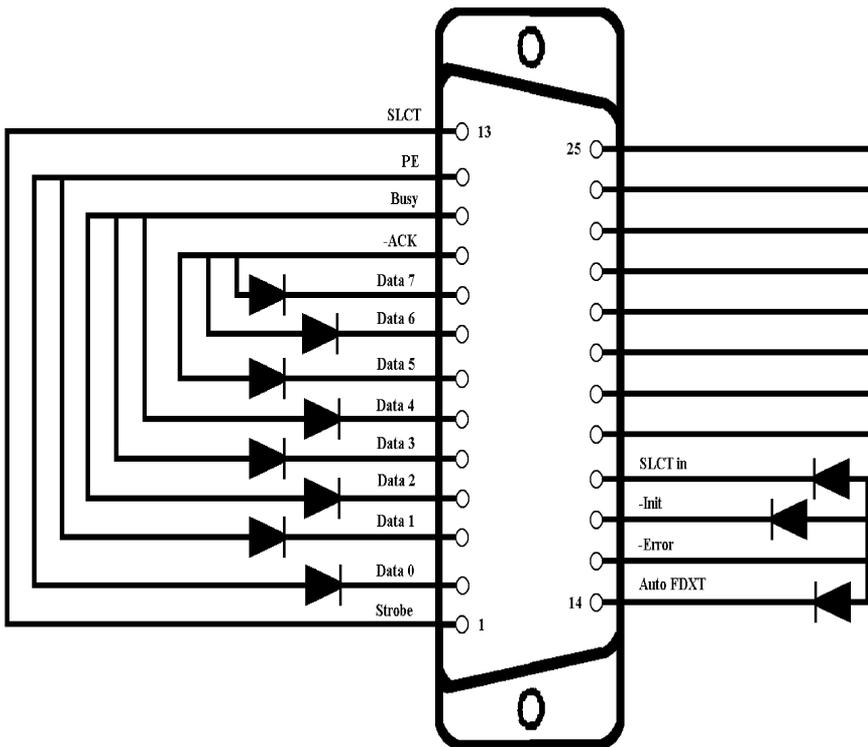


Figure 4 - Parallel Loop Back Connector

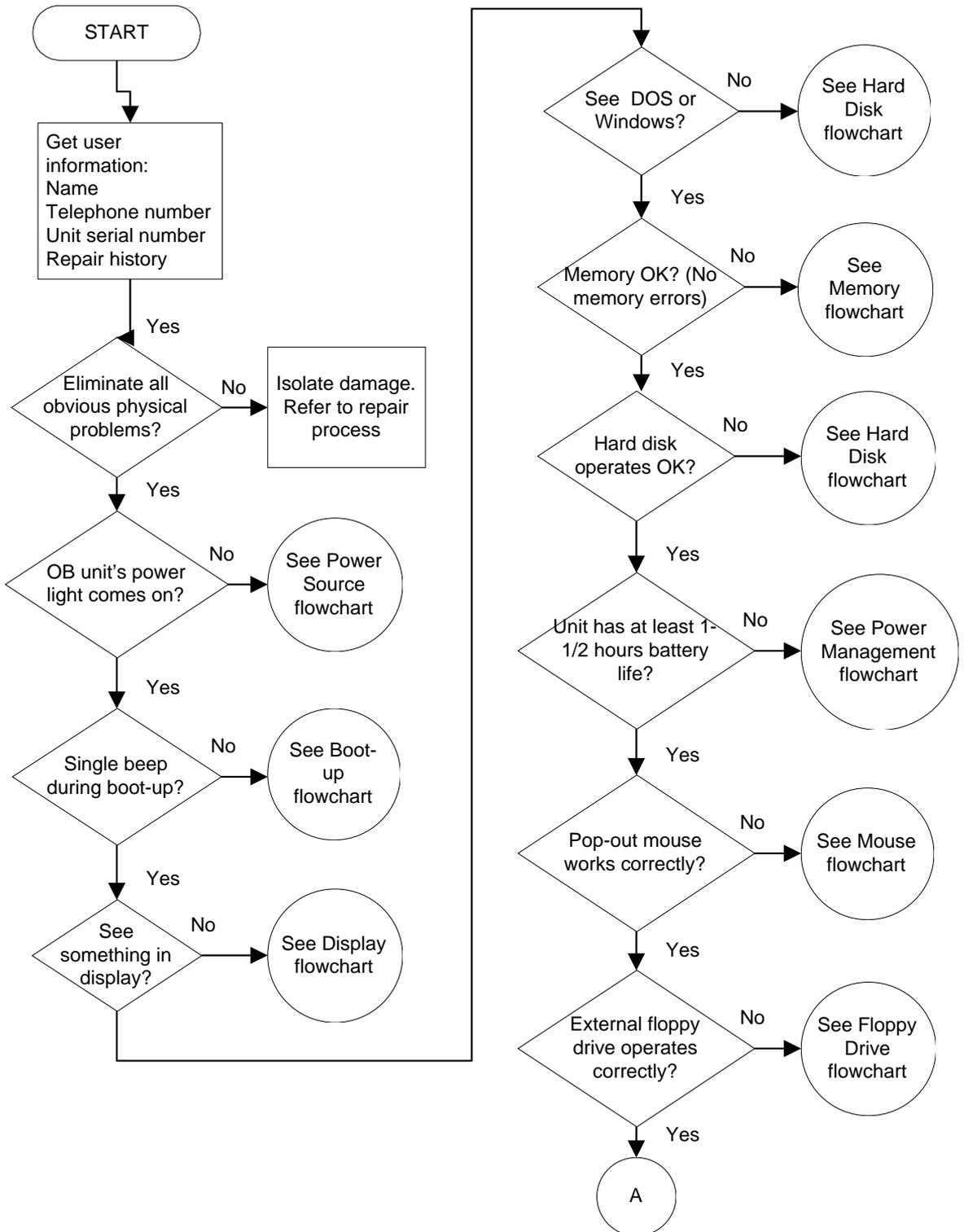
Troubleshooting Flowchart

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.

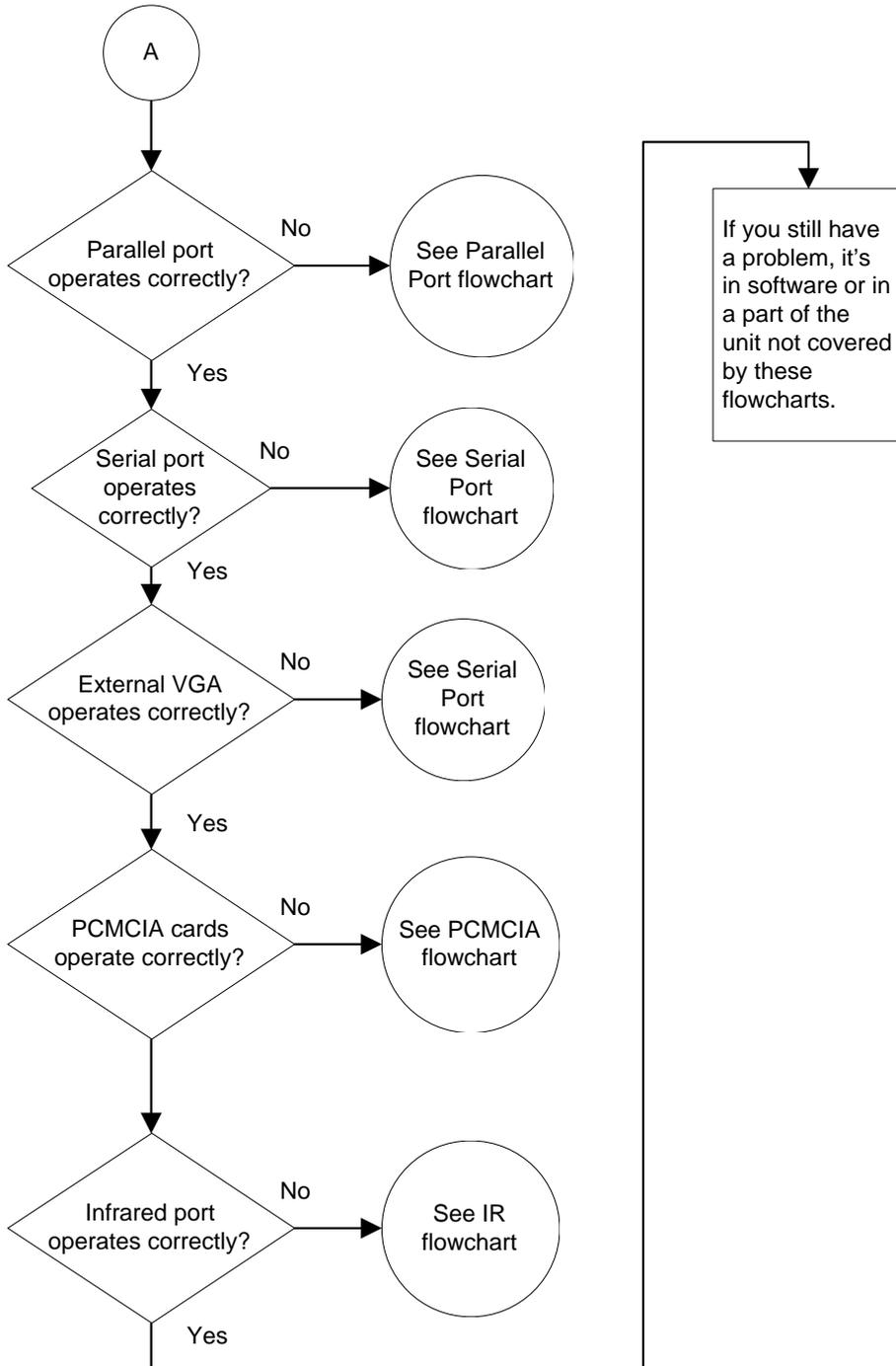
These tips should be kept in mind when referencing the troubleshooting flowcharts:

- 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.

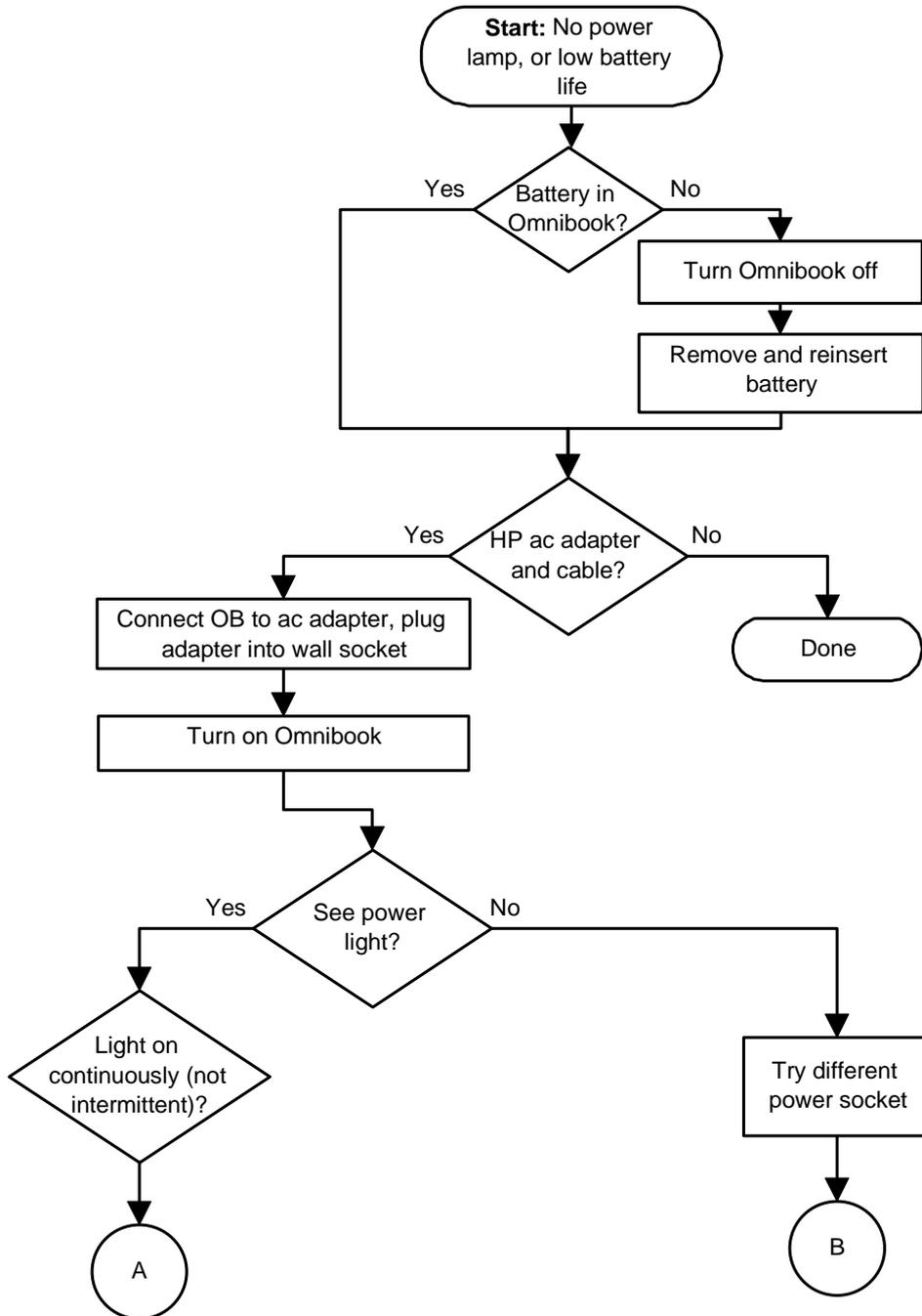
Main Troubleshooting Flowchart



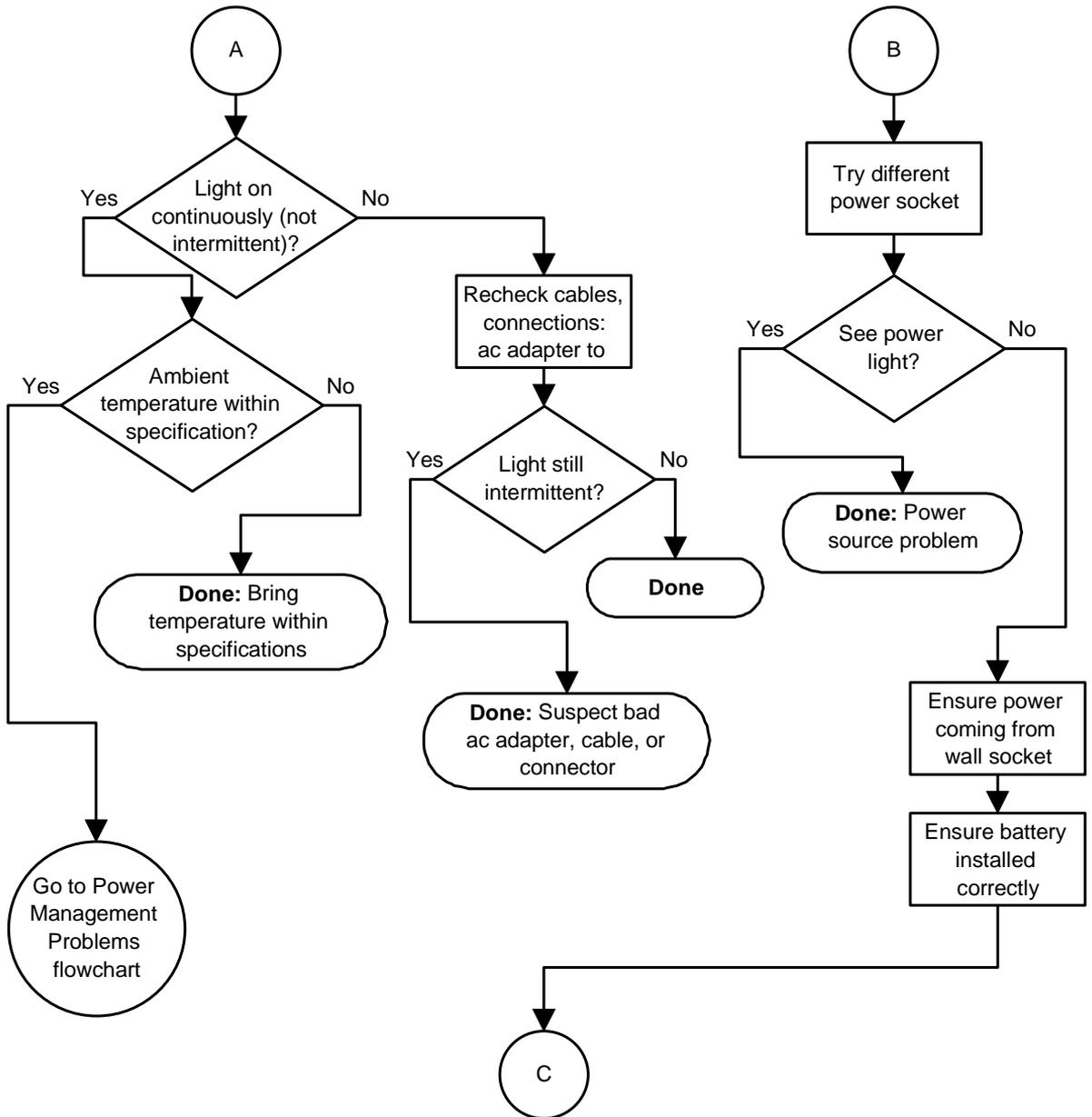
Main Troubleshooting Flowchart (continued)



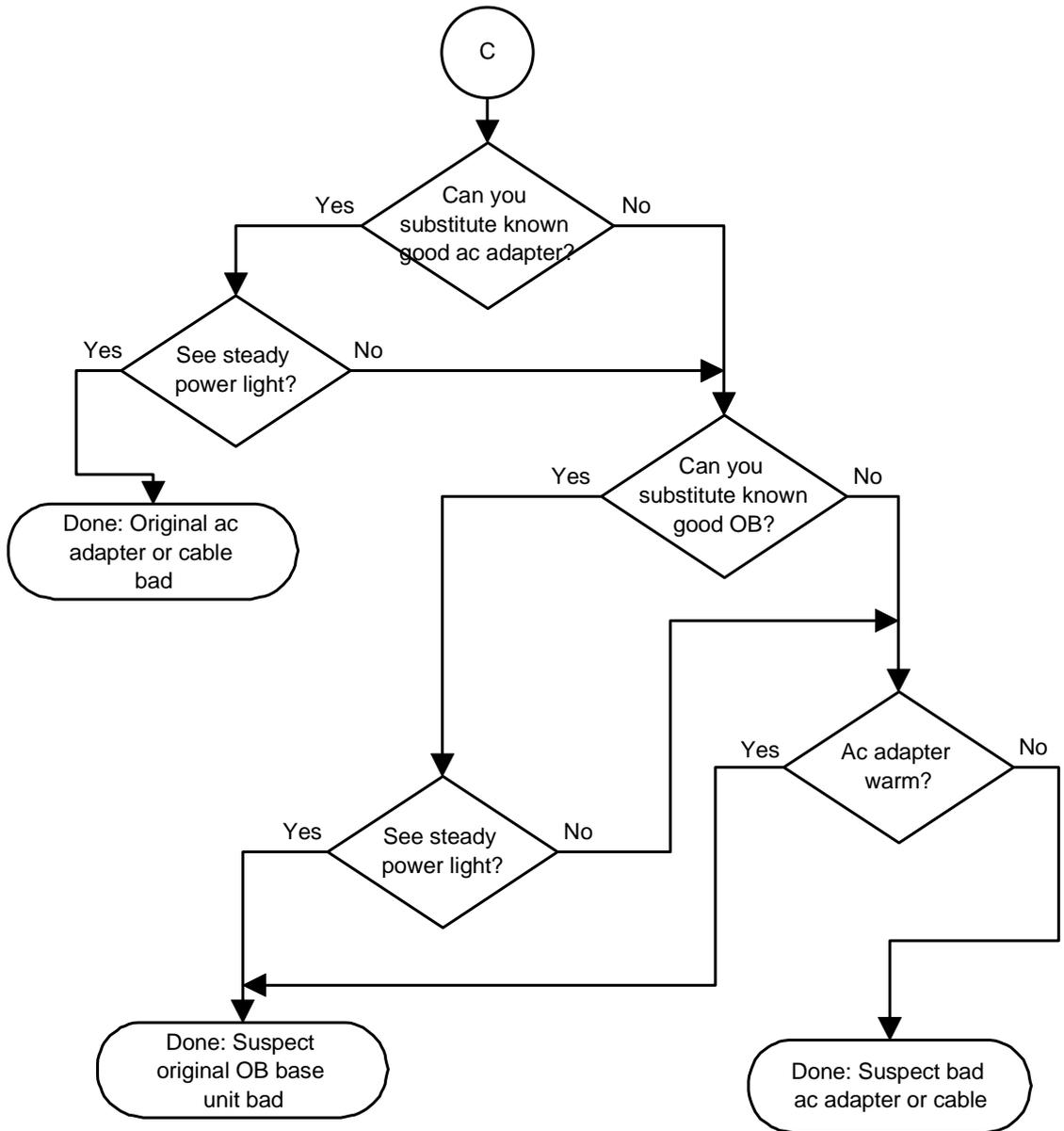
Power Source Problems



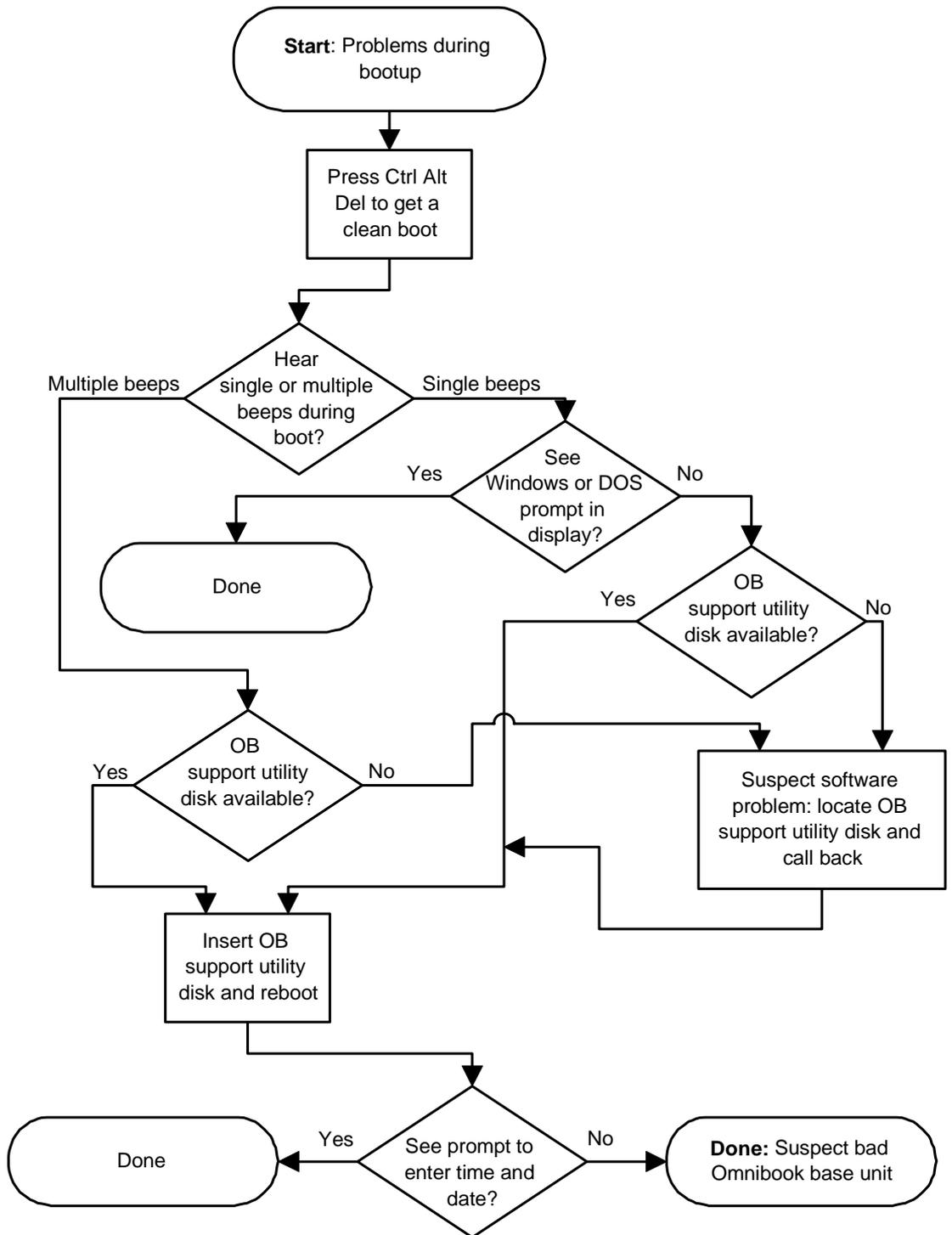
Power Source Problems (continued)



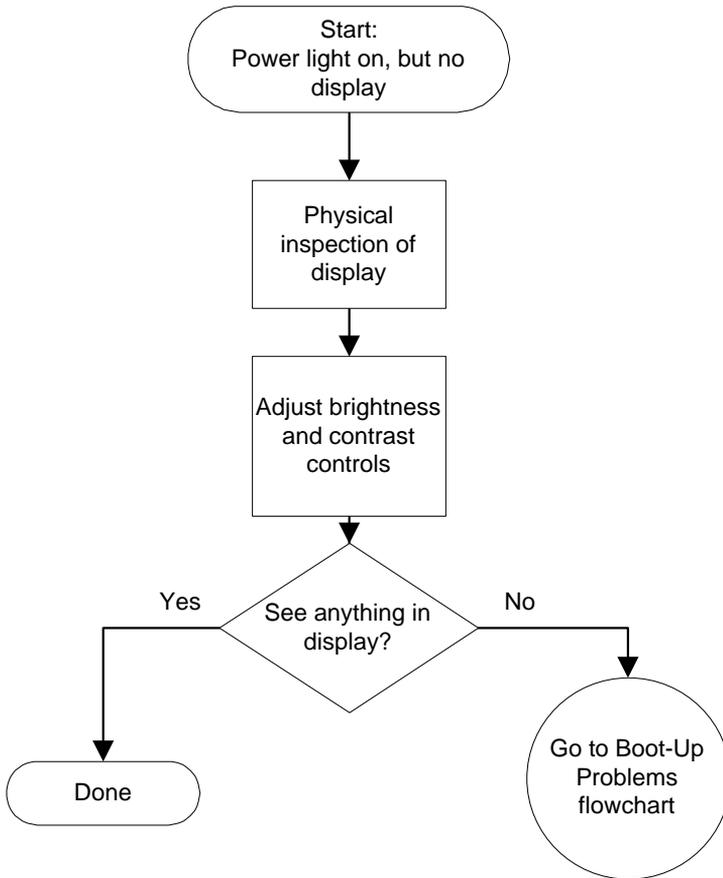
Power Source Problems (continued)



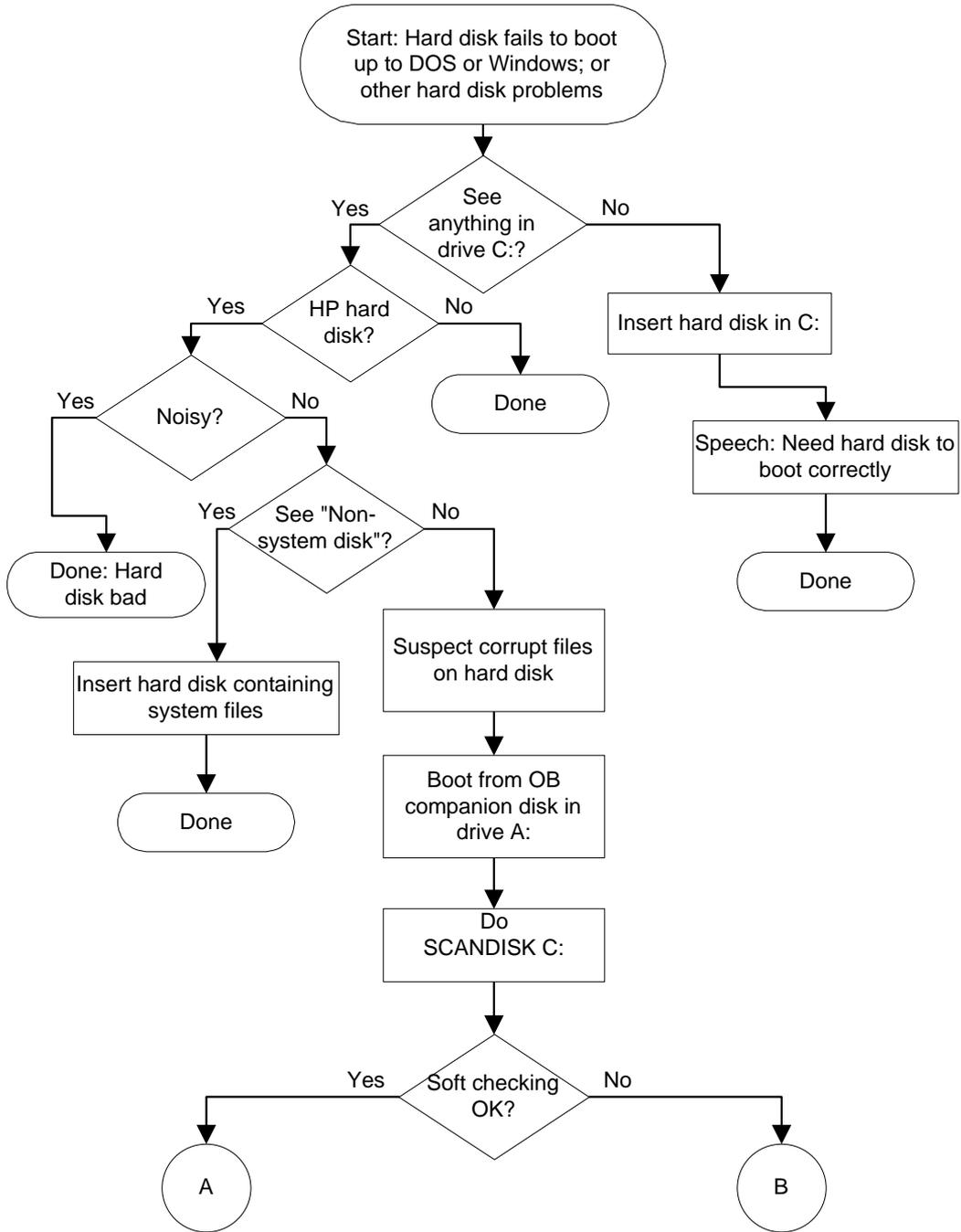
Boot-Up Problems



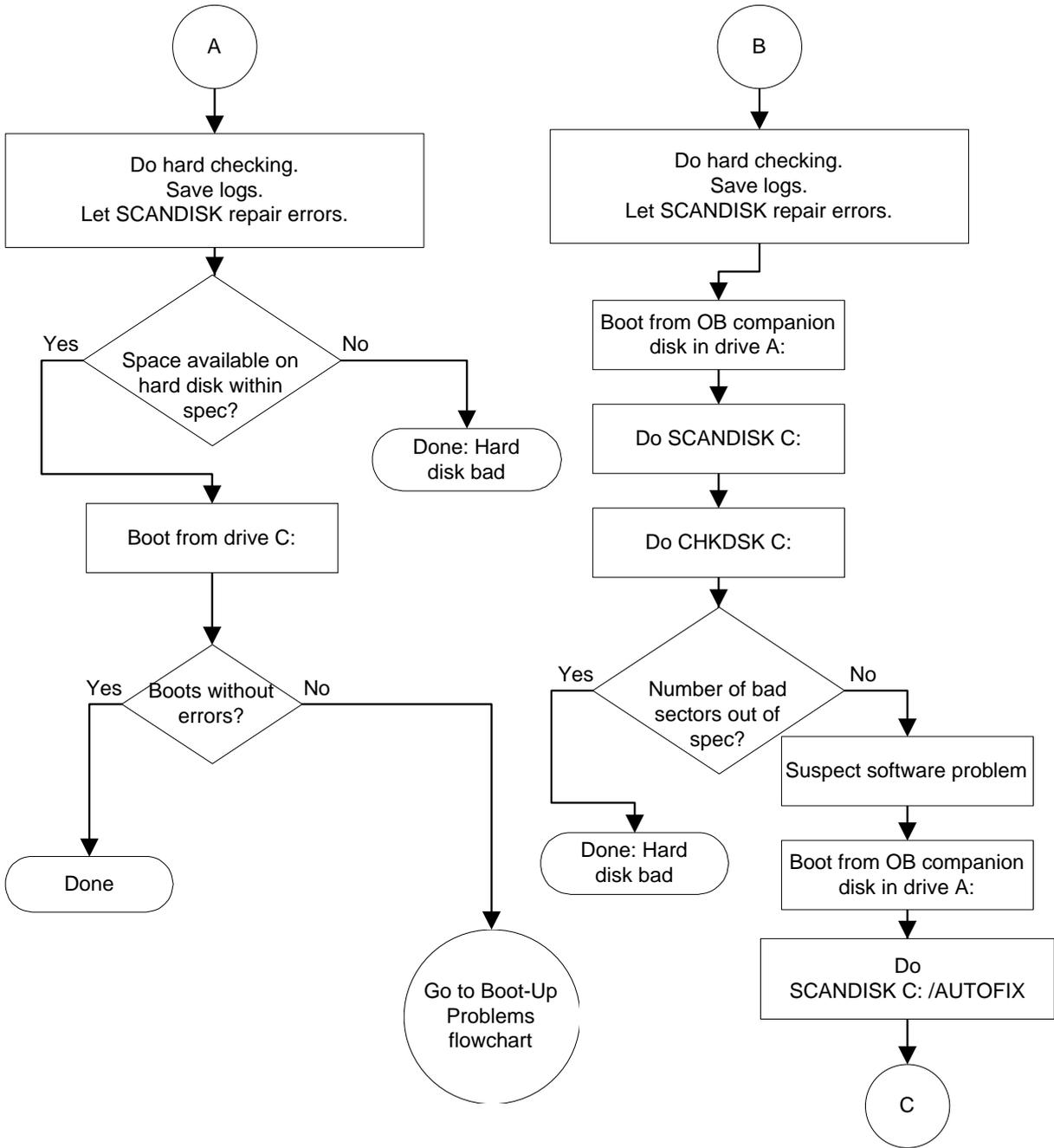
Display Problems



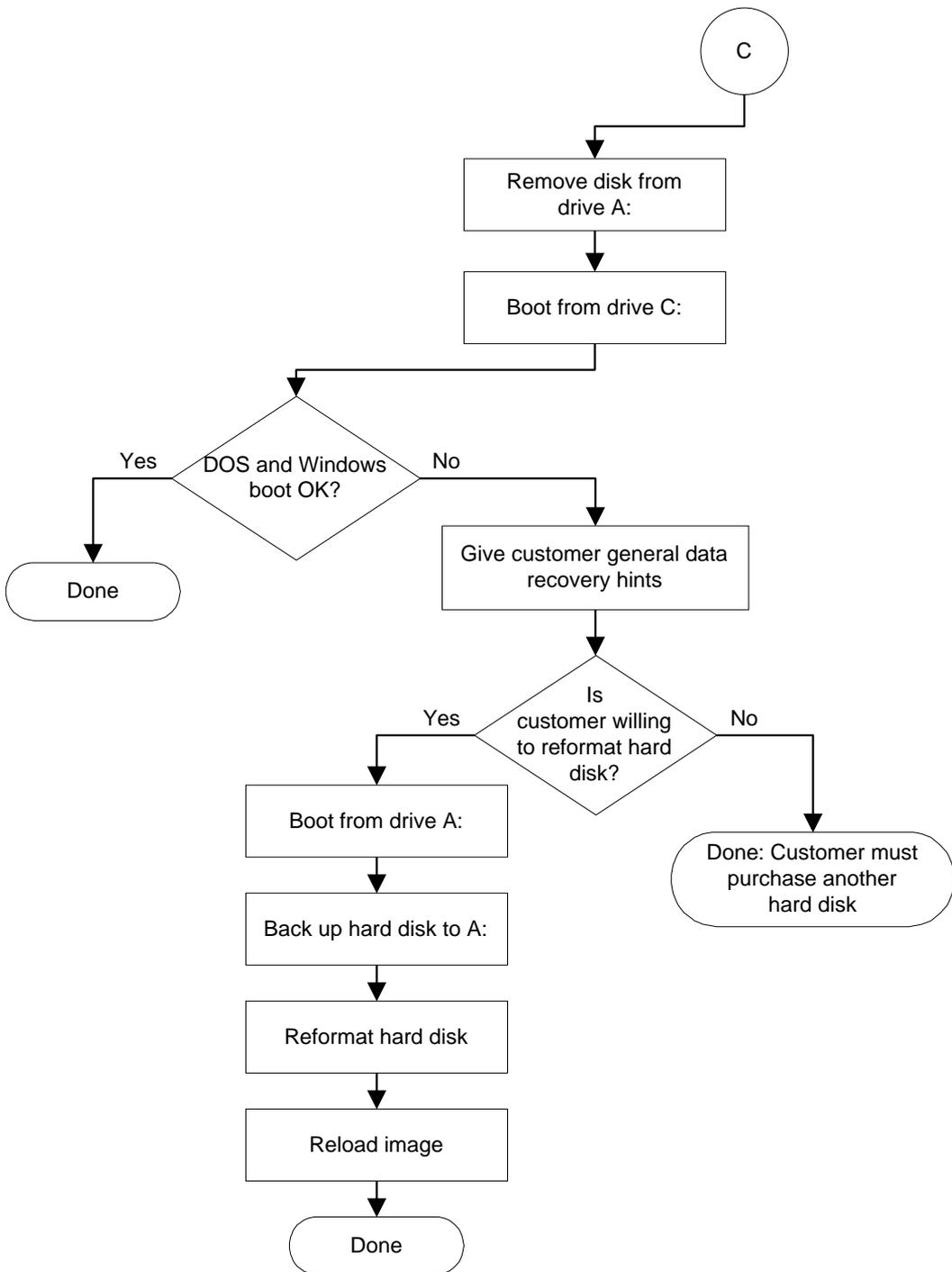
Hard Disk Problems



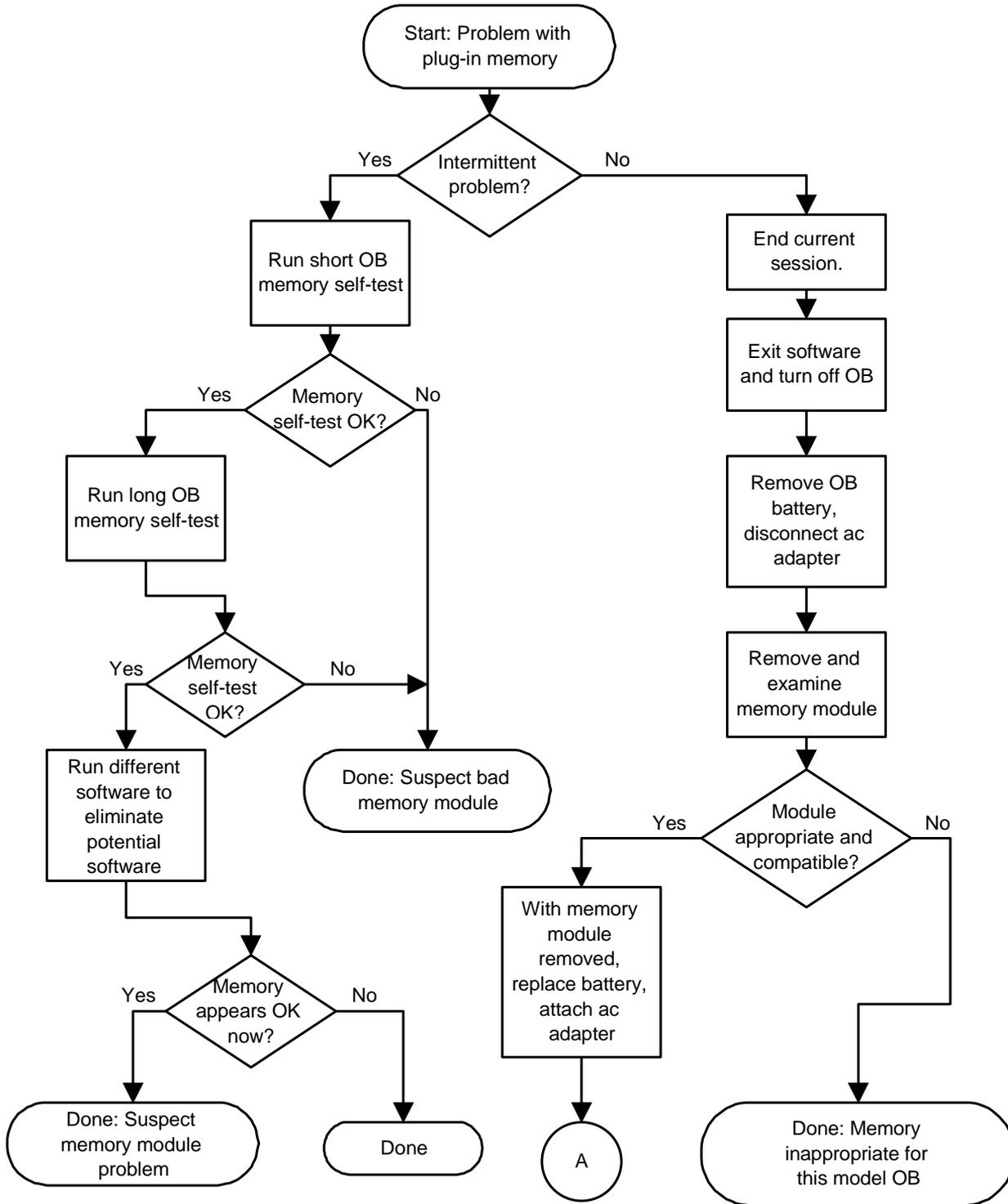
Hard Disk Problems (continued)



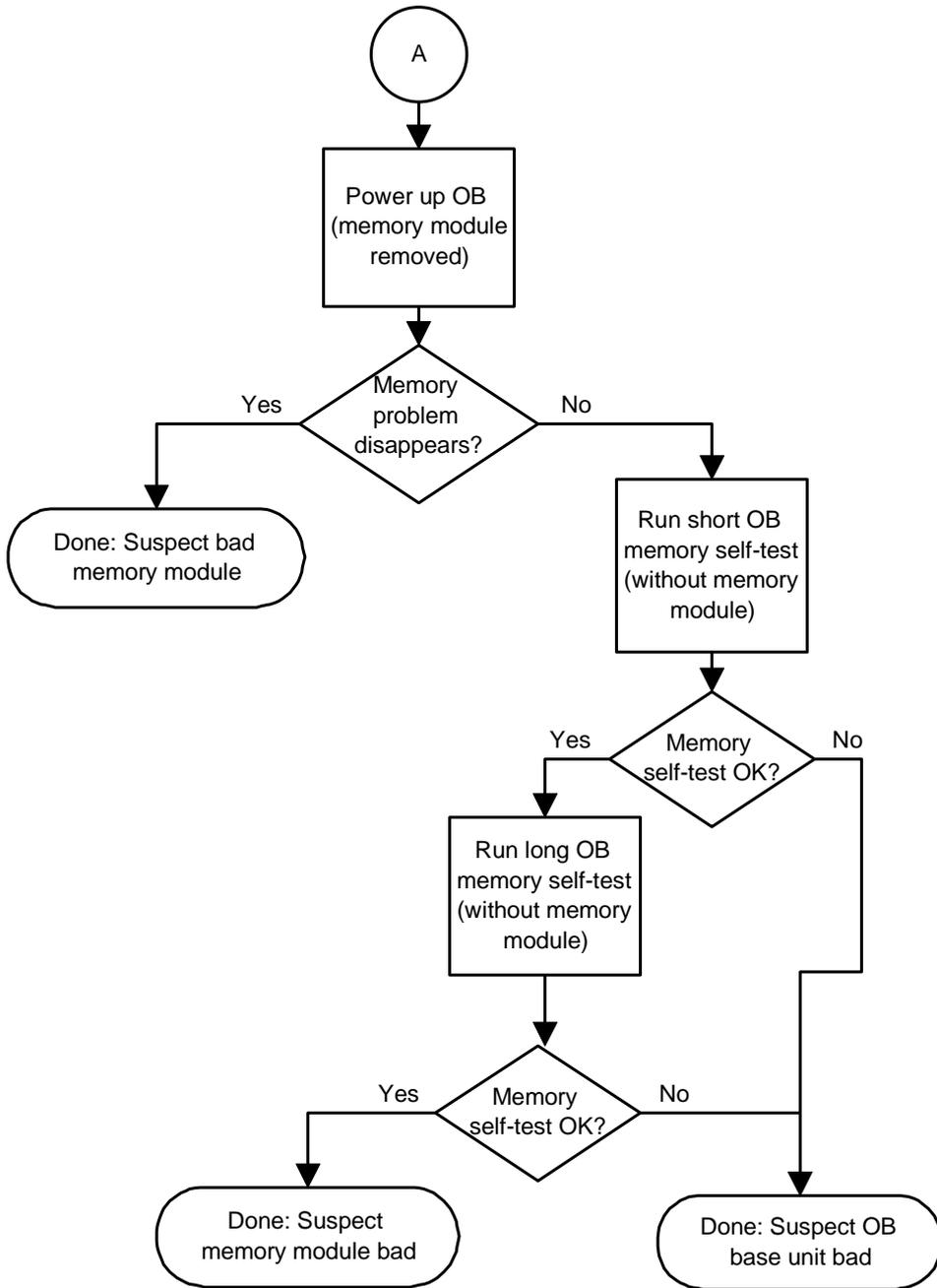
Hard Disk Problems (continued)



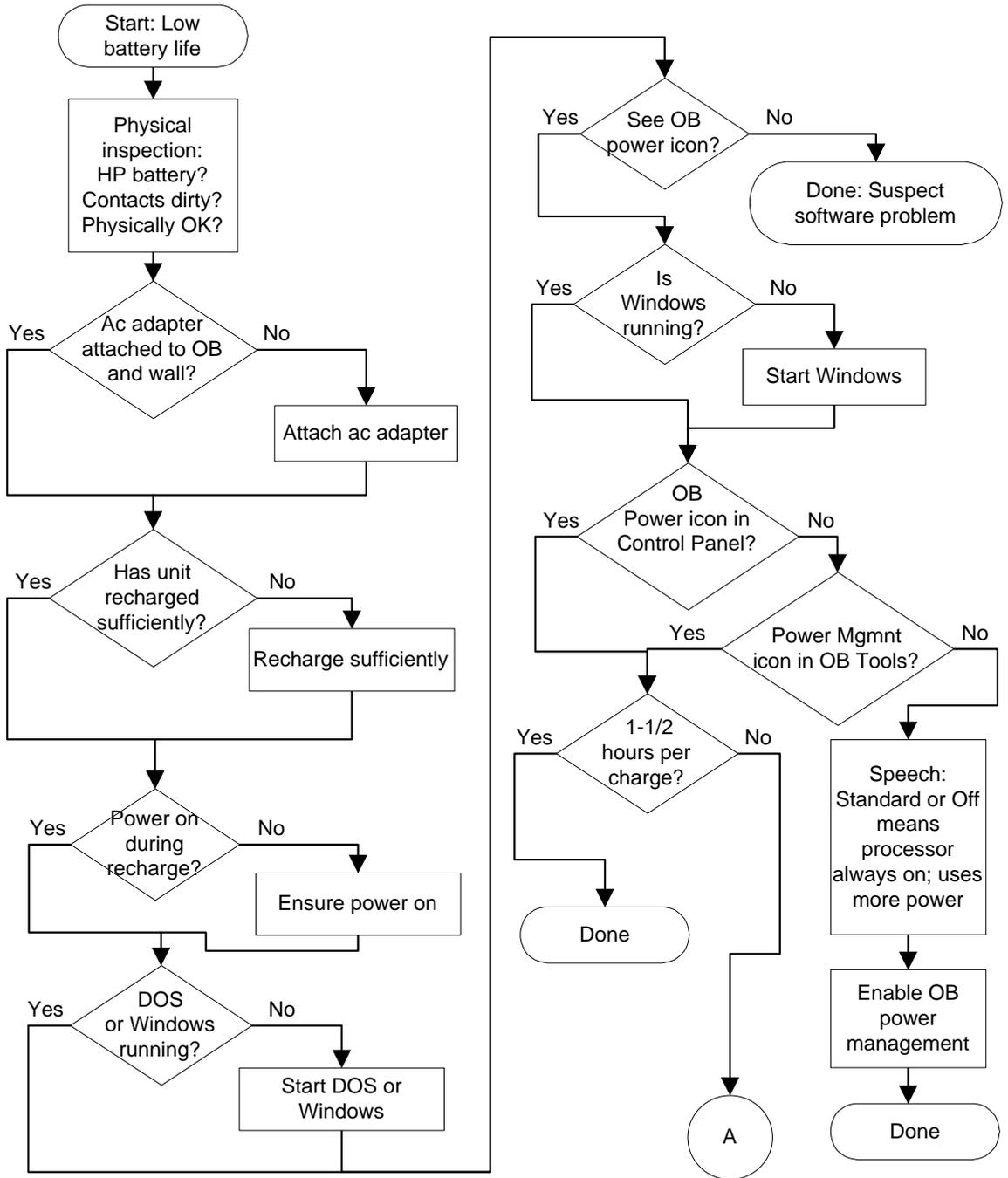
Memory Problems



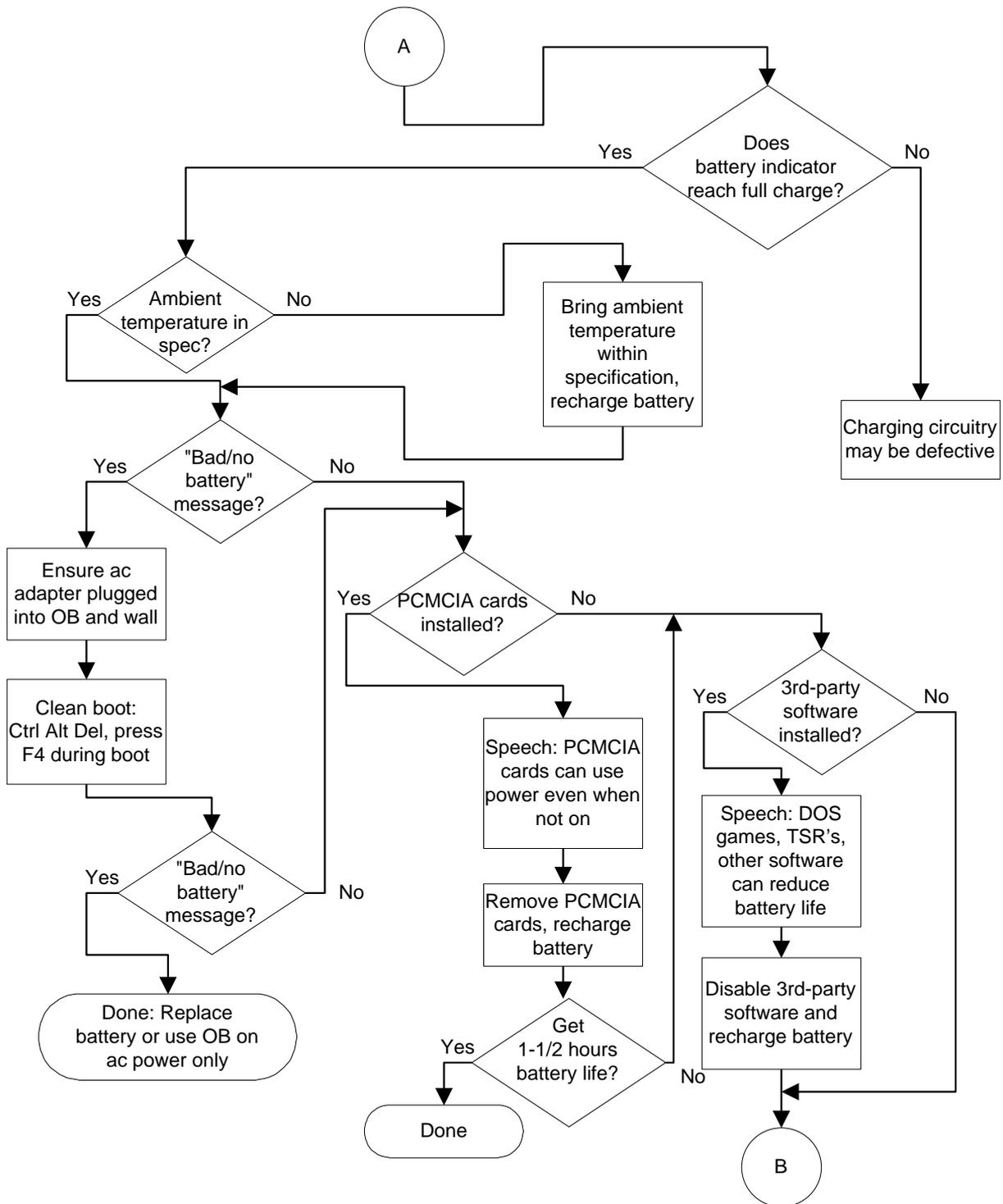
Memory Problems (continued)



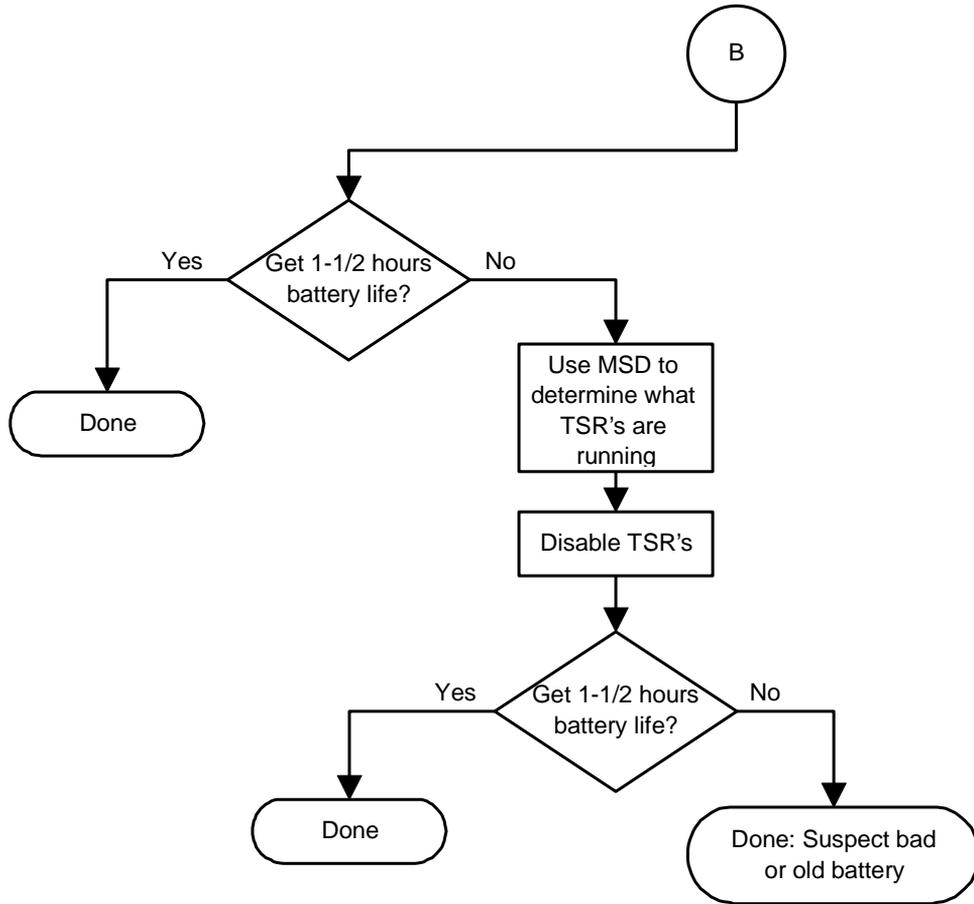
Power Management Problems



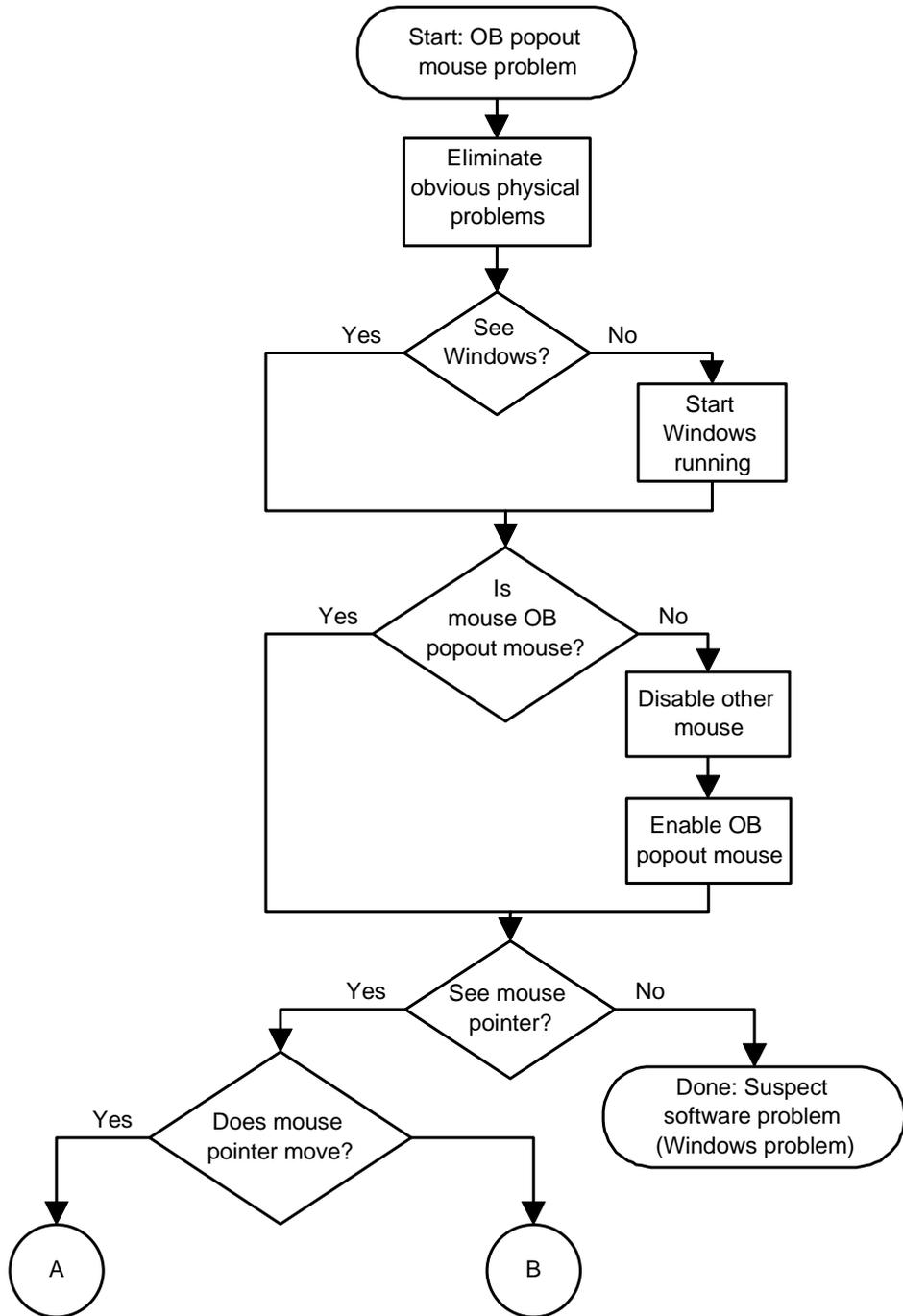
Power Management Problems (continued)



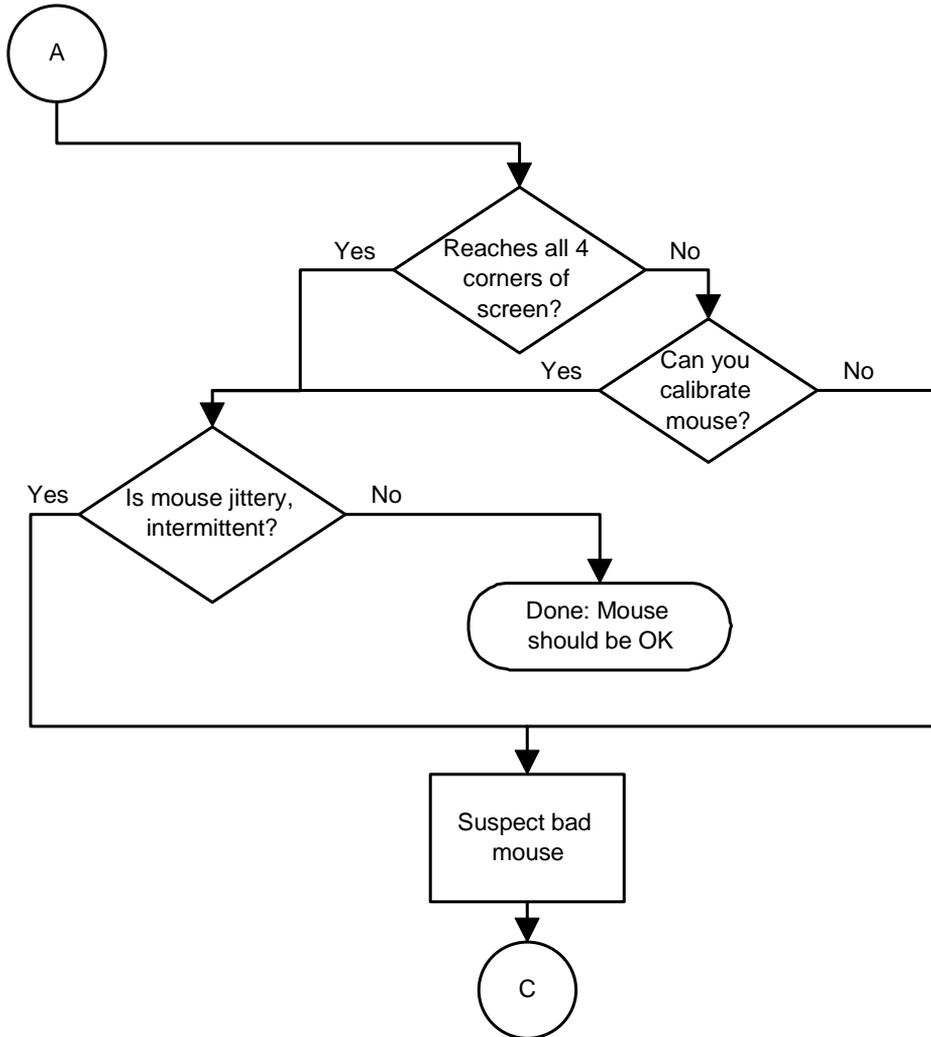
Power Management Problems (continued)



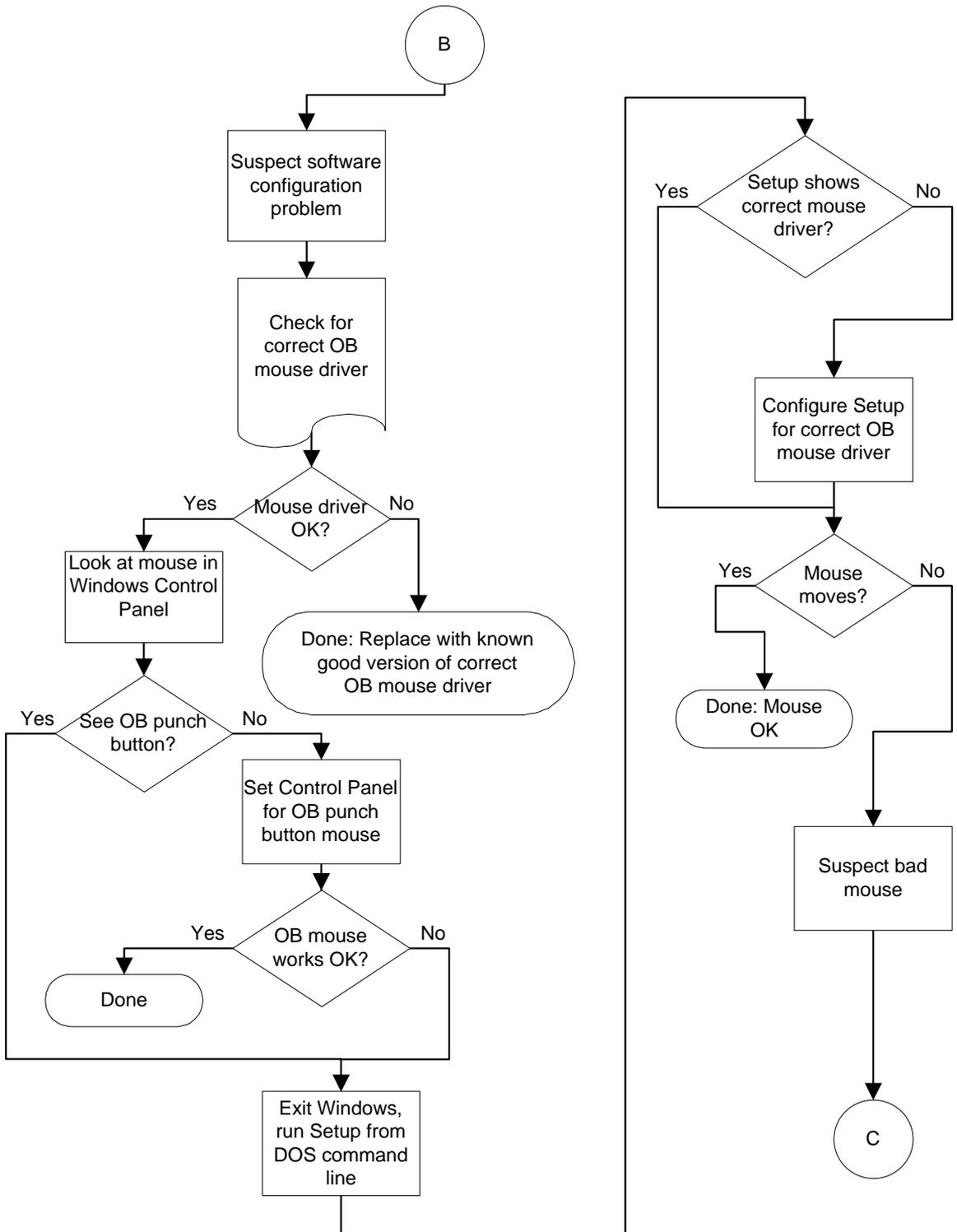
Pop-Out Mouse Problems



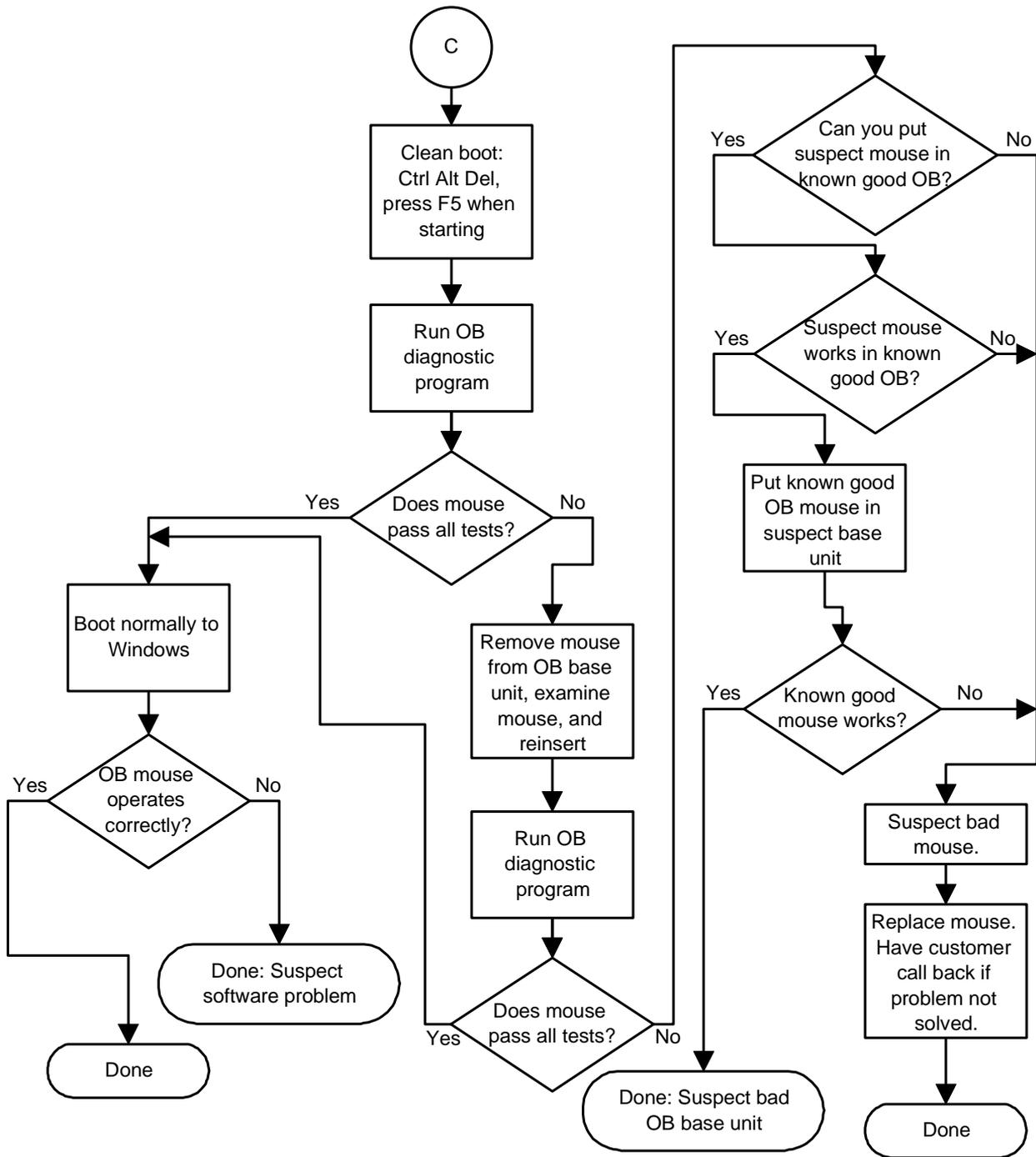
Pop-Out Mouse Problems (continued)



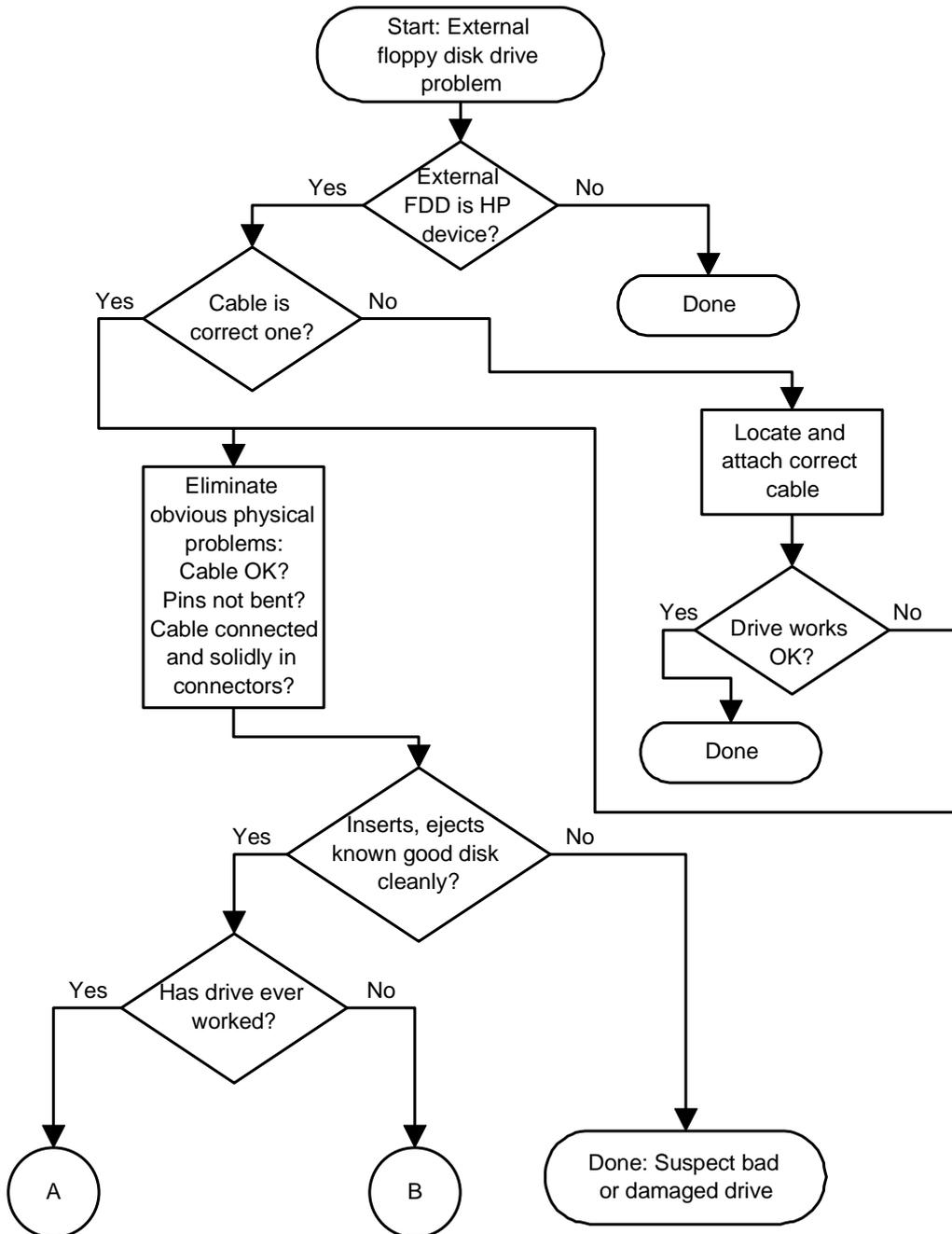
Pop-Out Mouse Problems (continued)



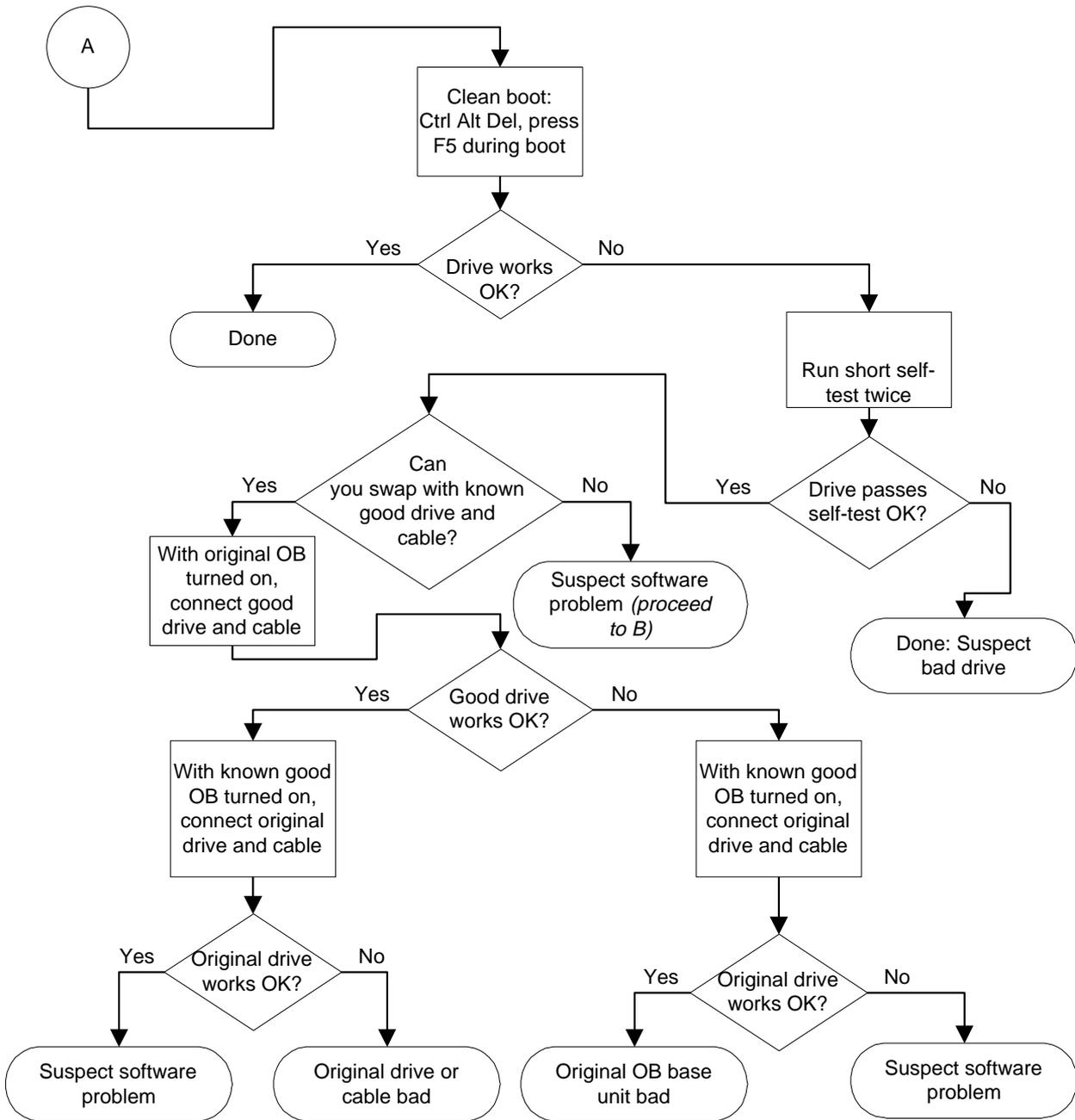
Pop-Out Mouse Problems (continued)



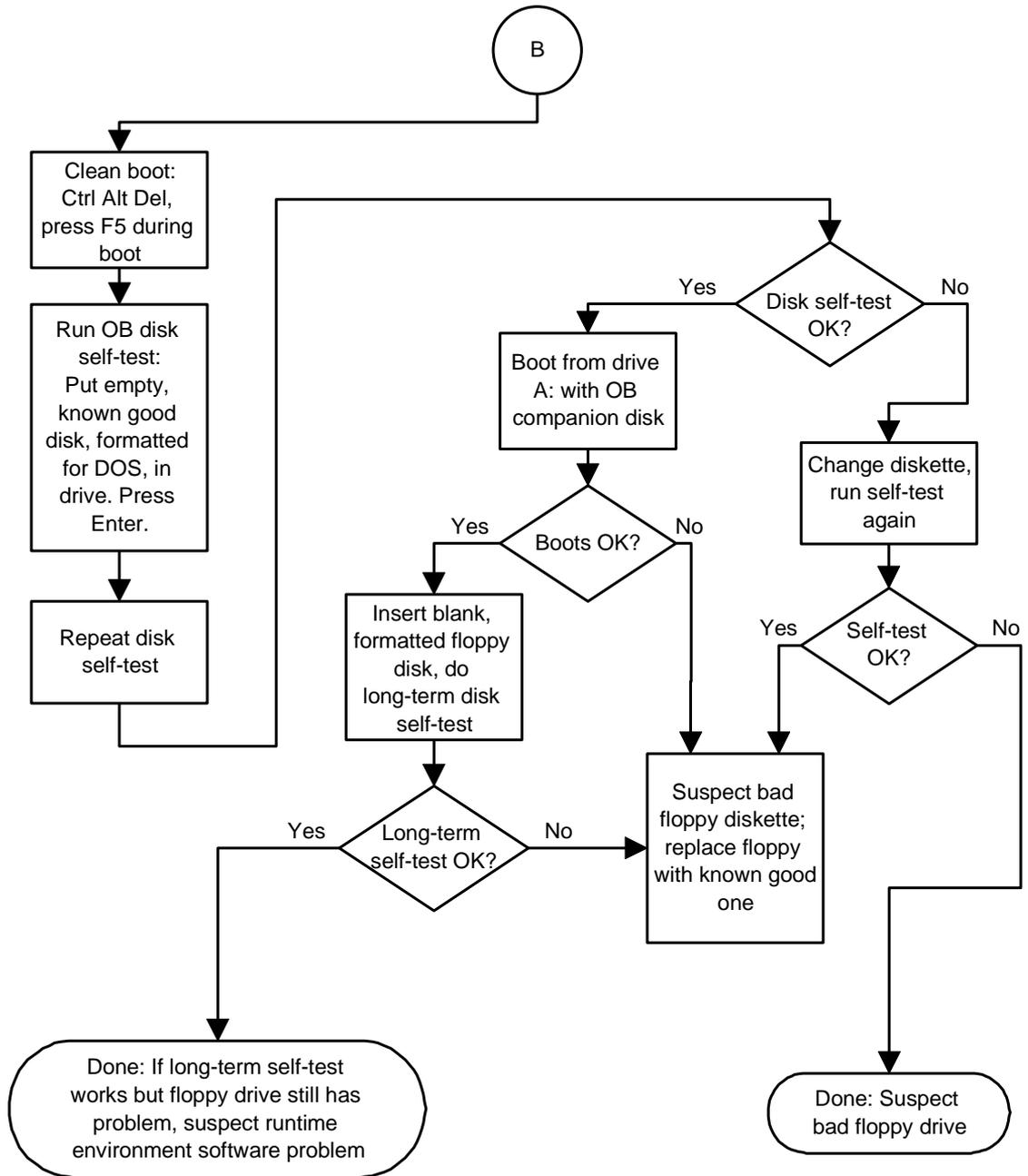
Floppy Drive Problems



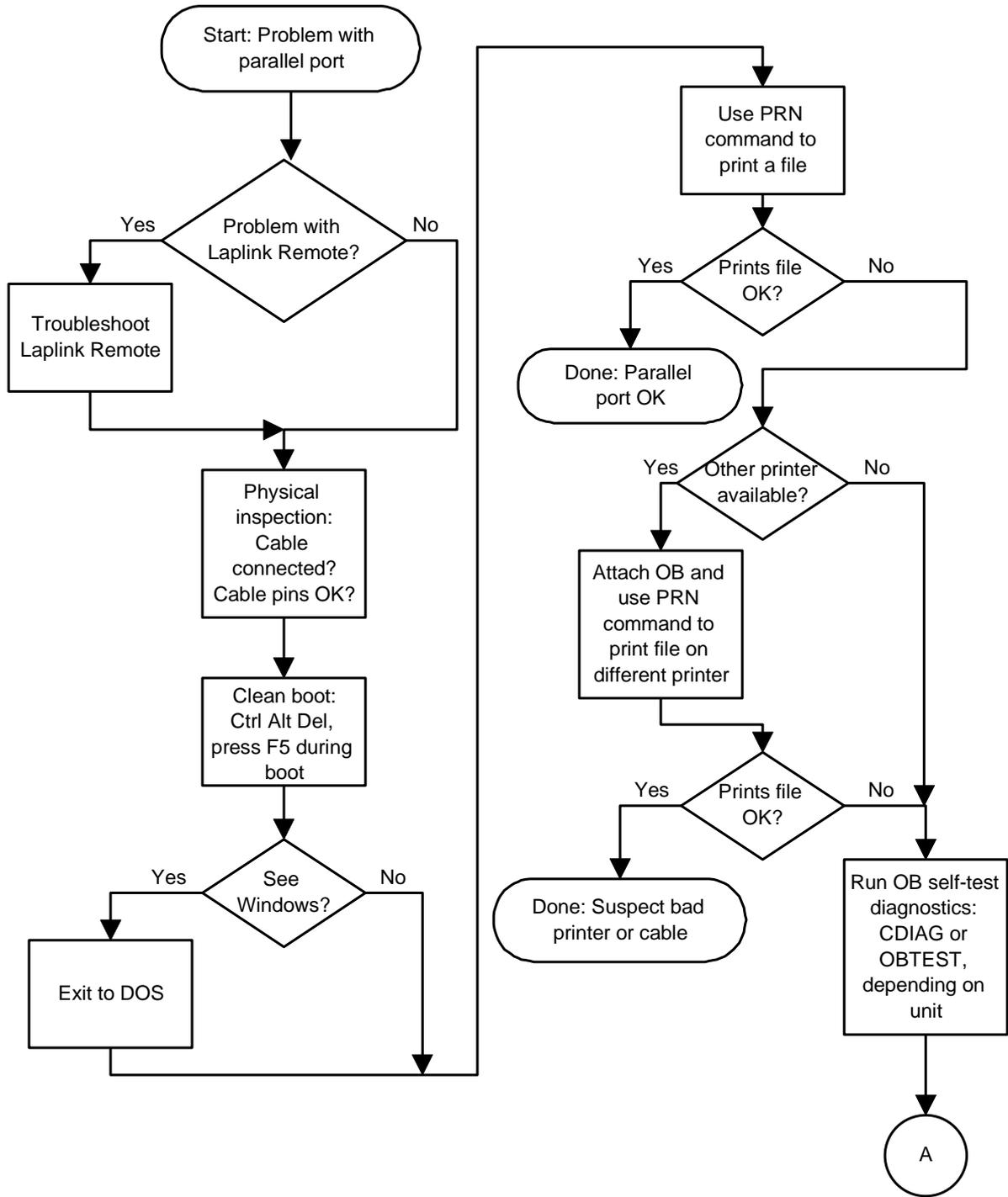
Floppy Drive Problems (continued)



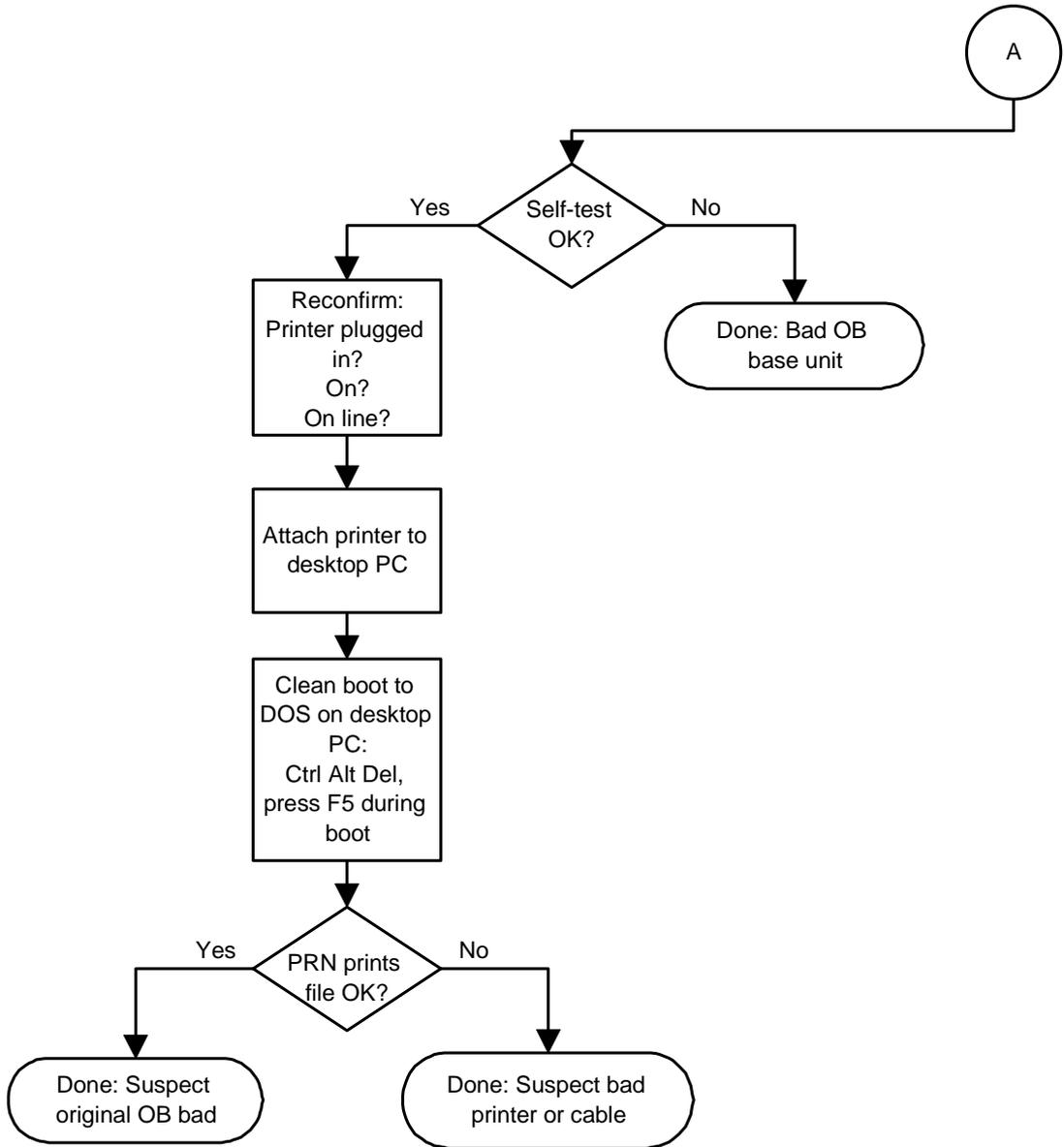
Floppy Drive Problems (continued)



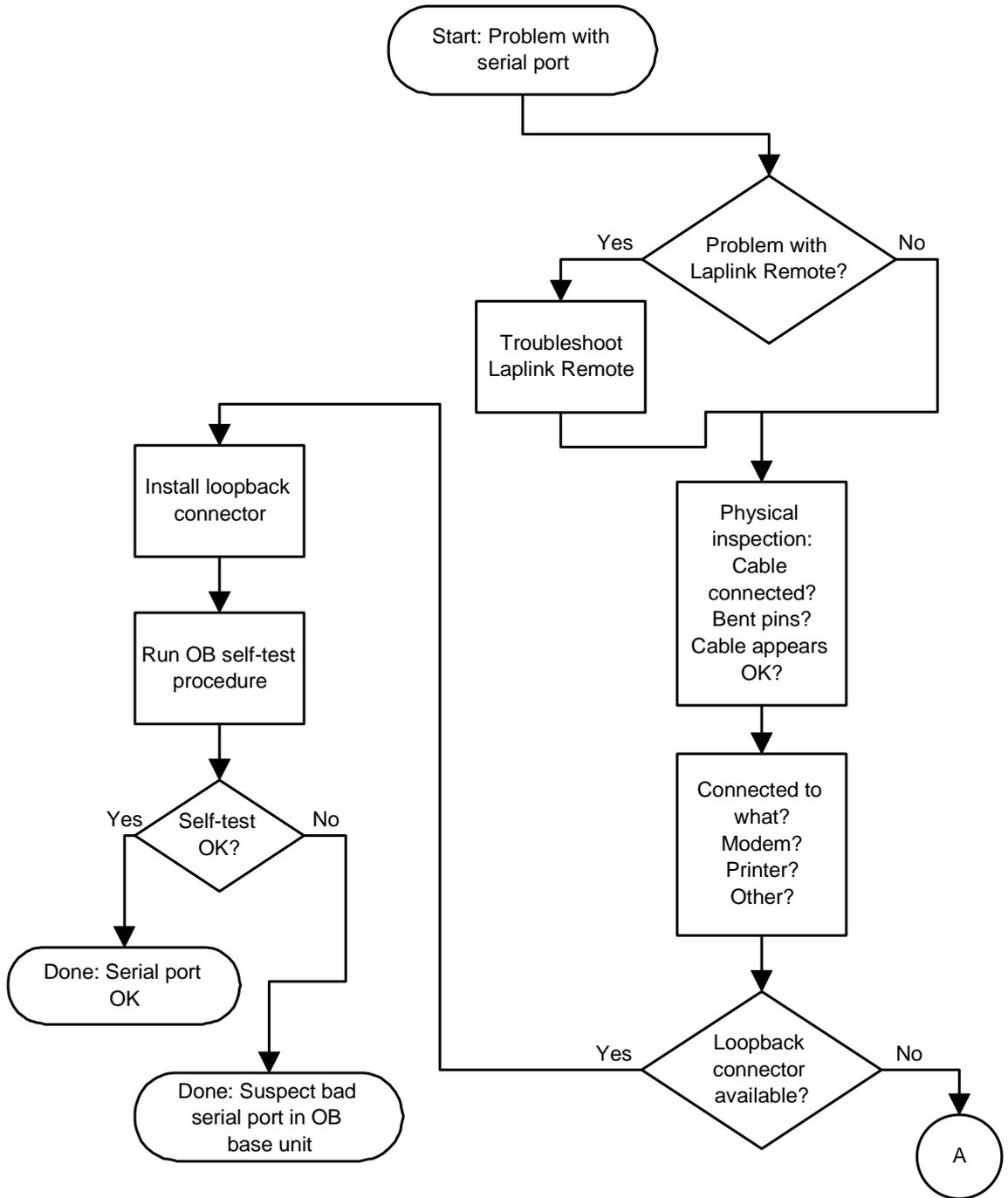
Parallel Port Problems



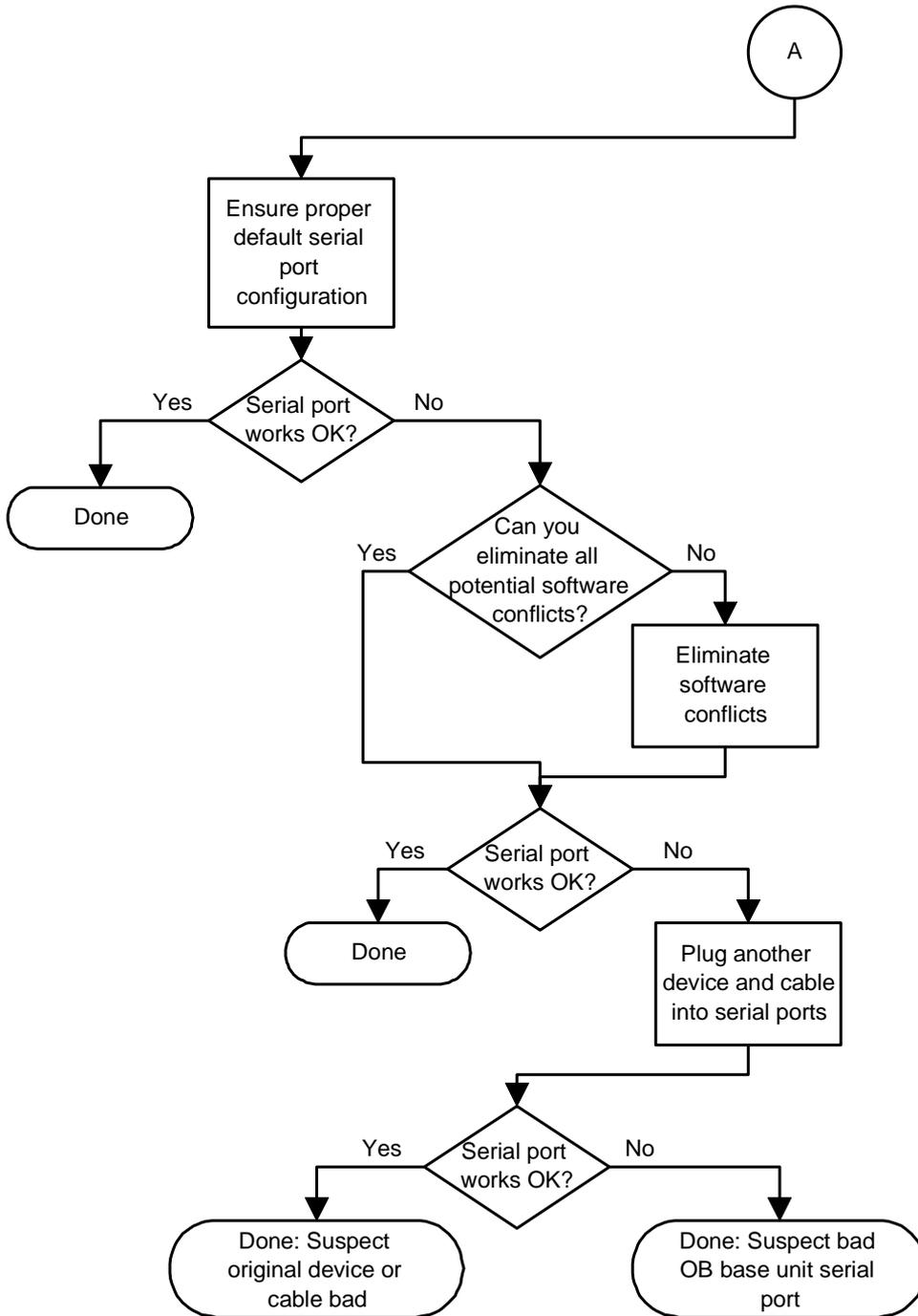
Parallel Port Problems (continued)



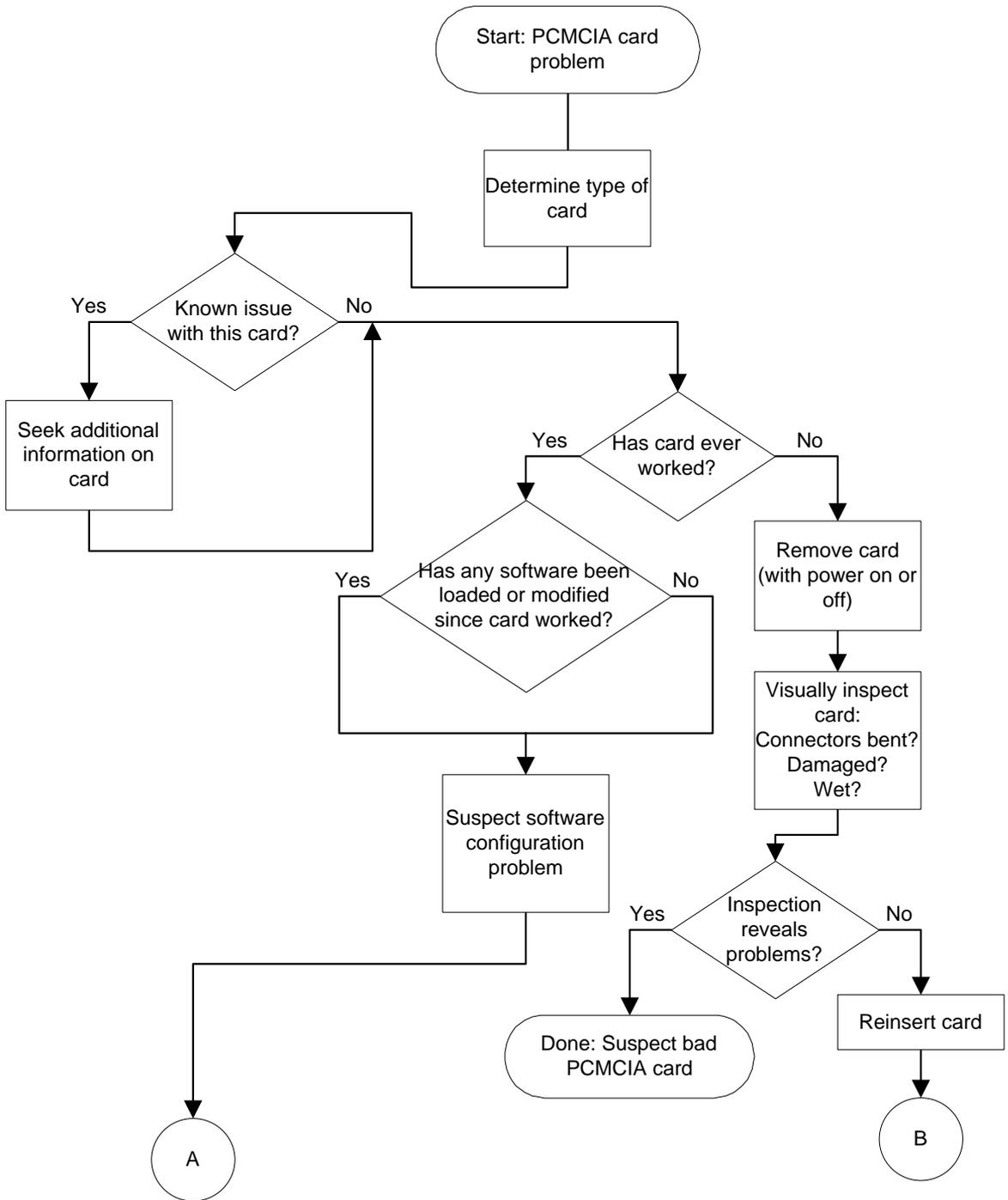
Serial Port Problems



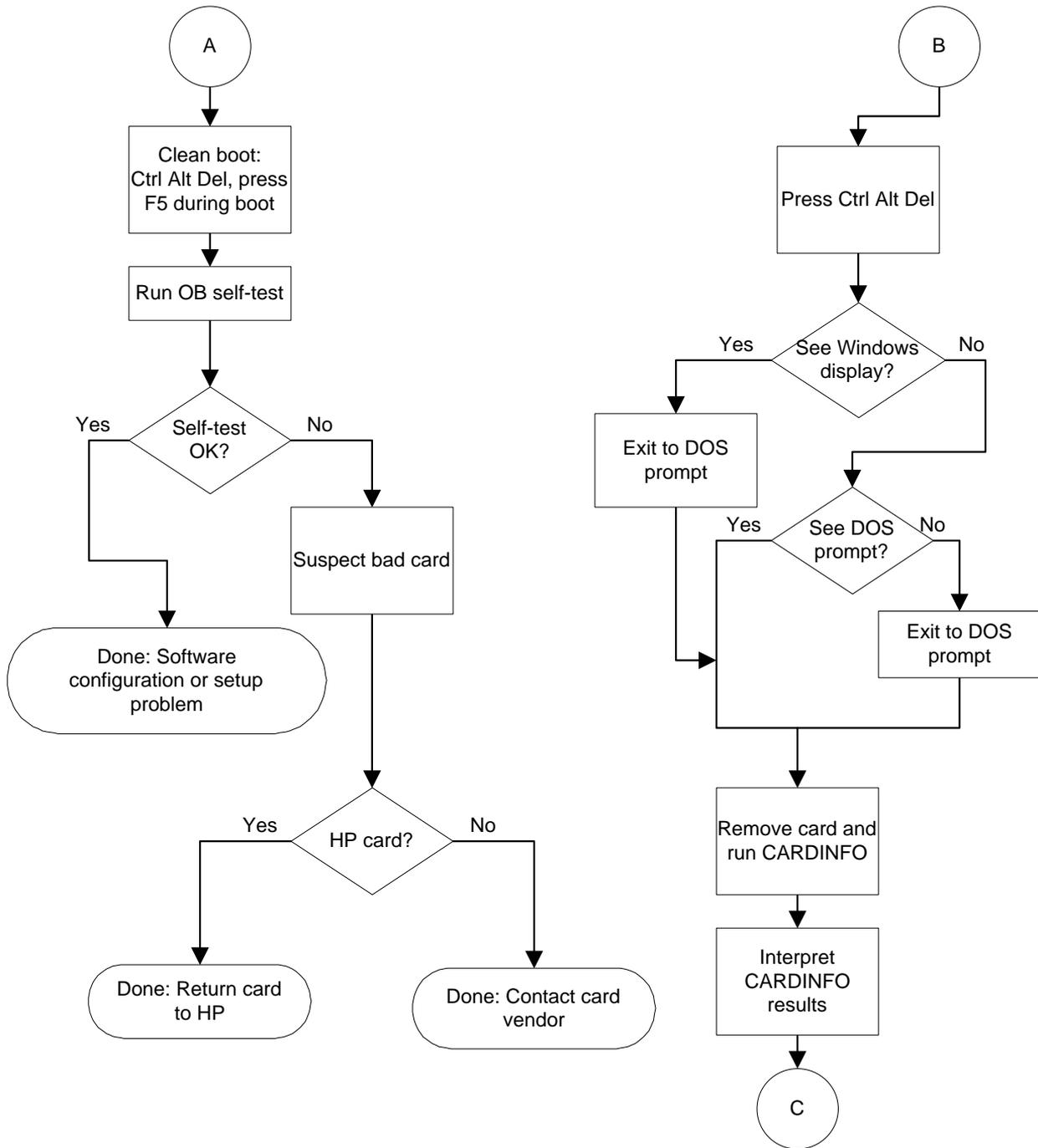
Serial Port Problems (continued)



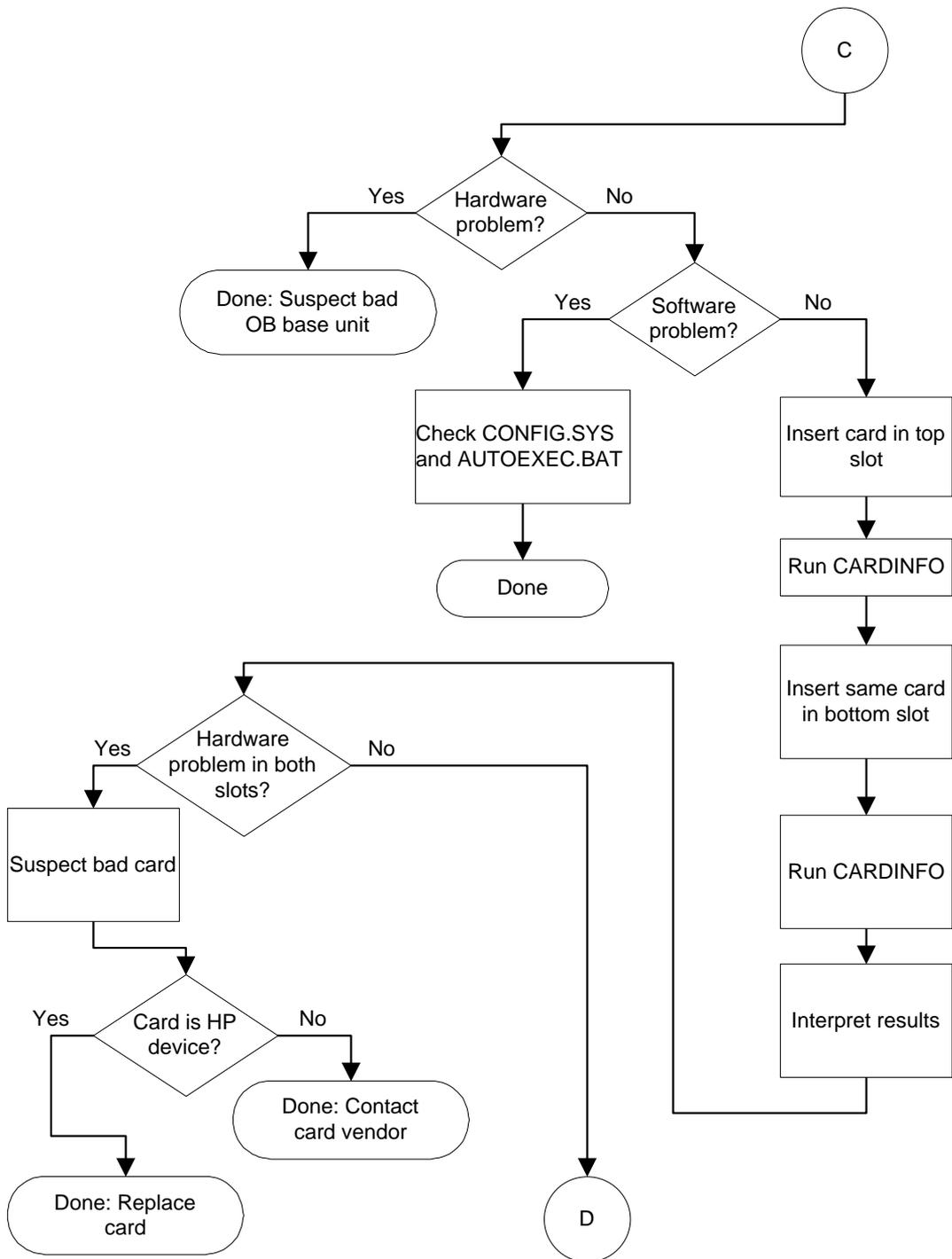
PCMCIA Problems



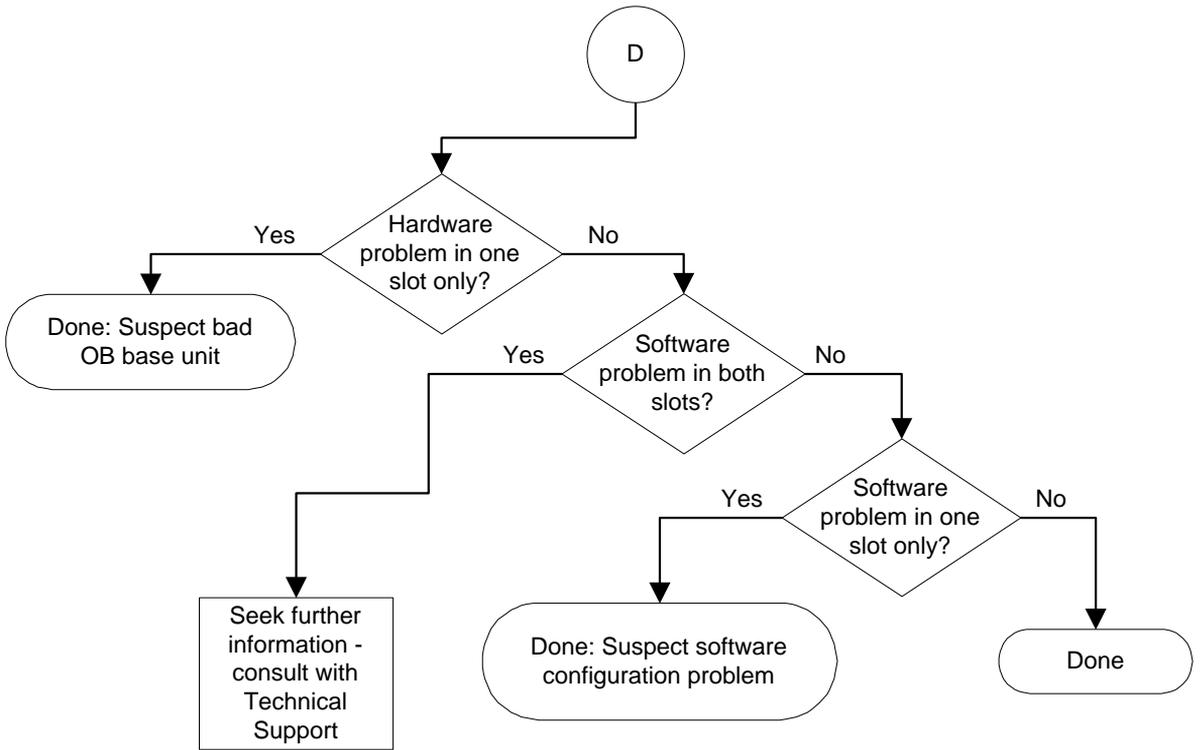
PCMCIA Problems (continued)



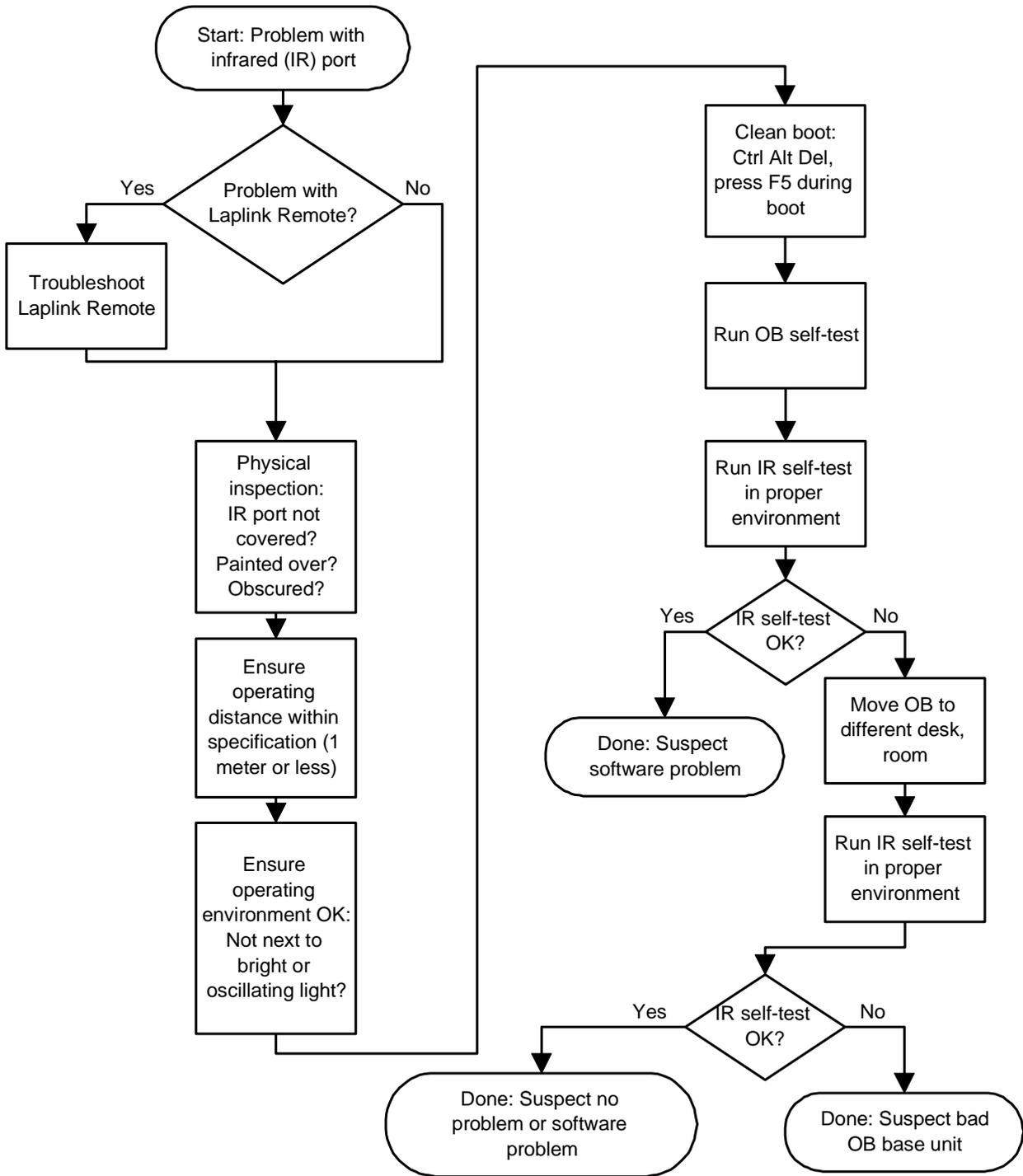
PCMCIA Problems (continued)



PCMCIA Problems (continued)



IR Port Problems



Part 3

Hardware Repair

- Battery
- Memory
- Hard Disk Drive/Flash Card and System ROM
- Mouse
- Small Parts
- Display
- Keyboard
- Logic PCA Board
- Paw Carrier
- Other Components

CAUTION: Always provide proper grounding when performing any of the following repairs. An electrostatic discharge may cause irreparable damage to the OmniBook and its components

Battery

(End User Replaceable)

All of the monochrome OmniBook models use the same HP Nickel-Metal-Hydride (NiMH) Battery Pack, part number F1045A (service replacement part number F1045-60901). However, for some models, 1.5 V AA batteries can be used in place of the NiMH battery pack. The following table lists all of the monochrome OmniBooks and the batteries that can be used safely in each model.

| | OmniBook 300 | OmniBook 425 | OmniBook 430 | OmniBook 530 |
|--------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Flash Disk Version | <ul style="list-style-type: none">• NiMH Battery Pack• AA Alkaline• AA Lithium | <ul style="list-style-type: none">• NiMH Battery Pack• AA Alkaline• AA Lithium | not applicable | not applicable |
| Hard Disk Version | <ul style="list-style-type: none">• NiMH Battery Pack• AA Lithium | <ul style="list-style-type: none">• NiMH Battery Pack• AA Lithium | <ul style="list-style-type: none">• NiMH Battery Pack• AA Lithium | <ul style="list-style-type: none">• NiMH Battery Pack |

WARNING: Do not mutilate, puncture, or dispose of batteries in fire. The batteries can burst or explode, releasing hazardous chemicals.

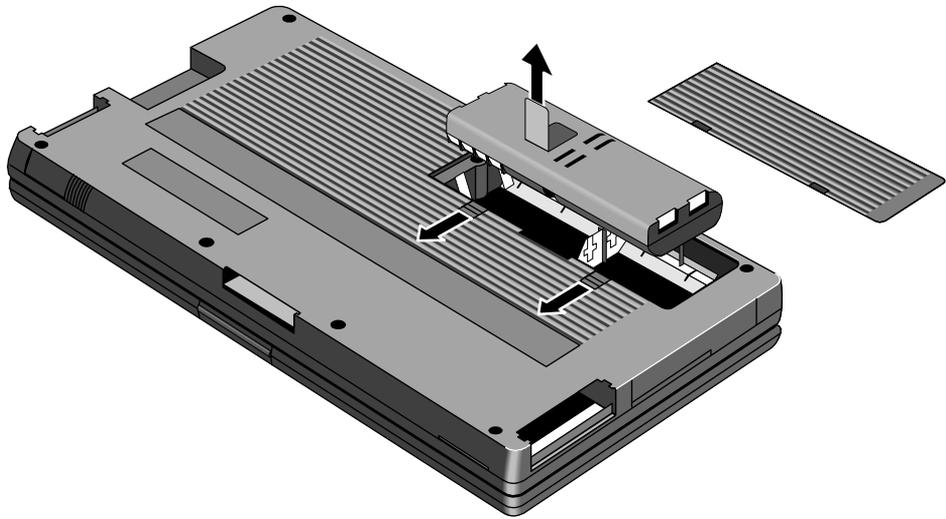
A nickel-metal-hydride rechargeable battery pack must be recycled or disposed of properly. Recycle or discard used size-AA batteries according to the manufacturer's instructions.

Required Equipment

- none

Removal Procedure

1. Release the two latches on the battery cover on the bottom case, then remove the cover. Refer to the below illustration.
2. Do one of the following to remove the battery:
 - If an OmniBook battery pack is installed, lift it out by its tab.
 - If AA batteries are installed in place of the OmniBook battery pack, lift each out individually.



Replacement Procedure

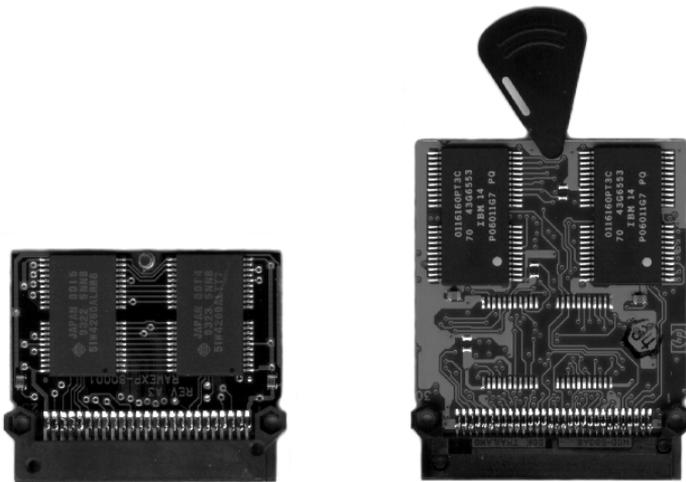
1. To replace the battery, do one of the following:
 - To replace the OmniBook battery pack, insert the rounded side of the pack into the compartment first. It is not possible to fully insert the battery pack incorrectly.
 - To replace AA batteries, orient them as shown by the symbols in the battery compartment.
2. Replace and latch the battery cover.

Memory (End User Replaceable)

The OmniBook 530 uses a unique memory module that is not compatible with the OmniBook 300, 425, or 430. The table below summarizes the compatibility of the memory modules for each OmniBook model.

| Memory Module | Accessory Number | Service Replacement | OB 300 | OB 425 | OB 430 | OB 530 |
|---------------|------------------|---------------------|--------|--------|--------|--------|
| 2-MB | F1041A | F1041-60901 | ✓ | ✓ | ✓ | |
| 4-MB | F1042A | F1038-60901 | ✓ | ✓ | ✓ | |
| 4-MB | F1054A | F1054-60901 | | | | ✓ |
| 8-MB | F1055B | F1055-60002 | | | | ✓ |

The following illustration provides a visual representation of the physical differences between the memory module for the OmniBook 300, 425, and 430 and the memory module for the OmniBook 530.



OmniBook 300, 425, and 430

OmniBook 530

Figure 5 - OmniBook Memory Modules

Required Equipment

- Probe (or similar device) for the OmniBook 300, 425, and 430 only

CAUTION: To avoid damage due to electrostatic discharge, handle the memory module by the edges only.

Removal Procedure

1. Remove the battery and ac adapter from the OmniBook.
2. Slide the memory door off (see below illustration).

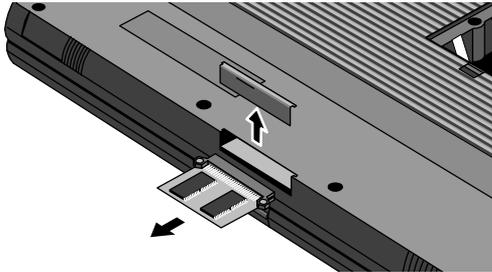


Figure 6 - Removing the Memory Module

3. Perform the appropriate action for the corresponding OmniBook:
 - OmniBook 300, 425, or 430 -- Use a probe or similar device to pull on the small post located on the front edge of the memory module.
 - OmniBook 530 -- Flip out the plastic tab on the memory module and pull the module out.

Replacement Procedure

1. Insert the memory module into the slot. (It is *not* possible to completely insert the memory if it is upside down.)
 - OmniBook 300, 425, 430 -- the small post on the board faces the bottom surface of the OmniBook.
 - OmniBook 530 -- the plastic tab on the board faces the bottom surface of the OmniBook.
2. Press in the module until it seats fully.
3. Replace the slot cover.
4. Replace the battery and press reset.

Hard Disk Drive/Flash Card and System ROM (End User Replaceable)

The Hard Disk Drives for the OmniBook 300, 425, 430, and 530 can be reimaged if necessary. If the software is corrupted, or otherwise damaged, on the hard drive, it can be reformatted and the software reloaded. Also, if the hard drive fails and must be replaced, a blank hard drive can be ordered and the appropriate software loaded. The below procedures indicate the proper actions necessary for reloading software on each OmniBook model.

For the OmniBook 300 and 425:

1. Place the hard drive into the OmniBook.
2. Reformat the hard drive.
3. Run OBSETUP /F from the System ROM to reload the software onto the hard drive.

For the OmniBook 430:

1. Place the hard drive into the OmniBook.
2. Reboot and press Alt then D to boot from the System ROM.
3. Reformat the hard drive.
4. Reload the software image from a set of OmniBook 430 Recovery Disks. The Recovery Disks are available on the HP Internal WW Web at <http://webmcd.cv.hp.com/prodsupp/archive/>.

For the OmniBook 530:

1. Place the hard drive into the OmniBook.
2. Boot from the Companion Disk or other bootable floppy disk.
3. Reformat the hard drive.
4. Reload the software image from a set of OmniBook 530 Recovery Disks. The Recovery Disks are available on the HP Internal WW Web at <http://webmcd.cv.hp.com/prodsupp/archive/>.

Required Equipment

- none

Removal Procedure

1. Exit all applications, including Windows.
2. Turn the OmniBook off and remove the battery and ac adapter.
3. Turn the OmniBook over, release the two latches on the bottom of the tray, and pull out the tray. See below illustration.

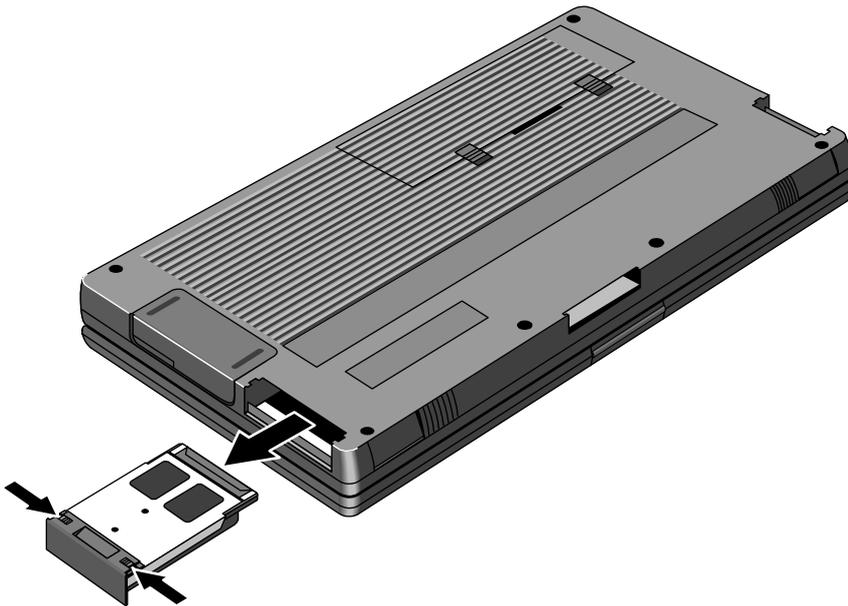


Figure 7 - Removing Card Slot Tray

4. Lift the Hard Disk, Flash Card, or System ROM out of the tray.

Replacement Procedure

1. Reverse the above steps to replace the Hard Disk, Flash Card, or System ROM.
2. Replace the battery and ac adapter.
3. Press reset.

Mouse

(End User Replaceable)

Required Equipment

- none

Removal Procedure

1. Press the mouse-eject button to eject the mouse.
2. Pull the mouse firmly away from the OmniBook (see below illustration). The entire mouse assembly will pull free.

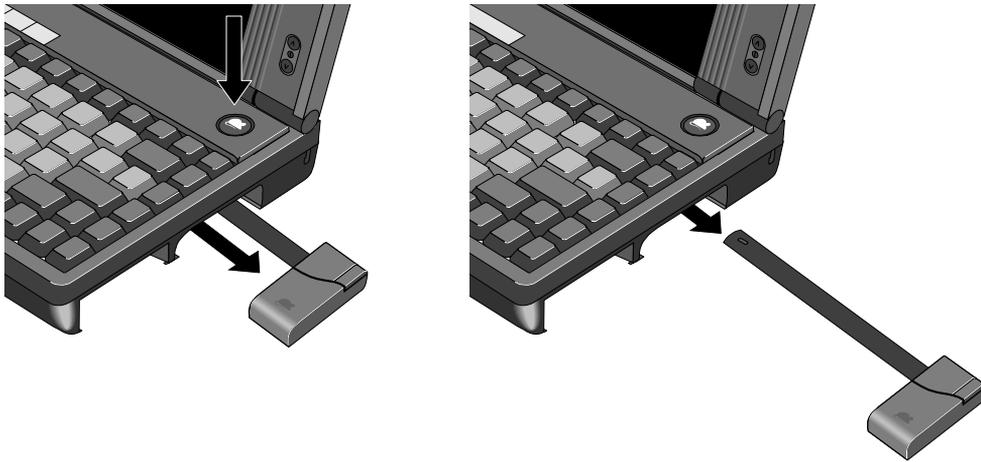


Figure 8 - Removing the Mouse

Replacement Procedure

1. Place the end of the mouse “stick” into the mouse housing.
2. Slide the mouse into the slot and firmly push the mouse until it is completely flush with the side of the OmniBook.

Small Parts

(End User Replaceable)

The following small parts are all end user replaceable.

Battery Door

Push the two battery door latches away from the battery door. Remove the battery door by lifting up at the notch in the bottom case. Place the battery door, tab side first, over the battery compartment. Slide the two battery latches in place to secure the door.

Battery Door Latch

Once the battery door is removed (see above), the battery door latches will slide out of the bottom case. To replace, align the sides of the latches with the groves in the slots. Press firmly into place.

Blank Modem Door

Use a flat-blade screwdriver or similar device to press the small latch on the bottom of the blank modem door. Pull the door free of the bottom case. To replace, simply reinsert the door into the modem slot and press firmly.

Memory Door

Use a flat-blade screwdriver or similar device to pry the memory door from the bottom case. Replace by aligning the edges of the door with the slots on the bottom case. Press firmly into place.

I/O Door

To remove the I/O door, open it fully. Flex the middle of the door until the side pins clear the holes in the back case. Reverse to replace.

Rubber Feet

Place a probe or similar device between the rubber foot and the plastic of the bottom case. Pry upward to pop the foot out. To replace, firmly press the foot into the hole.

PCMCIA Card Tray

Slide the two tray latches toward each other. Pull the tray out of the card slot. If present, remove the PCMCIA card from the tray. To replace the tray, insert into the appropriate card slot. Slide the two latches away from each other to secure the tray.

Display

(HP Authorized Service Providers Only)

Required Equipment

- Appropriate ESD station
- Torx #6 screwdriver
- 5mm Hexdriver
- Two small flat tip screwdrivers (or similar prying devices)
- Probe

Removal Procedure

1. Remove the battery, ac adapter, mass storage, system card (if applicable), memory module (if installed), modem (if installed), mouse, and any installed PCMCIA accessory cards.
2. Remove the four Rubber Feet and seven Screws from the bottom case (see below illustration).

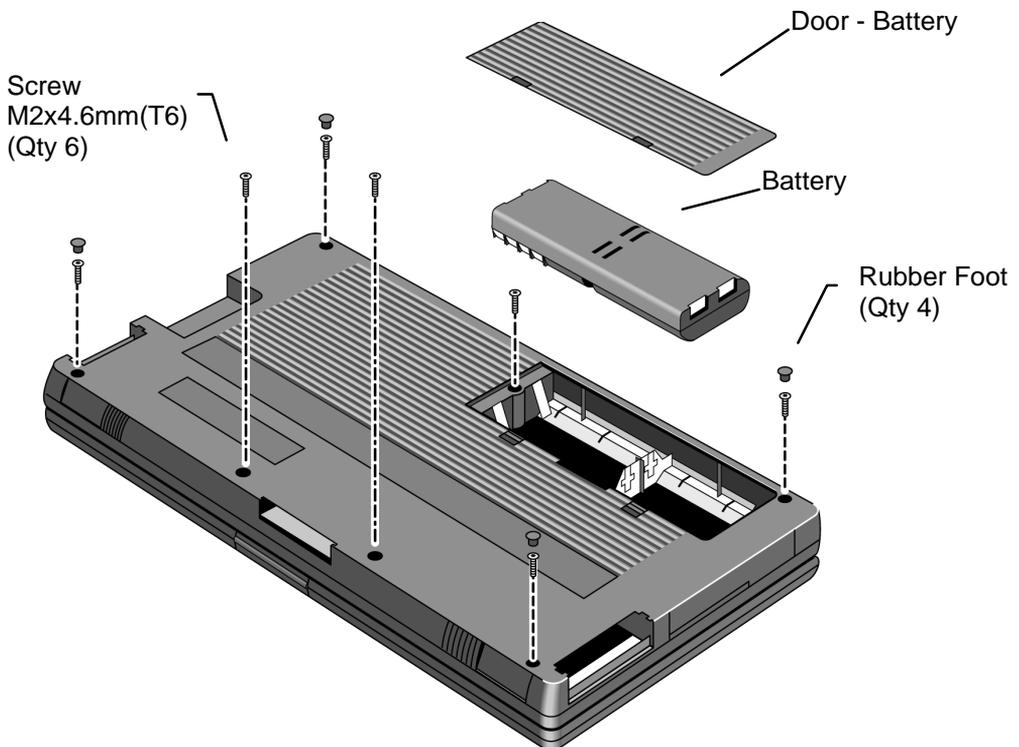


Figure 9 - Outer Bottom Case Components

-
3. Remove the I/O Door and the four standoffs located on the I/O backplane (see figure below).



Figure 10 - Backplane Standoffs

4. Two flat tip screwdrivers, or similar prying devices, are needed to remove the Top Case and Display Assemblies. Four plastic tabs hold the Top Case and Bottom Case together. Two tabs are located in each PCMCIA slot (see below illustration). Note, the screws seen in the PCMCIA slot do *not* need to be removed.

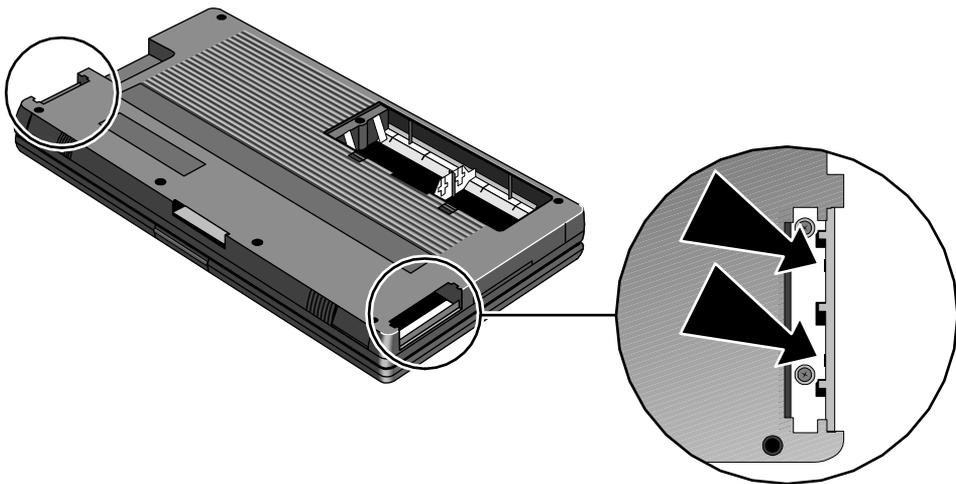


Figure 11 - Bottom Case Tabs

Place a prying device at a tab location between the metal and plastic of the Bottom Case (see figure below, left). Place another prying device in the PCMCIA eject button (see figure below, right). To release the tab, simultaneously twist prying device A while lifting on prying device B. **Use caution with this maneuver, as the plastic tabs can break off the Bottom Case. If this occurs, the Bottom Case must be replaced.**

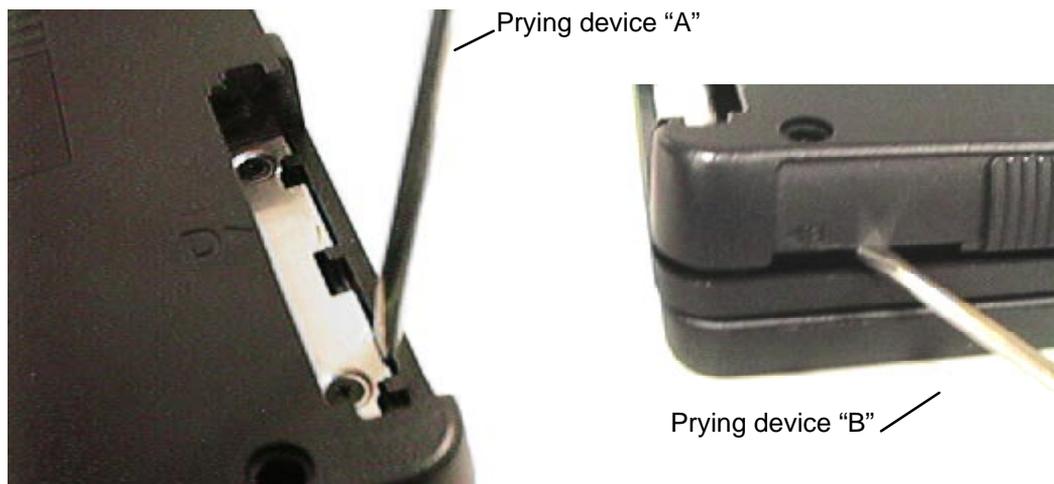


Figure 12 - Bottom Case Prying Locations

5. Perform step four for each of the four tabs.
6. Once the Bottom Case tabs are released, the Bottom Case and Top Case are being held together only by the display cable and the two keyboard cables. **Do not allow the Top Case and Bottom Case to separate at this point. The display cable and keyboard cables will be damaged if they are not properly disconnected.**
7. Use a prying device to increase the separation of the Top Case and Bottom Case (see figure below). **Do not separate the Top Case and Bottom Case more than 1 cm. A separation greater than 1 cm will damage the keyboard flex cables by pulling them out of the zero-force insertion connectors.** The intent is to be able to view the display cable, located to the left of the ac adapter socket.



Figure 13 - I/O Port Prying Location

-
8. With the separation increased slightly, the display cable can be disconnected using a probe. **Use caution to keep the OmniBook on a level surface. With the Top Case partially separated, small internal parts may dislodge when the OmniBook is tilted at a sharp angle.** Place the probe at the base of the display cable connector between the two rows of pins. Use a rocking motion to lift the cable from the connector. See the below illustration for proper placement of the probe.

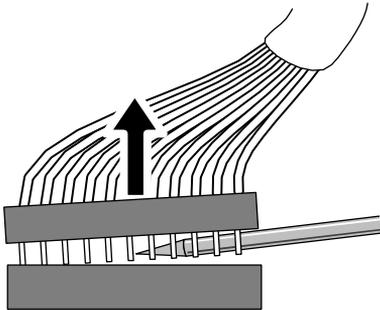


Figure 14 - Disconnecting Display Cable

9. With the display cable removed, the Top Case and Bottom Case can be opened partially to gain access to the keyboard flex cables (see below illustration). **Do not open the unit completely as this will damage the keyboard flex cables by pulling them out of the zero-force insertion connectors.** Open the zero-force insertion connectors and remove the keyboard flex cables. The Top Case can now be removed completely from the Bottom Case.

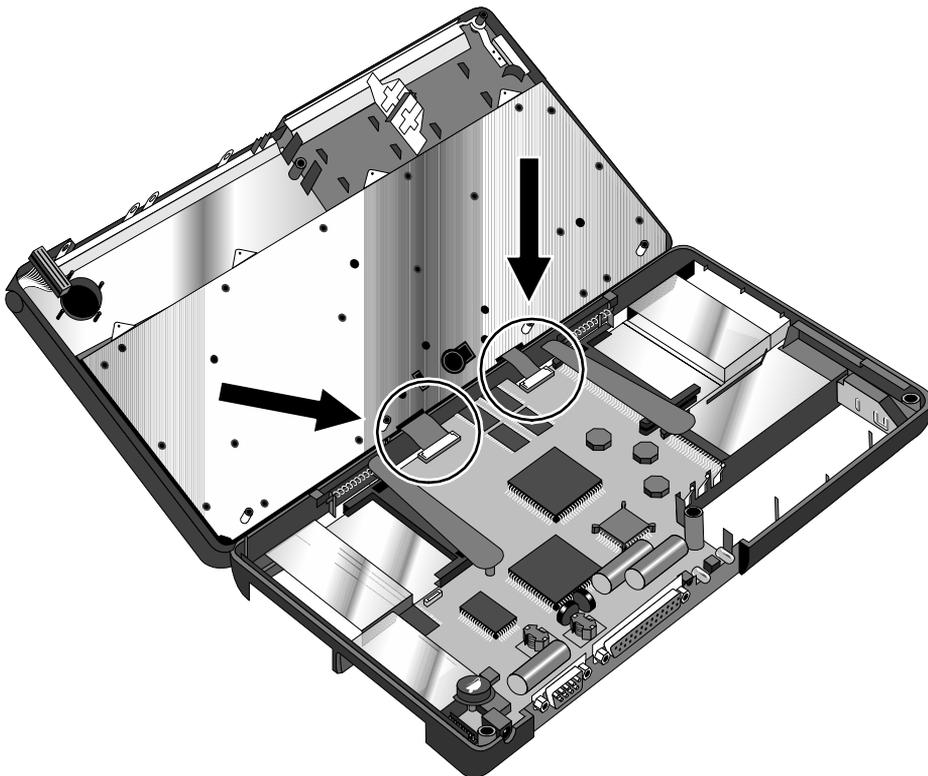


Figure 15 - Keyboard Flex Cables

-
- To separate the Keyboard from the Display, five grounding eyelets must be removed from the display posts (see below illustration). **Use caution when removing the grounding eyelets, as they can be broken off easily. If this happens, the assembly must be replaced.** To prevent the eyelets from breaking, bend the grounding eyelet tabs at the farthest point from the eyelet.

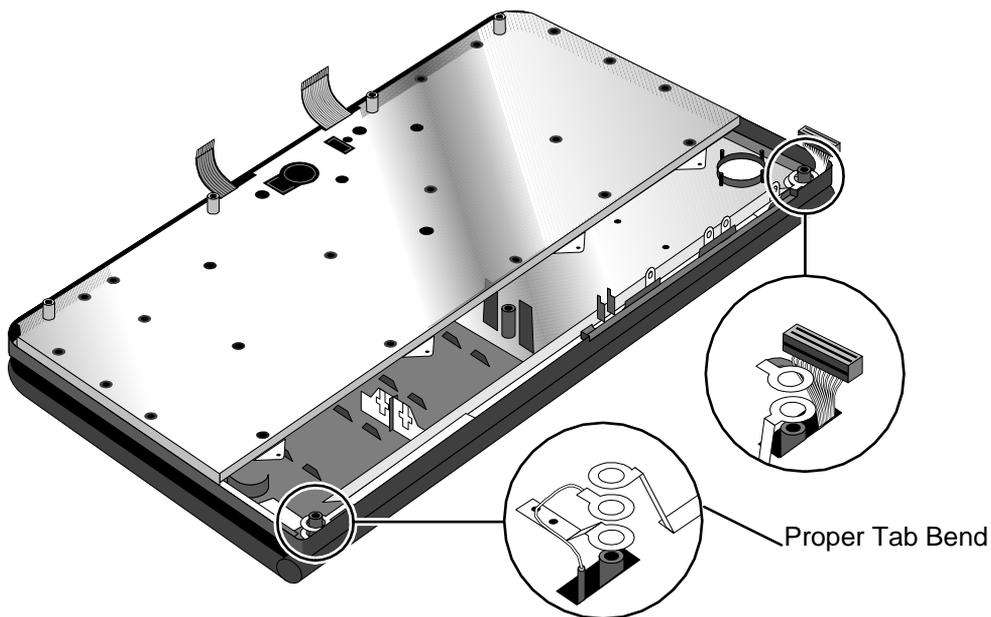


Figure 16 - Display Grounding Eyelets

- To remove the Display from the Top Case, the display cable and two grounding cables must be guided through the holes in the Top Case.

Replacement Procedure

- Guide the display posts, display cable and two grounding cables on the Display through the holes in the Top Case.
- Replace the grounding eyelets over the display posts (see Figure 16). **Use caution when replacing the grounding eyelets, as they can be broken off easily. If this happens, the assembly must be replaced.**
- Press the Display and Top Case firmly at each display post to snap the assembly in place.
- Position the Top Case and Display Assembly over the Bottom Case and insert the two keyboard flex cables into the zero-force insertion connectors. Ensure the connectors are fully closed. **Once the keyboard flex cables are secured in the connectors, do not allow them to be pulled out. This will damage the cables.**

-
- To reconnect the display cable, position a probe in the cable as shown in the below illustration.

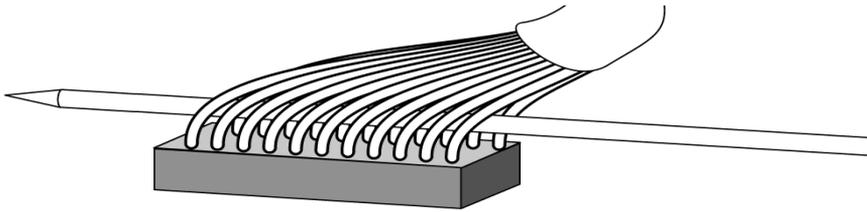


Figure 17 - Display Cable Probe Position

- Use the probe to connect the display cable into the connector as shown below. **Use caution to keep the OmniBook on a level surface. With the Top Case partially separated, small internal parts may dislodge when the OmniBook is tilted at a sharp angle.**

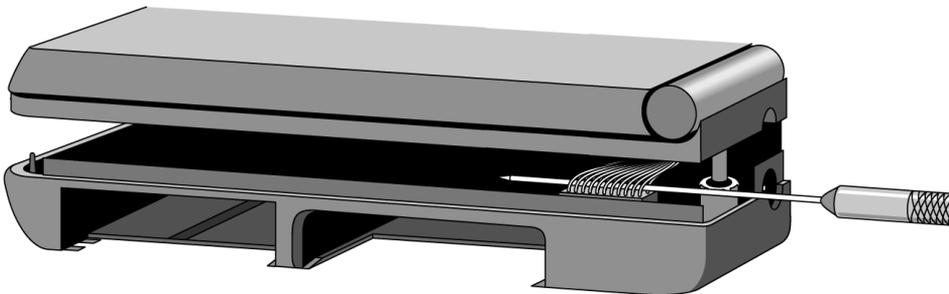
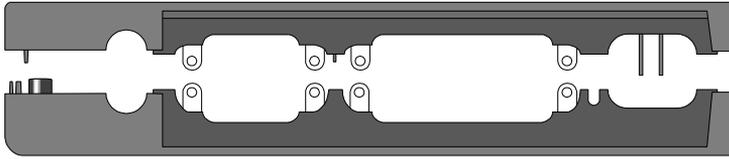


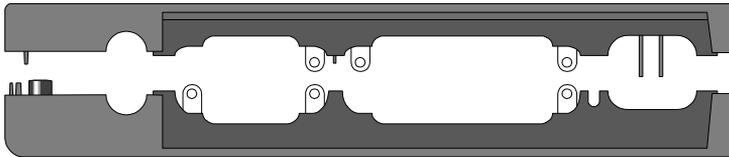
Figure 18 - Reconnecting Display Cable

- With the display cable reconnected, the I/O grounding eyelets must be slid into place. **Use caution when positioning the I/O grounding eyelets as they can be broken off easily.** It is acceptable to reassemble the OmniBook with certain I/O grounding eyelets broken if there is **at least one eyelet in each of the four positions AND at least two matched sets remaining.** See Figure 19, Figure 20, Figure 21, and Figure 22 for examples.



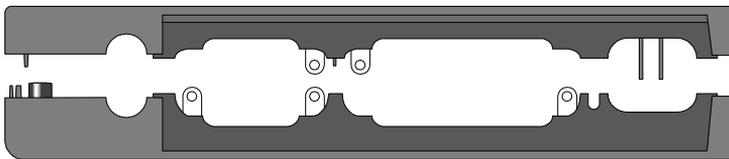
Acceptable to reassemble
All eyelets are present.

Figure 19 - I/O Port Eyelets (all present)



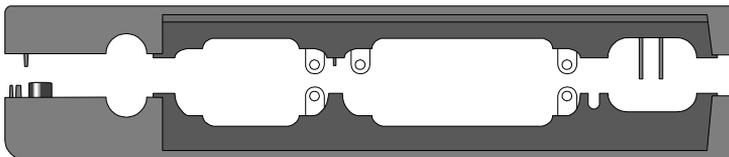
Acceptable to reassemble
There are two matched sets
and at least one eyelet in
each position.

Figure 20 - I/O Port Eyelets (two matched sets)



Not acceptable to reassemble
There is only one matched set.

Figure 21 - I/O Port Eyelets (only one matched set)



Not acceptable to reassemble
There are two matched set, but
no eyelet in position one.

Figure 22 - I/O Port Eyelets (no eyelet in position one)

8. Open the display and firmly press the Top Case and Bottom Case together around the entire parameter of the OmniBook. This will lock the tabs of the two cases.
9. Replace the seven screws and four standoffs and the remainder of the components.

Keyboard

(HP Authorized Service Providers Only)

Required Equipment

- Appropriate ESD station
- Torx #6 screwdriver
- Two small flat tip screwdrivers (or similar prying devices)
- Probe

Removal Procedure

1. Follow the *Display Removal Procedure* to separate the Display and Top Case from the Bottom Case.
2. Once the Display is removed, the Keyboard must now be separated from the Top Case. Hold the Top Case and Keyboard Assembly *exactly* as shown in the below illustration.

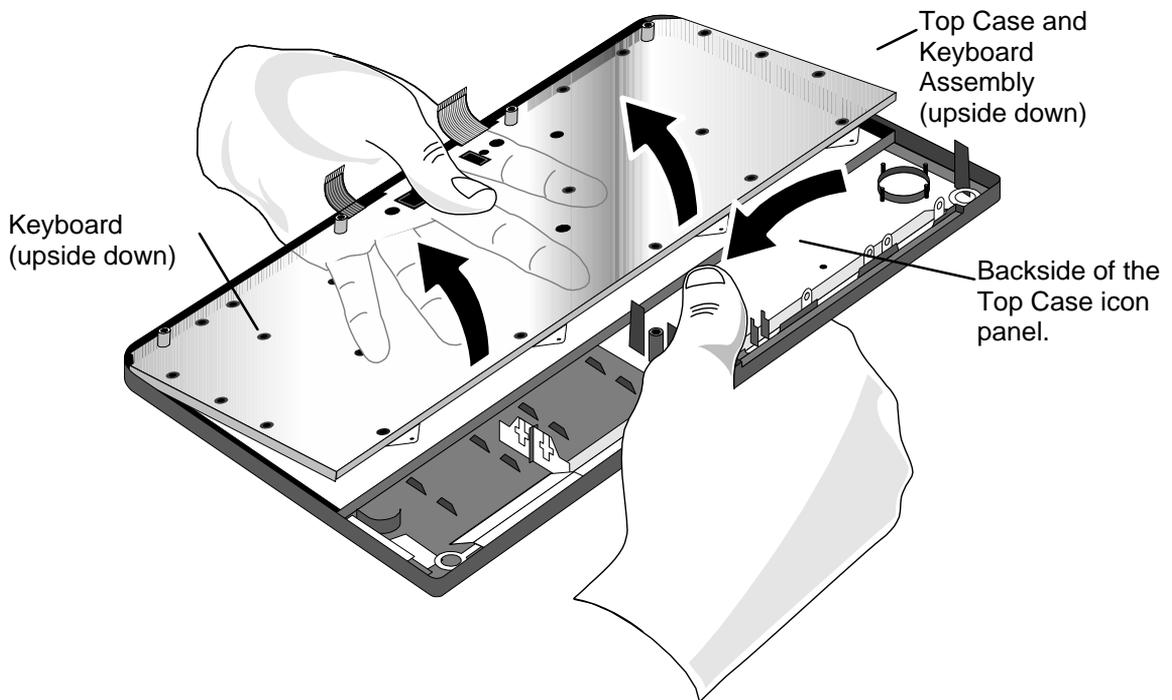


Figure - Keyboard Removal Hand Placement

3. Apply even upward pressure with the fingers of the left hand. At the same time use the tip of the thumb of the right hand to twist the backside of the Top Case icon panel inward and toward the keyboard. There will be a slight bending in the plastic of the Top Case. This is normal and will not damage the assembly.

Replacement Procedure

1. To replace the Keyboard, snap it into the Top Case. Ensure the entire perimeter of the Keyboard is securely snapped into place.
2. Follow the *Display Replacement Procedure* to replace the Display and remaining components.

Logic PCA Board

(HP Authorized Service Providers Only)

Required Equipment

- Appropriate ESD station
- Torx #6 screwdriver
- Two small flat tip screwdrivers (or similar prying devices)
- Probe

Removal Procedure

1. Follow the *Display Removal Procedure* to separate the Display and Top Case Assembly from the Bottom Case.
2. Remove the Eject Arms (both right and left) and Mouse Button Latch and Spring (see below illustration). Note, the Mouse Latch Spring is very small and can be misplaced easily.

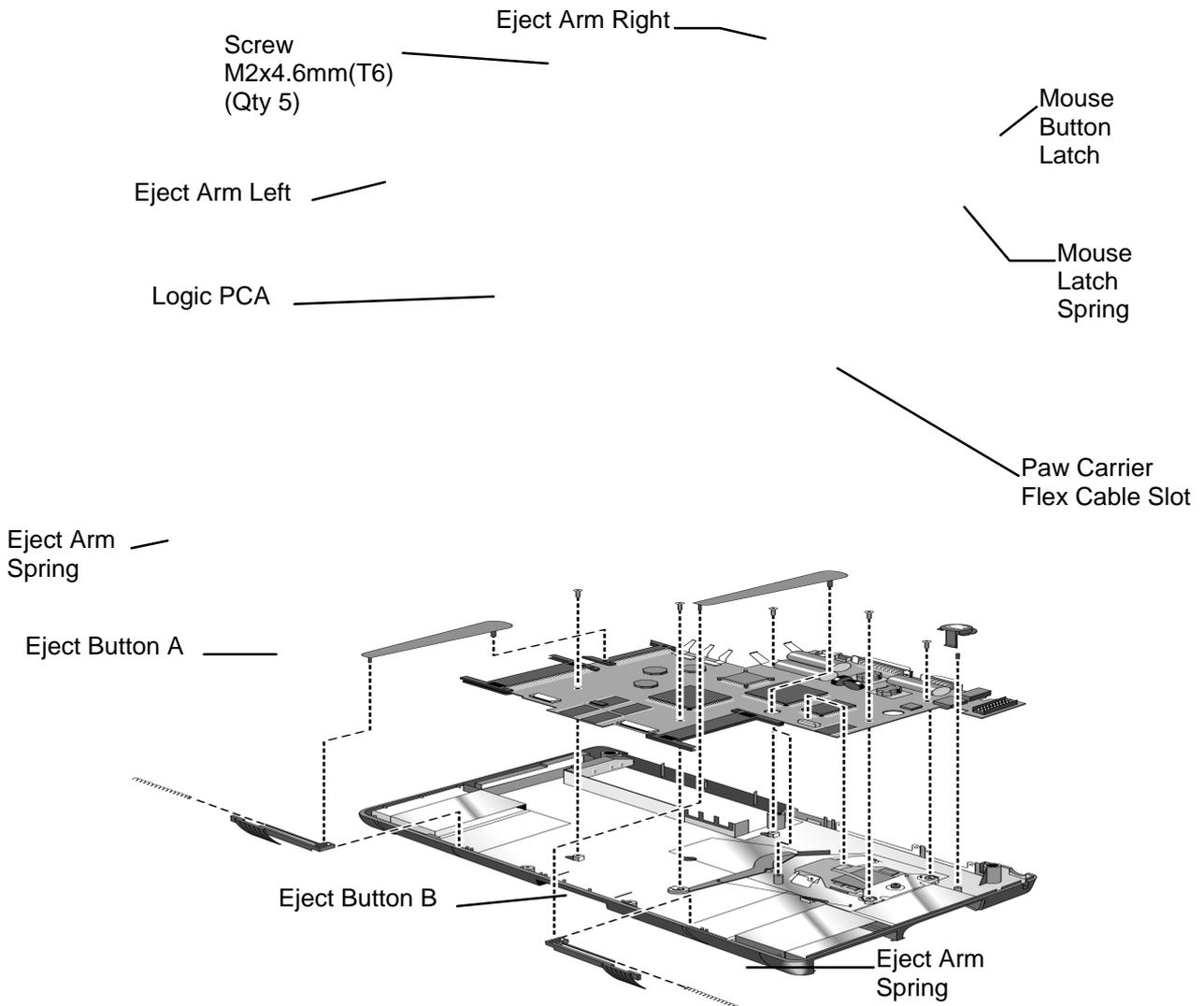


Figure 23 - Logic Board PCA Removal

-
3. The Eject Buttons and Springs do not need to be removed to gain access to the Logic Board. However, because they can be dislodged easily, setting them aside is recommended.
 4. Remove the Paw Carrier Flex Cable from the zero-force insertion slot.
 5. Remove the five (5) screws from the Logic Board (see previous illustration).
 6. The Logic Board can now be lifted from the Bottom Case.

Replacement Procedure

1. To replace the Logic Board, reverse the steps in the *Removal Procedure*. Ensure the Paw Carrier flex cable is positioned properly – the end of the cable should be folded along the holes in the cable. This folded portion then needs to be placed between the posts and guided on the bottom case.
2. Follow the *Display Replacement Procedure* to replace the Display and remaining components.

Paw Carrier (Paw Active)

(HP Authorized Service Providers Only)

Required Equipment

- Appropriate ESD station
- Torx #6 screwdriver
- Two small flat tip screwdrivers (or similar prying devices)
- Probe

Removal Procedure

1. Follow the Logic Board PCA Removal Procedure.
2. Remove the Mylar Mouse Shield. Refer to the below illustration for location of components.
3. The Mouse Eject Arm and Eject Arm Spring may be removed at this point for convenience.
4. Gently bend the Pivot Bracket Tabs upward. **Take caution not to break these tabs. If this occurs the Bottom Case must be replaced.**
5. Remove the Pivot Bracket.
6. Lift the Paw Carrier from the plastic posts holding it in place.

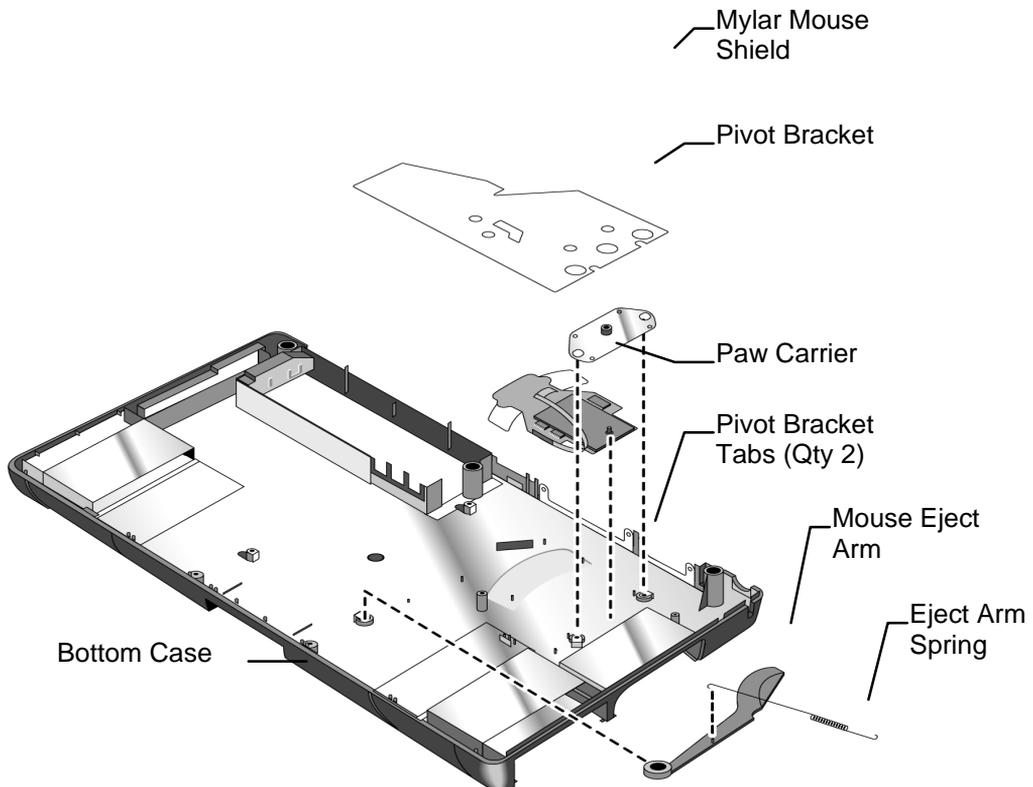


Figure 24 - Paw Carrier Removal

Replacement Procedure

1. To replace the Paw Carrier, reverse the steps in the Removal Procedure.
2. Follow the Logic Board PCA *Replacement Procedure* to replace the Logic Board and remaining components.

Other Components (HP Authorized Service Providers Only)

The below table list additional replaceable components and the disassembly procedure(s) necessary to gain access to each.

| Component | Disassembly Procedure(s) | Equipment | Special Notes |
|-------------------------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------|
| Top Case | Display Keyboard | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | |
| Bottom Case | Display Logic PCA Board Paw Carrier | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | |
| Mouse Button Latch Mouse Latch Spring | Display | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | |
| Mylar Mouse Shield Pivot Bracket | Display Logic PCA Board | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | |
| Eject Buttons (A&B) Eject Arms (L&R) Eject Arm Spring | Display | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | |
| Pivot Doors (A&B) Pivot Door Spring | Display | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | |
| Hinge Cap | Display | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | The Hinge Caps simply slide off of the ends of the Display. |
| Security Latch | Display | Torx #6 screwdriver 5mm hexdriver Two flat tip screwdrivers Probe | Use a probe to remove the Security Latch from the Bottom Case. |

Appendix A - Technical and Resource Specifications

Mass Storage Specifications

| | 40MB | 105MB | 131MB | Flash Disk Cards (Typical) |
|---------------------|--------------------------------|-----------------------|-----------------------|----------------------------|
| Average seek | < 19 ms | 19 ms | 19ms | 2-3 ms |
| Track to Track seek | 5 ms | 6 ms | 6 ms | NA |
| Average Latency | 6.67 ms | 6.72 ms | 6.72 ms | NA |
| Rotational speed | 4503 rev/m | 4464 rev/m | 4464 rev/m | NA |
| Data transfer rate | | | | |
| Buffer to disc | 13-21 Mbits /sec | 11.4 - 19.2 Mbits/sec | 11.4 - 19.2 Mbits/sec | 2.5 MBytes/sec |
| Buffer to host | 4.5 Mbytes /sec | 4 Mbytes /sec | 4 Mbytes/sec | 6.0 MBytes/sec |
| Buffer size | 32 Kbytes static RAM | 31 Kbytes | 31 Kbytes | NA |
| Spindle start time | 1 sec typical 3 sec maximum | <2 sec maximum | <2 sec maximum | NA |

Card Services and Socket Services Version Matrix

| | OB300 | OB425 | OB430 | OB530 |
|------------------------|---------------|---------------|---------------|-------|
| Card Services | Card BIOS 1.0 | Card BIOS 1.0 | Card BIOS 1.0 | 2.1 |
| Socket Services | 1.01a | 1.08 | 1.14 | 2.1 |

Memory Map

| | | | |
|---|-------------|-------------|-----------|
| | 300/425 | 430 | 430 |
| F | SYSTEM BIOS | SYSTEM BIOS | |
| | VGA BIOS | | |
| E | ROM | VGA BIOS | |
| | DOS | | |
| D | PCMCIA | | UMB SPACE |
| C | | | UMB SPACE |
| B | VGA RAM | | |
| A | VGA RAM | | |

Upper Memory Block Space

| | OB300/425 | OB430 | OB530 |
|---------------------|-----------|-----------|-----------------|
| UMB Space Available | 64k | 64k + 32k | 112k contiguous |

DOS Conventional Memory

| | OB300 | OB425 | OB430 | OB530 |
|-------------------------------------------|--------|-------|-------|-------|
| Windows DOS Box (with LapLink Remote) | 315 KB | 315 | 505 | 404 |
| Exit Windows (with out LapLink Remote) | 435 KB | 435 | 533 | 437 |

Appendix B - Power On Self Test Codes

Beep Codes

Beep Codes are used to identify a Power On Self Test (POST) error that occurs when the screen is not available. Once the screen is operational, diagnostic messages are reported to the screen. There are beep codes for both fatal and nonfatal system board errors.

The codes are shown as x-y-z where 2-2-1 represents 2 beeps - pause - 2 beeps - pause - 1 beep.

Fatal Errors

1-1-1 CPU failure
1-1-3 CMOS failure
1-1-4 BIOS Checksum failure
1-2-1 8253 timer failure
1-2-2 DMA setup failure
1-2-3 DMA page register failure
1-3-1 RAM refresh not verified
1-3-2 SMI RAM bad
1-3-3 Low 64K RAM failure
1-3-4 Low 64K RAM even/odd failure
1-4-1 Low 64K RAM address line failure
1-4-2 Low 64K RAM parity error
2-1-1 Low 64K RAM bit 0 error
2-1-2 Low 64K RAM bit 1 error
2-1-3 Low 64K RAM bit 2 error
2-1-4 Low 64K RAM bit 3 error
2-2-1 Low 64K RAM bit 4 error
2-2-2 Low 64K RAM bit 5 error
2-2-3 Low 64K RAM bit 6 error
2-2-4 Low 64K RAM bit 7 error
2-3-1 Low 64K RAM bit 8 error
2-3-2 Low 64K RAM bit 9 error
2-3-3 Low 64K RAM bit 10 error
2-3-4 Low 64K RAM bit 11 error
2-4-1 Low 64K RAM bit 12 error
2-4-2 Low 64K RAM bit 13 error
2-4-3 Low 64K RAM bit 14 error
2-4-4 Low 64K RAM bit 15 error
3-1-1 DMA #2 register error
3-1-2 DMA #1 register error
3-1-3 8259 #1 error
3-1-4 8259 #2 error
3-2-4 8042 KB controller error
3-3-4 Video initialization error
3-4-1 Video retrace failure
3-4-2 Video ROM-scan in progress
3-4-3 Video ROM-scan error

Non-Fatal Errors

4-2-1 8253 timer tick test
4-2-2 Shutdown/Restart sequence
4-2-3 Gate A20 failure
4-2-4 Unexpected virtual mode interrupt
4-3-1 RAM test in progress
4-3-3 8253 timer channel 2 test
4-3-4 Time of day clock test
4-4-1 Serial port test
4-4-2 Parallel port test
4-4-3 Math coprocessor test

Display Codes

There are a number of Power On Self Test (POST) tests that are performed after the Beep Code tests. Failure of one or more of these tests will result in a displayed failure code (such as 0240). It is extremely important not to interpret a failure code immediately as a hardware failure. The failure should be confirmed with a clean boot. A clean boot is defined as pressing the reset button after removing all accessories (including memory cards, external floppy drive, modems, PCMCIA cards, and printers) and providing a reliable power source.

The following list explains a number of POST Display Codes. Note, not all codes are available on all models of the OmniBook.

| | | |
|-------------------------------------------|-------|-------------|
| No Error; Self-Test Routine Passed | 0000h | test passed |
|-------------------------------------------|-------|-------------|

| | | |
|-----------------------------------|-------|----------------------|
| 80x86 Microprocessor Error | 000fh | MPU failed self test |
|-----------------------------------|-------|----------------------|

| | | |
|---------------------------------|-------|-------------------------------------------|
| BIOS ROM Checksum Errors | 0010h | errors relating to the BIOS rom checksums |
| | 0011h | |

| | | |
|-------------------------------|-------|-----------------------------|
| Real Time Clock Errors | 0110h | 011X where X = bad register |
| | 0120h | RTC clock tick error |

| | | |
|--------------------|-------|-------------------|
| CMOS Errors | 0240h | CMOS power bad |
| | 0241h | CMOS checksum bad |
| | 0280h | HP checksum bad |
| | 0282h | EISA checksum bad |

error code 0281 was previously used

| | | |
|--------------------|--------|----------------------------------------------|
| 8041 Errors | 0301h | did not read 0AAH command |
| | 0302h | did not respond to 0AAH command |
| | 0303h | bad Response to 0AAH command |
| | 0305h | did not respond when setting keyclick volume |
| | 0306h | did not read 0C0H command |
| | 0307h | did not respond to 0C0H command |
| | 0308h | keyboard fuse is open |
| | 0311h | did not read 060H command |
| | 0312h | did not read data for 060H command |
| | 0341h | did not read kbd interface test cmd |
| | 0342h | did not respond to kbd intrf test |
| | 0342h | add 1-4 to this to get |
| | 00343h | kbd clock line stuck low |
| | 00344h | kbd clock line stuck high |
| | 00345h | kbd data line stuck low |
| | 00346h | kbd clock line stuck high |
| | 0350h | no ACK from kbd test |
| | 0351h | bad ACK from kbd test |

| | |
|-------|---------------------------|
| 0352h | kbd not connected |
| 0353h | no response from kbd test |
| 0354h | kbd test failed |

error codes 0304, 0313-0314, 0321-0323, 0331-033C were previously used

AUX Self Test Errors

| | |
|-------|-----------------------------------------------|
| 03E0h | send enable-aux cmd to 8042 cmd byte failed |
| 03E1h | 8042 failed to accept write-aux-device cmd |
| 03E2h | write-aux-device cmd not sent by 8042 |
| 03E3h | reset-aux cmd not accepted by 8042 |
| 03E4h | 8042 failed to send aux-interface-test |
| 03E5h | no reply for aux-interface-test cmd from 8042 |
| 03E6h | aux device clock line stuck low |
| 03E7h | aux device clock line stuck high |
| 03E8h | aux device data line stuck low |
| 03E9h | aux device data line stuck high |
| 03EAh | no reply for aux-reset cmd from aux |
| 03EBh | aux failed to perform reset |
| 03ECh | send default cmd to 8042 cmd byte failed |

Protected-Mode Switch Error

| | |
|-------|------------------------------------|
| 0401h | failed to switch to protected mode |
|-------|------------------------------------|

error code 0500 was previously used

Serial and Parallel Test Errors

| | |
|-------|------------------|
| 0503h | no serial port |
| 0505h | bad serial port |
| 0543h | no parallel port |

Keyboard Device Errors

| | |
|-------|-----------------------------------------------------------------------|
| 0600h | kbd has keys stuck 06XXh where XX = the scan code of the stuck key |
|-------|-----------------------------------------------------------------------|

System Speed Test Errors

| | |
|-------|----------------------------------|
| 0702h | timer failed to interrupt |
| 0703h | CPU clock too slow in SLOW speed |
| 0704h | CPU clock too fast in SLOW speed |
| 0707h | CPU clock too slow in FAST speed |
| 0708h | CPU clock too fast in FAST speed |

error codes 0700-0701, 0705-0706, 0709-070C were previously used

Timer Chip Errors

| | |
|-------|-----------------------------------------------------|
| 1100h | failed timer test 110Xh where X = failed timer # |
| 1200h | no refresh tick |
| 1201h | refresh signal stuck low |

EISA Init Errors

| | |
|------|--------------------------------------|
| 13XY | X = slot number where error occurred |
|------|--------------------------------------|

| | |
|-------|-----------------------------------------------------------------------------------------|
| | Y = error type |
| 1300h | error code displayed if fdc is not configured properly |
| 1301h | error code if board is not ready |
| 1302h | error code if cmos says slot is empty but a card is present in the slot |
| 1303h | error code if cmos says slot does not have board with readable id but can read board id |
| 1304h | error code if cmos id and board id do not match |
| 1305h | error code if incomplete configuration bit is set |

Memory Configuration (POST) Errors

| | |
|-------|-------------------------------------------------------------------------------------------------------------------------------|
| 2000h | bad port or wrong memory board |
| 2001h | bad port or wrong board type |
| 2002h | port reports null or no SIMMs |
| 2003h | can't mix single and double density SIMM parts |
| 2005h | physical SIMM config. invalid 20X5h X = the memory bank the checking routine stopped at - banks are numbered 0, 1, 2, or 3 |
| 2006H | bad memory controller |

DMA Errors

| | |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 21XYh | DMA controller errors XY= 0001 bbbb = register bbbb of controller 01 failed write/read test XY= 0010 bbbb = register bbbb of controller 02 failed write/read test |
| 213Xh | DMA status register errors X=0 => Controller 1's status register failed X=1 => Controller 2's status register failed |
| 22XYh | DMA Page register errors XY= 0001 abbb = channel bbb of page register bad bit a 0 = ISA (0xxh) register 1 = EISA (4xxh) register |
| 0010h | DMA page mask |

error codes 3000-3010 were previously used

Real-Mode (0-1Mb) RAM Errors

| | |
|-------|-------------------------------------------------------------------|
| 4000h | 4XYZ - the interpretation of this error code is machine dependent |
|-------|-------------------------------------------------------------------|

error codes 5000-5FFF were previously used

RAM Address Line Independence, Parity, & IO_CHK Errors

| | |
|-------|--------------------------------------------------------------------------------------------------------------------|
| 6100h | errors relating to the address independence test of ram XX = xxxx bbbb = address line bbbb is bad (no. 0 to 19) |
| 6200h | errors relating to the RAM parity 620X test (low 640k). |

| | |
|-------|----------------------------------------------------------------------------------------------------------------------------|
| | x = 64k bank no. with problem (i.e. 6204 = bank 4 is bad = address range 40000h to 4ffffh) |
| 6300h | I/O channel check came active during write read test of protected mode ram 63xx = xx = 256k ram bank/block with problem |

BIOS and Memory Shadow-RAM Errors

| | |
|-------|------------------------------|
| 6500h | shadow RAM BIOS failed |
| 6510h | shadow RAM video BIOS failed |
| 6520h | shadow RAM option ROM failed |
| 65A0h | A000 shadow RAM test failed |
| 65B0h | B000 shadow RAM test failed |
| 65C0h | C000 shadow RAM test failed |
| 65D0h | D000 shadow RAM test failed |
| 65E0h | E000 shadow RAM test failed |
| 65F0h | F000 shadow RAM test failed |

8259 Interrupt Functionality Errors

| | |
|--------|-------------------------------------------------------------------------------------------------------------------------------------|
| 07000h | 7XYY where X = 0 master's mask reg. failed X = 1 slave's mask reg. failed YY = XOR of value read & written to the mask reg |
| 07400h | IRQ 0 error |
| 07500h | IRQ 8 error |

error code 7600 was previously used

Hard Disk Errors

| | |
|-------|-------------------------|
| 8310h | controller fail |
| 8311h | fixed disk fail |
| 8312h | drive splitting failure |

error codes 8001-8002, 8100, 8200, 8300 were previously used

Flexible Disk Errors

| | |
|-------|--------------------------------------------------------------------------------------------------------------|
| 9X0Z | X = drive number (0..3 correspond to drives A:, B:, FDE#1, FDE#2) Z = determined by the following equates |
| 9000H | FDC input error |
| 9001H | FDC output error |
| 9002H | FDC seek error |
| 9003H | FDC recall error |
| 9005H | FDC reset error |
| 9006H | FDC wrong drive |
| 9008H | FDC no interrupt |
| 9009h | FDC track 0 error |

error codes 90XX and 98XX were previously used

80x87 Numerical Co-Processor Errors

| | |
|--------|------------------------------------|
| 0a001h | there is no 80287 in the system |
| 0a002h | problem with the 80287's registers |
| 0a003h | problem with the 80287's stack |
| 0a004h | FXCH or FCOMP didn't work |

| | |
|--------|----------------------------------|
| 0a005h | FADD didn't work |
| 0a006h | FMUL didn't work |
| 0a007h | FDIV didn't work |
| 0a008h | FSQRT didn't work |
| 0a009h | FPATAN didn't work |
| 0a00ah | invalid operation exception err |
| 0a00bh | denormal operand exception error |
| 0a00ch | zero divide exception error |
| 0a00dh | overflow exception error |
| 0a00eh | underflow error |

Weitek Numerical Co-Processor Errors

| | |
|--------|----------------------------------|
| 0af00h | failed to enter protected mode |
| 0af01h | there is no Weitek in the system |
| 0af02h | error in Weitek data register |
| 0af05h | ADD didn't work |
| 0af06h | MULT didn't work |
| 0af0Ch | Zero Divide exception error |

Video Errors

| | |
|--------|------------------------------------|
| 0b009h | beep if no video card is installed |
|--------|------------------------------------|

error codes B001-B008, B100, B200, B301-B307, B400-BFFF were previously used

Cache Errors

| | |
|--------|-----------------------|
| 0b308h | internal cache error |
| 0b300h | P4 cache test failure |

Protected Mode RAM Errors

| | |
|--------|--------------------------------------------------------------------|
| 0c000h | 0CXYZ - the interpretation of this error code is machine dependent |
|--------|--------------------------------------------------------------------|

error codes D000, D003-D040, D050, D1XX, EXXX, FFXx were previously used

Appendix C - Password Policy

If the user forgets the system password, there is a master password that will unlock the OmniBook. The user calls Technical Support to determine this master password as follows:

1. Support will tell the user the keys to type at the password entry screen:
[alt][shft][f10]
2. The OmniBook generates and displays an encoded master password. This is displayed under the normal password entry area. At this point, this is the only password that will unlock the OmniBook unless the user presses [ESC] to remove the encoded master from the password entry screen. Then the user's stored password can be entered.
3. The user reads the encoded master password to Support.
4. Support runs a program that decodes the encoded password, and reads the decoded password (alphanumeric) to the user.
5. The user types in the decoded password.
6. OmniBook decodes the encoded master password it generated and compares it to the decoded password typed in by the user.
7. If the two passwords match, the OmniBook is unlocked. The forgotten password is automatically erased. Support can then guide the user through the process of entering a new password.
8. If the two passwords do not match, the previous sequence must be repeated until the user correctly enters a master password.

The encoded master password is an eight-character alphanumeric sequence that the OmniBook generates at random every time the appropriate keys are pressed in the password entry screen. Because it is generated randomly, a master password can only be used to unlock the OmniBook once. If the user forgets the password at another time, it will require another call to Support. (If the user presses the appropriate keys by mistake, pressing [ESC] will allow entering the stored password.)

The password descramble programs for the HP OmniBook PCs are protected as HP Company Private information. They may not be copied, backed-up, printed or distributed. There are only six official copies of each program.

In addition to the program being protected, its use is also controlled. Hewlett-Packard and authorized support providers must ensure with written evidence that the OmniBook that is being "descrambled" is actually in the hands of the unit's actual and current owner. This requires a sales receipt showing the unit serial number and owner's name, or a written statement from the owner attesting that he or she is the owner of the unit. The statement can be a FAX copy of the document. The fact that the unit is in the hands of an HP representative on behalf of the customer is not evidence of ownership. In addition, HP will not descramble a unit for any non-owner, even if it involves law enforcement agencies. If you receive such a request, you should notify management and HP Corporate Legal immediately. (These requests may require a court order prior to our participation.)

Further, you must log the name, serial number and date of the running of the descramble program, and file the written backup with the log. The log and backup are subject to standard record retention process and review.

The final issue relating to descramble of passwords is that HP cannot provide information to users that would assist them in improperly descrambling a password and opening a unit.

Appendix D - Part Numbers

| Part Number | Description | OB300 | OB425 | OB430 | OB530 |
|-------------|------------------------------|-------|-------|-------|-------|
| 0380-4060 | Standoff | ✓ | ✓ | ✓ | ✓ |
| 0515-2396 | Screw M2x4.6mm (T6) | ✓ | ✓ | ✓ | ✓ |
| F1030-00016 | Arm Eject Mouse Spring | ✓ | ✓ | ✓ | ✓ |
| F1030-00026 | Pivot Door Spring | ✓ | ✓ | ✓ | ✓ |
| F1030-00029 | Spring Card Eject | ✓ | ✓ | ✓ | ✓ |
| F1030-00030 | Mouse Latch Spring | ✓ | ✓ | ✓ | ✓ |
| F1030-20001 | Mylar Mouse Shield | ✓ | ✓ | ✓ | ✓ |
| F1030-40013 | Pivot Door A | ✓ | ✓ | ✓ | |
| F1030-40014 | Pivot Door B | ✓ | ✓ | ✓ | |
| F1030-40016 | Door Modem Blank | ✓ | ✓ | ✓ | ✓ |
| F1030-40017 | Door RAM | ✓ | ✓ | ✓ | ✓ |
| F1030-40018 | Rubber Foot | ✓ | ✓ | ✓ | ✓ |
| F1030-40019 | Hinge Cap | ✓ | ✓ | ✓ | ✓ |
| F1030-40021 | Mouse Button Latch | ✓ | ✓ | ✓ | ✓ |
| F1030-40025 | Battery Door Latch | ✓ | ✓ | ✓ | ✓ |
| F1030-40033 | Security Latch | ✓ | ✓ | ✓ | ✓ |
| F1030-40044 | Eject Button A | ✓ | ✓ | ✓ | ✓ |
| F1030-40045 | Eject Button B | ✓ | ✓ | ✓ | |
| F1030-40046 | Eject Arm Left | ✓ | ✓ | ✓ | ✓ |
| F1030-40047 | Eject Arm Right | ✓ | ✓ | ✓ | |
| F1030-40050 | Arm Eject Mouse | ✓ | ✓ | ✓ | ✓ |
| F1030-60901 | Paw Carrier Srvc Assy | ✓ | ✓ | ✓ | ✓ |
| F1030-60904 | LCD Display Assy (new) | ✓ | ✓ | ✓ | ✓ |
| F1030-60907 | Logic PCA (new) | ✓ | | | |
| F1030-60908 | Door I/O | ✓ | ✓ | ✓ | ✓ |
| F1030-60909 | Pivot Bracket | ✓ | ✓ | ✓ | ✓ |
| F1030-60910 | Bottom Case | ✓ | ✓ | ✓ | |
| F1030-60911 | Top Case | ✓ | ✓ | ✓ | |
| F1030-60912 | SVC Door Battery (10 pack) | ✓ | ✓ | ✓ | |
| F1030-60923 | SVC Flash Tray Assy | ✓ | ✓ | ✓ | ✓ |
| F1030-60924 | SVC ID Plate (10 pack) | ✓ | ✓ | ✓ | ✓ |
| F1030-60925 | SVC Short Bar (10 pack) | ✓ | ✓ | ✓ | |
| F1030-60926 | SVC Bat Jumper (10 pack) | ✓ | ✓ | ✓ | |
| F1030-80013 | Keyboard USA | ✓ | ✓ | ✓ | ✓ |
| F1030-80015 | Regulatory Label | ✓ | | | |
| F1030-80018 | Icon Label | ✓ | | | |
| F1030-80019 | Logo - Display | ✓ | ✓ | ✓ | ✓ |
| F1030-80031 | Keyboard German | ✓ | ✓ | ✓ | ✓ |
| F1030-80032 | Keyboard Spanish | ✓ | ✓ | ✓ | ✓ |
| F1030-80033 | Keyboard French | ✓ | ✓ | ✓ | ✓ |
| F1030-80044 | Foam Shipping Pouch | ✓ | ✓ | ✓ | ✓ |
| F1030-80057 | Keyboard Int English | ✓ | ✓ | ✓ | ✓ |
| F1030-80063 | FFC - Theta | ✓ | ✓ | ✓ | ✓ |
| F1033-60901 | Regulatory Label (10 pack) | | ✓ | ✓ | |
| F1033-60902 | SVC Icon Label 425 (10 pack) | | ✓ | | |
| F1033-60907 | Logic PCA (new) | | ✓ | ✓ | |
| F1033-60908 | Sys ROM (ABA) - US English | ✓ | ✓ | | |
| F1033-60909 | Sys ROM (ABB) Int. English | ✓ | ✓ | | |
| F1033-60910 | System ROM (ABD) German | ✓ | ✓ | | |
| F1033-60911 | System ROM (ABF) French | ✓ | ✓ | | |
| F1033-60912 | System ROM (ABE) Spanish | ✓ | ✓ | | |

| Part Number | Description | OB300 | OB425 | OB430 | OB530 |
|-------------|---------------------------------|-------|-------|-------|-------|
| F1037-60901 | SVC Icon Label 430 (10 pack) | | | ✓ | |
| F1037-60902 | Custom Icon Kit (10 pack) | | | ✓ | |
| F1037-60903 | Sys ROM (ABA) US English | | | ✓ | |
| F1037-60904 | Sys ROM (ABB) Int. English | | | ✓ | |
| F1037-60905 | System ROM (ABD) German | | | ✓ | |
| F1037-60906 | System ROM (ABE) Spanish | | | ✓ | |
| F1037-60907 | System ROM (ABF) French | | | ✓ | |
| F1052-40007 | PCMCIA Door Left | | | | ✓ |
| F1052-40012 | Door Battery (silver) | | | | ✓ |
| F1052-60005 | Flash Tray Assy w/ plug (qty 1) | ✓ | ✓ | ✓ | ✓ |
| F1052-60906 | SVC Logic PCA (new) | | | | ✓ |
| F1052-60907 | Top Case (silver) | | | | ✓ |
| F1052-60908 | Bottom Case (silver) | | | | ✓ |
| F1052-60914 | Icon Label (10 pack) | | | | ✓ |
| F1052-60915 | Regulatory Label (10 pack) | | | | ✓ |
| F1052-69008 | SVC Logic PCA (exchange) | | | | ✓ |
| F1065-60029 | Hard Drive Tray | ✓ | ✓ | ✓ | ✓ |
| | Accessories | | | | |
| 0950-2630 | Floppy drive | | | | ✓ |
| 5061-4390 | Mouse | ✓ | ✓ | ✓ | ✓ |
| 8120-2104 | Power Cord Swiss | ✓ | ✓ | ✓ | ✓ |
| 8120-2956 | Power Cord Danish | ✓ | ✓ | ✓ | ✓ |
| 8120-4211 | Power Cord S. Africa | ✓ | ✓ | ✓ | ✓ |
| 8120-5342 | Power Cord Japan | ✓ | ✓ | ✓ | ✓ |
| 8120-6260 | Power Cord US | ✓ | ✓ | ✓ | ✓ |
| 8120-6261 | Power Cord UK | ✓ | ✓ | ✓ | ✓ |
| 8120-6262 | Power Cord Europe | ✓ | ✓ | ✓ | ✓ |
| 8120-6346 | Power Cord Australia | ✓ | ✓ | ✓ | ✓ |
| 9100-5315 | AC Adaptor-worldwide | ✓ | ✓ | ✓ | ✓ |
| F1045-60901 | Battery Pack | ✓ | ✓ | ✓ | ✓ |
| F1041-60901 | 2MB RAM Exp | ✓ | ✓ | ✓ | |
| F1054-60901 | 4MB RAM Exp | | | | ✓ |
| F1055-60002 | 8MB RAM Exp | | | | ✓ |
| F1038-60901 | 4MB RAM Exp | ✓ | ✓ | ✓ | |
| F1012-60902 | 5MB Flash disk card | ✓ | ✓ | ✓ | ✓ |
| F1013-60901 | 10MB Flash disk card | ✓ | ✓ | ✓ | ✓ |
| F1014-60901 | 20MB Flash disk card | | | ✓ | ✓ |
| F1037-60908 | 105MB HDD DOS/Win/PIM | | | ✓ | |
| F1037-60909 | 105MB HDD Word/Excel | | | ✓ | |
| F1035-60901 | 40MB HDD w/ DOS,WIN,PIM | | | ✓ | |
| F1050-60901 | 40MB Unprogrammed HDD | ✓ | ✓ | ✓ | ✓ |
| F1039-60901 | 105MB Unprogrammed HDD | | | ✓ | ✓ |
| F1052-60909 | 130MB HDD Programmed | | | | ✓ |
| F1057-60901 | 130MB Unprogrammed HDD | | | | ✓ |
| F1040-60901 | F1040A Fax/Modem ABA US | ✓ | ✓ | | |
| F1047-60901 | Serial cable | ✓ | ✓ | ✓ | ✓ |
| F1052-60910 | VGA cable | | | | ✓ |
| F1059-60901 | Floppy drive cable-parallel | | | | ✓ |
| F1030-90085 | Ops Manual/QuickStart Guide | ✓ | | | |
| F1030-90086 | Manual-Vol.2-Excel,PIM,Word | ✓ | | | |

Note, for the most current parts list, always refer to the latest Product Support Plan.

